Climbing to 10^{11}: globalization, digitization,shareholder capitalism and the summits of contemporary wealth

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I. Introduction: summits of wealth

If we examine any society, we find elites, hierarchies, and so inequality of one sort or another. This may be necessarily true: perhaps relative social positions cannot be understood in, much less actually reduced to, the ultimately quantitative terms of equality. Or so I might argue, but that would be another essay. For now, the simple historical and anthropological observation of the ubiquity of inequality suffices. The mere fact of inequality is to be expected, in itself hardly an outrage, at least insofar as social life itself is not an outrage (pace, Sartre). The question is what kind of inequality?

The fact of inequality is hardly brute – there must be as many forms of hierarchy as there are kinds of birds in the jungle or fish on the reef. Inequality is really very interesting, as a human matter. And, for those inclined to activism, prior to the practice of any sort of situated political economy, it behooves us to undertake a bit of critical analysis, to ask what sort of inequality do we observe in this time and place? To what degree are people unequal (and what does "degree" mean, here)? What differentiates the higher from the lower, and what legitimates or otherwise maintains such differences? In other words, what is the structure of *this* society, and so the meaning of its inequalities?

While we may find many sorts of inequality in the United States and elsewhere, this essay is about the specific form of inequality exemplified by Jeff Bezos[2] or Bill Gates,[3] that is, the Himalayan summits of contemporary wealth, mostly in the United States.[4]

I would like to suggest that such wealth results from the confluence of three historical developments.

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[2] Jeff Bezos is the Founder and CEO of Amazon, and the world's richest person. Isabel Togoh, "Jeff Bezos 'Trillionaire' Is Trending on Twitter. Here's Why", *Forbes* (May 14, 2020), https://www.forbes.com/sites/isabeltogoh/2020/05/14/jeff-bezos-trillionaire-is-trending-on-twitter-heres-why/#80bd 63c2e3dd (noting that Amazon's online shopping, streaming, and delivery services have been one of the "winners" of the COVID-19 pandemic, boosting Bezos' net worth to over $140 billion in May 2020).

[3] Bill Gates is the founder of Microsoft Corp., and the world's second-richest person. CNN Editorial Research, "Bill Gates Fast Facts", CNN (May 6, 2020), https://www.cnn.com/2013/05/07/us/bill-gates-fast-facts/index.html (noting that he was ranked as the world's richest person from 1995-2007).

[4] For a more general discussion of the gap between the poor and the super-rich in the United States, and the role of technology, see David Rotman, "Technology and Inequality", *MIT Technology Review* (Oct. 21, 2014), https://www.technologyreview.com/2014/10/21/170679/technology-and-inequality/ (discussing, among other things, economist Thomas Piketty's book about the increasing wealth of the super-rich, *Capitalism in the Twenty-First Century*).

First, the social processes referred to under the rubric of "globalization" have created vast markets. A dominant position in such markets leads not only to great wealth, but also to the elimination of peers. Since there are few such markets, relatively significant wealth is possessed by very few people. There is only one Jeff Bezos, one Bill Gates.

Second, digital markets powerfully tend toward monopolization,[5] of both their products and the narrative of the future. Those fortunate enough to be the monopolists profit accordingly, both directly, by doing business, but especially by investor interest.

Third, the actors in such digital markets are generally corporations, which are in turn largely owned by their founders.[6] As a result, a few individuals have acquired almost unbounded wealth, at least as wealth is conventionally measured, nominal US dollars. Conversely, entire economic sectors (like "food" or "data") are at least nominally under the dominance of such individuals. Political economy has been individualized, at least formally, to an astounding extent. A normative political discussion of this state of affairs is beyond the bounds of this essay.

So where to start? A listing of the ten richest Americans[7] at the end of 2019 is illustrative:

Rank	**The ten richest Americans**		**Net worth**
10	Jim Walton	Heir to the fortune of Walmart	$51.6 billion
9	Steve Ballmer	Chief Executive Officer of Microsoft from 2000-2014	$51.7 billion
8	Michael Bloomberg	Majority owner and co-founder of Bloomberg L.P (software company)	$53.4 billion
7	Sergey Brin	Co-founder of Google President of Alphabet Inc., Google's parent company, until 2019	$53.5 billion
6	Larry Page	Co-founder of Google President of Alphabet Inc., Google's parent company, until 2019	$55.5 billion
5	Larry Ellison	Co-founder, executive chairman, etc., of Oracle Corporation	$65 billion
4	Mark Zuckerberg	Co-founder, chief executive officer, and controlling shareholder of Facebook	$69.6 billion
3	Warren Buffett	CEO of Berkshire Hathaway	$80.8 billion
2	Bill Gates	Co-founder of Microsoft	$106 billion
1	Jeff Bezos	Founder, CEO, and president of Amazon	$114 billion

[5] Joseph E. Stiglitz, "America Has a Monopoly Problem – and It's Huge", *The Nation* (Oct. 23, 2017), https://www.thenation.com/article/archive/america-has-a-monopoly-problem-and-its-huge/ (arguing that the dominance of large corporations has enriched a small percentage of the country). Mark Jamison, "Applying Antitrust in Digital Markets: Foundations and Approaches", AEI Economics Working Paper 2019-18 (November 2019), https://www.aei.org/wp-content/uploads/2019/11/Jamison-Digital-Markets-WP.pdf.

[6] Rolfe Winkler & Maureen Farrell, "In 'Founder Friendly' Era, Star Tech Entrepreneurs Grab Power, Huge Pay", *The Wall Street Journal* (May 28, 2018), https://www.wsj.com/articles/in-founder-friendly-era-star-tech-entrepreneurs-grab-power-huge-pay-1527539114.

[7] Louisa Kroll & Kerry A. Dolan, "The Forbes 400: The Definitive Ranking of the Wealthiest Americans", *Forbes* (Oct. 2, 2019), www.forbes.com/forbes-400/#210c76247e2f.

Seven of the ten fortunes are derived from purely digital enterprises (six, if one argues that Bloomberg is also media/information/content, albeit delivered digitally). Amazon sells physical things, and brokers the sale for other sellers, collecting data all the while.[8] Amazon is also a collector and purveyor of personal information, and a seller of cloud services – virtual as opposed to tangible activities.[9] Walmart is a highly digitized global network for the distribution of things, and a provider of some services.[10] In short, nine of the ten fortunes can fairly be said to be derived from "tech".

A listing of the wealthiest American women (four Walmart fortunes) tells much the same story, but mostly indirectly, through inheritance or, in one case, divorce settlement.[11] A recent worldwide listing has eight Americans, with Bezos and Gates retaining the top two spots.[12] The additions are France's Bernard Arnault (Chairman and CEO of LVMH Moët Hennessy – Louis Vuitton, purveyor of luxury brands to the planet)[13] and Spain's reclusive Amancio Ortego (founder of Zara and controller of many companies).[14]

Just as interesting is who and what is not on the list. There are no women on the list of the wealthiest persons in the United States or the world. There are no non-white men. None of the fortunes are derived from industrial manufacturing. None of the fortunes are derived from extractive industries like oil. None of the fortunes are derived from celebrity. Many of the richest people unsurprisingly hold executive positions, but the list does not really reflect corporate America's audaciously generous executive compensation packages, which are available in a wide range of industries. Only one of the richest Americans is a capitalist in the pure sense of financier, Warren Buffet. What was once confidently called "late capitalism" seems to have taken a turn.

There are no rulers on the list, although this invites argument over the nature of "wealth" and the distinctions between purely monetary assessments of nominal wealth (the market capitalization of shares owned is hardly cash, at least not at such scale), and power or at least agency, a matter to which I will return. One may quibble in other ways. There are other lists.

A great deal of money is controlled by few people in China and Japan. Stock market shifts will move rankings. Institutions of various sorts control even more wealth. (BlackRock, for example, has trillions under management.)[15] One could go on, of course, but such things

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[8] Leo Kelion, "Why Amazon Knows So Much About You", BBC NEWS https://www.bbc.co.uk/news/extra/CLQYZENMBI/amazon-data (last visited May 28, 2020).

[9] "What We Do", Amazon.com (last visited May 28, 2020) (describing Amazon's product sales, web services, video, music, tablets, TV, smart home devices, and Kindle e-readers and books).

[10] For example. Walmart offers financial services. Mark Kolakowski, "Walmart's Money Centers and Other Financial Services", *The Balance* (June 25, 2019), https://www.thebalance.com/walmart-moneycenters-1287260. Many Walmarts also offer auto maintenance and repair services. Auto Care Centers, Walmart.com, https://www.walmart.com/cp/auto-services/1087266 (last visited May 26, 2020).

[11] Taylor Borden, "The 15 Richest Women in America Right Now, Ranked", *Business Insider* (Apr. 7, 2020) www.businessinsider.com/richest-women-us-america-billionaires-ranking-walton-koch-bezos-mars.

[12] Hillary Hoffower, "These Are the 15 Richest People in the World Right Now", *Business Insider*, (Apr. 7, 2020), www.businessinsider.com/richest-people-in-the-world-wealthiest-billionaires#1-jeff-bezos-15 .

[13] Bernard Arnault, LVMH, https://www.lvmh.com/group/about-lvmh/governance/executive-committee/bernard-arnault/ (last visited May 26, 2020).

[14] Katie Warren & Melissa Wiley, "Meet Amancio Ortega", *Business Insider* (Oct. 29, 2019), https://www.businessinsider.com/zara-founder-amancio-ortegas-life-and-houses.

[15] John Coumarianos & Leslie P. Norton, "BlackRock Passes a Milestone, With $7 Trillion in Assets Under Management", *Barrons* (Jan. 15, 2020),

said, the general point stands: the digitization of U.S., and much of global, commerce, has created astonishing levels of personal wealth, and consequently, inequality. "The five richest men in the US are worth a mind-boggling combined $435.4 billion, according to the Forbes 400 ranking of 2019's richest Americans. And all but one of them made their fortunes in the tech industry."[16]

Although the novel coronavirus has immiserated much of the global economy, it has made these rich quite a bit richer. As discussed below, one of the salient aspects of digital technology is the tendency to make distance, geography, less important. In this pandemic, a time of social distancing, tech companies and so their founders have done very well. Bezos is worth some $36 billion more than he was at the start of the year,[17] and he is not alone. Reports estimated that the five richest Americans (Bezos, Bill Gates, Mark Zuckerberg, Warren Buffett and Larry Ellison, combined, saw their fortunes increase by $75.5 billion.[18]

Here's another way to think about this concentration of wealth. Median household income in the US, before the pandemic, was roughly $63,000, or 6.3 x 10^4 (10 to the 4th power)[19] (Median net worth was also less than $100,000.[20] Pre-pandemic, Jeff Bezos was worth 1.14 x 10^{11} (10 to the 11th power). His wealth has increased by about a third since the pandemic, but not yet by an order of magnitude. A difference of seven orders of magnitude is hard to think through, but it is the difference between someone who has a net worth of $5 and someone with a net worth $99,000,000.

How did such concentrations of wealth come about? How is it even possible?

II. Globalization

Suppose we understand markets in fairly simple-minded fashion, as social contexts in which folks buy, sell, and invest. Markets have often been understood individualistically – *homo economicus* is not a friendly guy – and orthodox economics even proposed "methodological individualism" to be a cardinal intellectual virtue. But the social simply must be stressed at the present juncture. As digital enterprises make inescapably clear, markets are constructed through mutually intelligible communication. "The market" is not a place that exists *ex ante*, to

https://www.barrons.com/articles/blackrock-earnings-assets-under-management-7-trillion-51579116426. That number dipped with the advent of the COVID-19 pandemic. Dawn Lim, "BlackRock's Profit, Assets Under Management Fall", *The Wall Street Journal* (Apr. 16, 2020), https://www.wsj.com/articles/blackrocks-first-quarter-profit-fell-23-11587033254.

[16] Katie Warren, "The 5 Richest Men in the US Have a Staggering Combined Wealth of $435.4 Billion. That's More than 2% of America's GDP", *Business Insider* (Oct. 2, 2019), https://www.businessinsider.com/richest-men-in-us-wealth-gdp-bezos-gates-buffett-2019-1.

[17] Supra n. 1.

[18] Megan Henney, "US Billionaires Got $434 Billion Richer Since Coronavirus Pandemic Began", Foxbusiness (May 22, 2020), https://www.foxbusiness.com/money/american-billionaires-richer-since-coronavirus-pandemic-began.

[19] U.S. Census Bureau, Real Median Household Income in the United States, retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/MEHOINUSA672N, May 26, 2020 (estimating the real median household income at $63,179 in 2018 dollars). U.S. Median Family Income is higher, at $78,646, but my point remains the same. U.S. Census Bureau, Median Family Income in the United States, retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/MEFAINUSA646N, May 26, 2020.

[20] The median net worth of the average U.S. household was estimated at $97,300 in January 2020. Dayana Yochim, "What's Your Net Worth, and How Do You Compare to Others?" *Marketwatch* (Jan. 23, 2020), https://www.marketwatch.com/story/whats-your-net-worth-and-how-do-you-compare-to-others-2018-09-24.

which self-interested rational actors go to buy and sell. Instead, markets are socially constructed "spaces," which can be real or virtual, in which economic communication and even law (most obviously contract and property) happen, and "where" actors must conform if they are to participate.

To tell a story by now familiar: once upon a time, there were many markets, more or less geographically distinct, for much the same thing, say wine, to echo Adam Smith. Traders might connect different markets, but transportation was slow, expensive, and often dangerous. And, to echo Smith again, actors could be expected to seek market power, rents.[21] But the extent of their wealth was limited by the extent of the market in which they operated.[22]

In the fullness of time, the implementation of new technologies and the set of processes collectively referred to as globalization lowered the cost of transport and other barriers to trade, notably tariffs. Distance became much less significant. After the digital revolution, prices and other information, as well as digital goods writ large, could be transferred instantaneously, and at almost no cost. There are many ways to complicate this "just so story,"[23] of course, but many geographically distinct markets merged, that is, the social contexts in which trade was conducted became much larger, both geographically and in terms of the number of people involved. While globalization may make an individual's world feel bigger and more diverse, for markets, globalization mostly has meant consolidation and simplification, and, due to the instant transfer of information, virtual locality. The social contexts in which folks bought and sold became national, regional, even global. Airport shopping is much the same worldwide. LVMH sells globally branded cognac and watches and purses and suchlike from Rio di Janeiro to Hong Kong,[24] and for a little while, Bernard Arnault was the second richest person on earth.[25] Dominating enormous markets, unsurprisingly, results in great wealth.

Such wealth often concentrates – global markets tend to be "winner take all". There is no second Arnault. One could imagine luxury goods being produced in different societies, by different companies, whose owners would presumably prosper – but would not be among the wealthiest people on earth. That was, in fact, largely the state of affairs in living memory. But such goods would, by hypothesis, not be globally branded. Prestige would be understood within specific social contexts. Other social contexts, presumably, would have other objects of envy.

Indeed, LVMH itself is a collection of what had been independent firms, mostly French. Today, however, LVMH's brands are neither independent nor are they understood in

[21] Adam Smith, *Wealth Of Nations* p. 232 (Penguin Classics Ed. 1974) ("People of the same trade seldom meet together, even for merriment and diversion, but the conversation ends in a conspiracy against the public, or in some contrivance to raise prices.").
[22] Adam Smith, *Wealth Of Nations* p. 109 (Penguin Classics Ed. 1974) ("in those trifling manufactures which are destined to supply the small wants of but a small number of people, the whole number of workmen must necessarily be small").
[23] Rudyard Kipling originally published his book of *Just So Stories* in 1902, and the term is now popularly used to denote a story that claims to explain the origin of something.
[24] The LVMH Group has approximately 5000 stores worldwide. Liam O'Connell, "Total Number of Stores of the LVMH Group Worldwide from 2008-2019", *Statistica* (Feb. 24, 2020), https://www.statista.com/statistics/245854/total-number-of-stores-of-the-lvmh-group-worldwide/.
[25] Luisa Kroll, "France's Bernard Arnault Is Now World's Second-Richest Person", *Forbes* (Jul. 18, 2019), https://www.forbes.com/sites/luisakroll/2019/07/18/frances-bernard-arnault-is-now-worlds-second-richest-person/#7 80d40883799.

particularly French terms.[26] Thus, just as globalization implies fewer, larger, markets, it also implies fewer dominant positions, and by extension fewer, but vastly wealthier, rich people, than one would expect from a collection of relatively discrete markets, each dominated by its own magnates. While globalization lowered costs and generated a great deal of wealth through the consolidation of thitherto discrete markets, the same dynamics have increased inequality.

III. Digitization

Any number of markets have been globalized, creating inequalities along the lines suggested above. If we look at the US and global lists of wealthy individuals, however, we see that almost all of the great fortunes come from control of tech companies. Control will be discussed in the next section, but what makes tech companies so valuable?

In short, technology markets also tend to be "winner take all", that is, they tend toward a monopolistic structure. For example, Facebook has 2.6 billion monthly active users.[27] The earth's population is estimated to be 7.8 billion, so a third of the world is on Facebook every month.[28] (The digital divide is evidently silting up.) Microsoft continues to own the desktop, and Google (Alphabet) owns search. Globally, if not exactly 100%.

Such companies presumably display the ordinary incentives to avoid competition noted by Adam Smith, but more interestingly, tech markets tend toward monopoly for reasons intrinsic to tech itself. The engineering, and hence economics, of deploying computer software is simply different from the production and sale of material objects in the physical world, for example, cars. Little of this was obvious a generation or so ago, and it is hardly clear yet,[29] but for the purpose of discussing this particular form of inequality, a brief sketch of some of the peculiar aspects of digital enterprises suffices.

A story. When I was a youth in a public high school in the '80s, it was said with great assurance that computers were the wave of the future (which was true) and that therefore everyone would have to learn to program (which really was not true). Not until studying mathematics in college did I understand that some people were *very good* at programing. Once their program was written, it would be difficult to improve on it, maybe impossible, and rarely worth the effort. The program was done, and somebody who needed it could simply copy it.

Not just computers but things from toasters to televisions contain innumerable programs, and nobody thinks to (or could, in most circumstances) rewrite them. We all use copies. So, the number of computer programmers is a tiny fraction of the number of computer users.[30] Even computer programmers use copies almost all of the time. Programmers have been kept in

[26] In addition to Louis Vuitton, Moët & Chandon, and Hennessy, LVMH also owns Dom Pérignon, Givenchy, Sephora, Fendi, Bulgari, and Christian Dior, and in 2019 agreed to buy Tiffany & Co. Dominic-Madori Davis, "LVMH Is the Top Luxury Conglomerate in the World", *Business Insider* (Feb. 4, 2020), https://www.businessinsider.com/lvmh-brands-iconic-luxury-goods-bernard-arnault-2019-10.
[27] J. Clement, "Number of Facebook Users Worldwide 2008-2020", *Statistica* (Apr. 30, 2020), https://www.statista.com/statistics/264810/number-of-monthly-active-facebook-users-worldwide/.
[28] Current World Population, https://www.worldometers.info/world-population/ (last visited May 26, 2020).
[29] Much of what follows in the meantime has acquired its own literature, which will not be reviewed here.
[30] There were estimated to be $4.2 million software engineers in the United States in 2019. How Many Software Developers Are in the US and the World, DAXX (Feb. 9, 2020).

demand by the need to tailor software to particular settings and users, and by opportunities to digitize new things, and things that had not been digitized before (cars are a good example). Presumably this last source of demand will dwindle as the initial work is completed and improvements are incremental, and programming itself is made more efficient through the use of meta-languages, machine learning, and the like.

The fact that programs (here including data) are almost infinitely scalable at virtually zero cost has profound implications for digital economies.[31] While traditional enterprises often exhibited some economies of scale, making it a good idea to grow (think General Motors), once the cost of scale converges upon zero, the enterprise can be both global yet physically quite small (think how few people Alphabet employs vis-à-vis its market capitalization).[32] In order to grow, digital enterprises do not need many more facilities, and certainly not many more employees, unless one counts baristas in the neighborhood. Digital enterprises grow simply by adding more users, sales.

A digital enterprise has exceptional potential for profits. Unlike a public good (such as clean air), a digital good such as a program is excludable, at least in a society with a working intellectual property regime. That is the function of the license, which creates the opportunity to charge a fee, and hence the contractual charade familiar to anybody who has done anything on a computer. At the same time, a digital good is non-rivalrous, meaning it can be used by more than one person at once, and is not consumed by its use. Microsoft sells the same intellectual property over and over and over. More simply put, when digits are for sale, there need be little overhead, no need to replace the product sold (though incremental improvements are good manners), and the owners may profit accordingly.

Why are users so important? Not only are virtual businesses much more easily scalable than physical ones, large virtual businesses are relatively more valuable than smaller ones, i.e., twice as big is more than twice as valuable. From the user side, this is due to so called network efficiencies.[33] The classic explanation of network efficiency begins with an old-school child's "phone", two tin cans joined by a string, or the first telegraph transmission, for that matter. The communication "network" is not worth very much, because only two people can use it, at least at a time. But as one adds users to the network, so that one can call the fire department or get a pizza, or eventually deliver legal documents and trade stock, the network becomes more and more valuable. Phone systems have long been considered natural

[31] Jonathan P. Allen, "Technology And Inequality: Concentrated Wealth In A Digital World" pp. 37-39 (2017), available at https://www.technologyandinequality.com/wp-content/uploads/2017/06/techineq-sample.pdf (discussing the scalability of information technology and wealth concentration).

[32] In 2019, Alphabet was estimated to have 103,549 employees. Seth Fiegerman, "Google's Parent Company Now Has More than 100,000 Employees", CNN (Apr. 29, 2019) https://www.cnn.com/2019/04/29/tech/alphabet-q1-earnings/index.html (noting a recent surge of employment of 20,000 employees had contributed to its crossing the 100,000 threshold). Facebook had about a third as many employees as Alphabet. *Id.* In January 2020, Alphabet became the fourth U.S. company to reach a $1 trillion market value. Amrith Ramkumar, "Alphabet Becomes Fourth U.S. Company to Reach $1 Trillion Market Value", *The Wall Street Journal* (Jan. 16, 2020), https://www.wsj.com/articles/alphabet-becomes-fourth-u-s-company-to-ever-reach-1-trillion-market-value-1157920 8802 (Alphabet joined Apple, Amazon, and Microsoft in that exclusive club).

[33] *See* Robert Pitofsky, Chairman of the Federal Trade Commission, "Antitrust Analysis in High-Tech Industries: a 19th Century Disciple Addresses 21st Century Problems", 4 *Texas Review of Law and Politics* p. 129 (1999). Chairman Pitofsky defines network efficiencies as occurring when "the value of a product or service is positively correlated with the number of individuals who use the product or service". *Id* at p. 132. He goes on to note "On the one hand, such networks are efficient and occasionally inevitable; on the other hand, they increase the likelihood that one firm, by achieving a critical mass, will dominate a market or retain market power for an extended period of time." *Id.* at p. 133.

monopolies, and regulated as such. But various other businesses that are less obviously networks – notably "the social network" – exhibit network efficiencies.

If the process of adoption continues, and as demonstrated by Zoom[34] and Facebook[35] during the COVID-19 pandemic, the network is likely to become indispensable. At some point, the idea of network efficiencies merges into the idea of brand. Both the network and the brand are understood, relied upon, and may become synonymous for one another. We "google" things we want to know. Hardware (network) and software (culture) mesh.

From the sell side, a bigger network enterprise is not only therefore better, it is also a higher quality business. Scale increases the amount and quality of data that can be harvested from users, analyzed and used to target sales, sold to advertisers, and the like, in what Shoshana Zuboff has aptly called surveillance capitalism.[36] Especially by using learning systems (AI), the more a firm knows, the better it knows, and the bigger a player it is in the market for information, which in a sense all markets are, just some more obviously than others. It is illustrative that the richest individual on Wall Street is Bloomberg.

Understandably, tech industry participants speak incessantly about innovation, about what's next. And, sometimes, innovation happens, and new markets emerge. Innovation can make so much money, however, in part because of the importance of history, a truth somewhat obscured by all the "creative destruction,"[37] "move fast and break things,"[38] and "innovate or die"[39] rhetoric. Steve Jobs has in fact died. Neither Jeff Bezos nor Bill Gates nor Larry Ellison are young. Even Sergei Brin and Larry Page have given up day-to-day management of Alphabet. But their companies remain dominant, decades on. All of these companies innovated, surely, but once they established dominance in their markets, each company consolidated its position, and having done so, is difficult to unseat. To quip, innovation may create a potential market, but it is history that makes the money.

A host of concepts, familiar to most of this audience, suggest the importance of past behavior in economic activity generally, and for computer users (everyone) more specifically. Path dependence, for example, suggests that once a given structure is adopted, it cannot be changed without considerable costs, and therefore won't be, unless a substantially better

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[34] Rupert Neate, "Zoom Booms as Demand for Video-Conferencing Tech Grows", the *Guardian* (Mar. 31, 2020), (noting that founder Eric Yuan's net worth had already increased by more than $4 billion since the coronavirus crisis started).
[35] Elizabeth Dwoskin, "As Facebook's Profit Doubles, CEO Mark Zuckerberg Sounds Off on Reopening the Economy Too Soon", the *Washington Post* (Apr. 29, 2020), https://www.washingtonpost.com/technology/2020/04/29/facebook-earnings-coronavirus/.
[36] Shoshana Zuboff, *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power* (2019).
[37] The term "creative destruction" is most often associated with Joseph Schumpeter. Joseph Schumpeter, *Capitalism, Socialism and Democracy* (1942). More recently, the term has been associated with Steve Jobs. Zephrin Lasker, "Steve Jobs: Create. Disrupt. Destroy", *Forbes* (Jan. 14, 2011). https://www.forbes.com/sites/marketshare/2011/06/14/steve-jobs-create-disrupt-destroy/#6d2a01cd531c.
[38] Chris Benner & Kung Feng, "Elon Musk Reflects Silicon Valley's 'Move Fast and Break Things' Culture", *San Francisco Chronicle* (May 15, 2020), https://www.sfchronicle.com/opinion/openforum/article/Elon-Musk-reflects-Silicon-Valley-s-move-15271652.php.
[39] Adi Ignatius, "Innovation on the Fly", *Harvard Business Review* (Dec. 2014), https://hbr.org/2014/12/innovation-on-the-fly (noting that although the origin of the phrase is disputed, it is frequently associated with Peter Drucker).

structure emerges, and resources are available.[40] Contemporary institutions of all sorts struggle with their "legacy" computer systems and software, and are to greater or lesser extent a prisoner of their "installed base."[41] Who has the money and the freedom to suspend operations and start completely over? Users, too, become habituated. Why retrain, unless one absolutely must?[42] As the network and the culture mesh, dominant positions become institutionalized, even required. The Microsoft enterprise software on which I'm writing this is cluttered, ugly, and often mystifying, but what are the odds that a major university decides to adopt some new enterprise software, developed by some kid in his Harvard dorm room? Bill Gates, who dropped out of Harvard himself, will remain rich. But if the kid develops a way to "monetize loneliness," in a world where almost everyone has a smartphone, we might have something like Facebook.[43]

These aspects of digital enterprises have clear strategic consequences for technology start-ups. New businesses regularly enter new(ish) markets and try to reap "first mover advantages."[44] They attempt to achieve scale at any cost, often using copious venture capitalist money. Making money is not the point; acquiring users is. Sometimes, building a multimillion, even billion, dollar business without actual revenue leads to hilarious and bizarre (at least from an old-school business perspective) tales of fortunes evidently squandered, as in the case of WeWork and Uber.[45] But sometimes it works: the new business thrives, eliminates all significant competition, and reaps monopoly rents. Like Facebook. The point of this business model is not to create a good firm making solid products, wine or cars or what have you, in a competitive marketplace. The point is to define and utterly dominate a marketplace. Monopoly, and hence inequality, is the purpose of the enterprise.[46]

Elites, certainly including the wealthiest people in a society, are authoritative by definition. More broadly still, the social is inescapably somewhat coercive by nature – which is what it means to speak of civilization and its discontents. Again, markets are social contexts, and economic life is nothing if not social. It is therefore unsurprising that markets are also coercive, in all sorts of ways. Simple, practical examples: universities, like other large

[40] For an early discussion of path dependence in the technology context, see Stan Liebowitz & Stephen E. Margolis, "Policy and Path Dependence: From QWERTY to Windows 95", 33 *Regulation* 3 (1995), available at https://www.cato.org/sites/cato.org/files/serials/files/regulation/1995/7/v18n3-4.pdf.

[41] For a discussion of how legacy technologies persist even when new systems are clearly superior, see Willy C. Shih, "Breaking the Death Grip of Legacy Technologies", *Harvard Business Review* (May, 28, 2015), https://hbr.org/2015/05/breaking-the-death-grip-of-legacy-technologies.

[42] Relative success may begin to become something of a problem for digital enterprises. Users may sensibly ask "Why do I need to invest time, money and attention in another smart phone, or new office software, etc.? What I have works fine and I have other things to do."

[43] *See* Jill Lepore, "The History of Loneliness", T*he New Yorker* (Apr. 6, 2020), https://www.newyorker.com/magazine/2020/04/06/the-history-of-loneliness.

[44] For an early, clear explanation of the first-mover advantage, see Marvin B. Lieberman & David B. Montgomery, "First-Mover Advantages", 9 *Strategic Management Journal* 41 (1988), *available at* https://uol.de/f/2/dept/wire/fachgebiete/entrepreneur/download/Artikel_Internetoekonomie/Lieberman_First_Mover. pdf. *See, also*, Rajshree Agarwal & Michael Gort, "First-Mover Advantage and the Speed of Competitive Entry", 1887-1986, 44 *Journal of Law and Economics*. 161, 162-165 (2001) (providing an historical overview).

[45] For a discussion of the some of the ways in which the drive to capitalize on first-mover advantage and grow at any cost may result in adverse results for companies and their investors, see Amy Deen Westbrook, "We['re] Working on Corporate Governance: Stakeholder Vulnerability in Unicorn Companies", 23 U*niversity of Pennsylvania Journal of Business Law* [ ] (forthcoming 2021).

[46] Of course, this does not always work. The Softbank Vision Fund was known for flooding its chosen startups with cash, enabling them to dominate the consumer space and become monopolies. Its strategy backfired very publicly in 2019 with WeWork and Uber. Linette Lopez, "Softbank Is Getting Exactly What It Deserves, and It's Thanks to Something Way Bigger Than WeWork", *Business Insider* (Nov. 10, 2019), www.businessinsider.com/softbank-crashing-investments-uber-wework-monopoly-failure-2019-11.

businesses(!), must have enterprise software. Law firms have IT departments. Most everyone must have a cell phone – at least insofar as one wishes to participate in the economy at all. (It would be easy enough to give all sorts of more complicated examples involving language, law, and other culturally received understandings, but there is no need.) The coercion of markets is often briefly acknowledged under the rubric of "competition," but the markets at issue here are not competitive. Few actors have any hope of "competing" with an entity many orders of magnitude more valuable. Instead of competition, at issue is the necessity and possibility of participation in the contexts such entities create. In order to participate economically (and this is, after all, our access to the supply chain for life's necessities), institutions and individuals pay monopoly rents to the Amazons, Googles, and Apples of the world, thereby creating magnates. Even churches need a Facebook account.

Knowing that this business model can work, and that an investor just might acquire wealth beyond spending, venture capitalists recently have been willing to fund any number of ideas that do not immediately seem to be so scalable, do not seem to fit the paradigm. Consider Airbnb[47] or DoorDash.[48] Long shots at a substantial stake in, if not the next Google, at least the next PayPal,[49] seem fairly reasonable chances to take. And, despite all the loose talk of dominance and monopoly rents in this essay, antitrust (competition) law hardly obstructs the dominant players in digital markets.[50] So, raising capital, sometimes substantial amounts, has not been a problem for tech start-ups. And in those cases when market dominance is achieved, investors, including institutional investors, have kept valuations high. Given the centrality of endowed institutions to contemporary life, tech market dominance has been woven into the portfolios, and so the fabric, of our society. Again, this is our elite – it is not just about the money.

In this light, the libertarian ideologies that suffuse microeconomics, computer science, and Silicon Valley are bizarre. The computer may be the greatest instrument for imposing economic structures, concentrating wealth, and generating inequality ever, or at least since craftsmen in Toledo started making swords for conquistadors. This particular blindness is, however, familiar, history rhyming again. The turn of the last century, the era of the Robber Barons,[51] was also the era of the *Lochner* Supreme Court majority,[52] with their belief in the transcendent freedom of contract. Today we speak of blockchain and self-executing digital

[47] *See* Rebecca Aydin, "How 3 Guys Turned Renting Air Mattresses in Their Apartment into a $31 Billion Company, Airbnb", *Business Insider* (Sept. 20, 2019), https://www.businessinsider.com/how-airbnb-was-founded-a-visual-history-2016-2 (providing a basic history of the company).

[48] *See* Biz Carson, "DoorDash Is Now Worth $12.6 Billion after New $600 Million Investment", *Forbes* (May 23, 2019), https://www.forbes.com/sites/bizcarson/2019/05/23/doordash-12-billion-valuation-series-g-funding/#7eec9cf41fa9 (discussing some of the background of the company).

[49] Brian O'Connell, "History of PayPal: Timeline and Facts", *The Street* (Jan. 2, 2020), https://www.thestreet.com/technology/history-of-paypal-15062744 (discussing the company's explosive growth).

[50] *See* Diana L. Moss, President, American Antitrust Institute, "Breaking Up Is Hard to Do: The Implications of Restructuring and Regulating Digital Technology Markets," 19-OCT *Antitrust Source* 1 (Oct. 2019) (providing an overview of recent proposals to breakup or restructure the large U.S. digital technologies).

[51] For a discussion of the Robber Barons and inequality in the current markets, see Amy Deen Westbrook & David
A. Westbrook, "Unicorns, Guardians, and the Concentration of the U.S. Equity Markets", 96 *Nebraska Law Review* 693-700 (2018).

[52] *Lochner v. New York*, a case about bakers' work hours decided by the U.S. Supreme Court in 1905, famously held that the Due Process Clause of the Fourteenth Amendment protects the individual right to freedom of contract of both the employer and the employee. Lochner v. N.Y., 198 U.S. 45 (1905).

contracts, as if we could somehow, finally, escape the social. Naïveté, perhaps dangerous, but more than a little pathos, too.

IV. Shareholder capitalism

To be careful: the fact that global digital enterprises may be enormously lucrative need not necessarily imply that *individuals* are so very rich. There are other global enterprises which have not generated anything like the personal wealth of the tech companies. As noted, with the exception of Warren Buffett, there are no financiers on the list, nor oilmen, nor celebrities, nor other sorts of rich folk. In January 2020, BlackRock had over $7 trillion in assets under management,[53] and its principles and executives are certainly wealthy, but not like Jeff Bezos or Bill Gates or Mark Zuckerberg, nor even Jim Walton, just one of the heirs of Walmart founder Sam Walton. At his death in 2019, Jack Bogle, founder and CEO of the Vanguard Group, was worth some 80 million.[54] Chump change, and a point of pride for Bogle. This, despite the fact that Vanguard largely invented index funds, and on January 31, 2020 had approximately $6.2 trillion in assets under management.[55] Why do tech companies concentrate wealth to such an astonishing degree?

All of the men on the list of the ten wealthiest Americans have substantial ownership interests in, in most cases, outright control of, a publicly traded firm that dominates a market.[56] As noted, in nine of the ten cases, the firm may be fairly characterized as a "tech" company, with Warren Buffett's Berkshire Hathaway being the exception. All of these men founded or cofounded the company, with three exceptions: Jim Walton, who inherited his Walmart stock; Steve Balmer, who was a longtime CEO of Microsoft and who thereby acquired a founder-like stake in the firm; and again Warren Buffett, who long ago acquired the shirt manufacturer Berkshire Hathaway and transformed it into a conglomerate. In sum, the 8,000-meter peaks of American wealth are generally climbed, in this stage of the nation's history, by founding a tech company, and retaining a great deal of ownership in the form of shares.

The proposition that Jeff Bezos is the wealthiest man in the world is not a simple fact, but an accounting based upon legal, institutional, social and economic assumptions, some widely believed, most tacit and by no means obvious. Amazon's shares, securities, are bought and sold in highly regulated markets, for dollars, which establishes a price per share, a rational number (as I type, $2411.27). What could be simpler? But this number comprises so much: centuries of corporation law, which in turn rests on deep understandings of the law of property, contract, and master and servant (now euphemistically called agency); almost a century of securities law, which presumes many of the same understandings, but also

[53] John Coumarianos & Leslie P. Norton, "BlackRock Passes a Milestone, with $7 Trillion in Assets Under Management", *BARRONS* (Jan. 15, 2020) https://www.barrons.com/articles/blackrock-earnings-assets-under-management-7-trillion-51579116426. However, that total subsequently fell during the Covid 19 pandemic. Dawn Lim, "BlackRock's Profit, Assets Under Management Fall", *The Wall Street Journal* (Apr. 16, 2020), https://www.wsj.com/articles/blackrocks-first-quarter-profit-fell-23-11587033254.

[54] Edward Wyatt, "John C. Bogle, Founder of Financial Giant Vanguard, Is Dead at 89", *The New York Times* (Jan. 16, 2019), https://www.nytimes.com/2019/01/16/obituaries/john-bogle-vanguard-dead.html (citing a Forbes estimate from the year before).

[55] Fast Facts about Vanguard, Vanguard, https://about.vanguard.com/who-we-are/fast-facts/ (last visited May 28, 2020).

[56] The rise of so-called unicorns is fascinating, and raises many questions. At least at present, however, being considered one of the very richest individuals requires ownership of a substantial stake in a publicly traded company. *See generally* Amy Deen Westbrook & David A. Westbrook, "Unicorns, Guardians, and the Concentration of the U.S. Equity Markets", 96 *Nebraska Law Review* 688 (2018).

"information" and administrative law and lore; the arcane practices of the securities industry ("Wall Street") and the increasingly important storage of institutional capital there; macroeconomic policy and the associated ancient practices of banking and so money supply; to say nothing of investor sentiment about Amazon's future, and the future generally, all of which will somehow inform the return on investment. Indeed, why shares are valuable to individuals at all is almost as mysterious as why dollars are valuable.[57] Ignoring all of that so we can get on with crowning the richest man in the world, the price/share is multiplied by the number of shares in question, an integer, and we produce another, much larger, rational number, which we round off for convenience, producing, in this case, $114,000,000,000.[58] Simple, no?

It must be admitted that the scale of this number is not due solely to the confluence of globalization, digitization, and Amazon's capital structure. Through the 21st century, the advanced economies have seen slow growth and great liquidity, much of it provided by central banks attempting to rescue financial systems and, that more or less done, stimulate real economy growth. The New York Stock Exchange has been the recipient of much of this cash; share prices have increased accordingly. But there is more than a rising tide, which lifts all boats, at work here. Tech stock has done well relative to other stock; founders of tech companies have done well relative to the owners of other sorts of business.

It must also be admitted that these estimations of wealth are both derivative and in some sense nominal. Market capitalization is an accounting technique. Shares are not dollars, and even dollars are not wealth itself, but represent wealth. Expressing wealth in dollars makes it somewhat more comprehensible – or amazing, if the number is large enough – to those of us who use dollars daily. It would be difficult if not impossible, however, for Bezos to sell his stake in Amazon, turning his nominal dollars into "real" ones, without depressing the price of Amazon stock. Wealth, here, is a matter of the estimation of the stock market. A certain community has assigned a certain value to a certain set of legal instruments owned by a man, thereby anointing him "wealthiest".

Apart from the title, however, it is difficult to know what this wealth means to its nominal owner as he moves through the world. Shares are a form of fiat money for some purposes, notably the acquisition of companies and the compensation of executives, so Amazon could use stock as it moved from selling books to brokering online trading to advertising to cloud services to selling just about everything else. Not that Amazon needs to use stock for such things. The company has so much cash that it bought Whole Foods for $13.4 billion in cash, "in a bid for total retail domination."[59] So one thing a powerful shareholder can do is cause the company to make business decisions, which, if successful, will make the shareholder yet wealthier, at least on paper.

Even within the corporation, however, shareholders are constrained by corporate law, and law generally. Indeed, it is corporate law that gives the shareholder power over the enterprise, and that is presumably coveted, at least in the abstract, by investors whose demand sets the stock's price. Bezos does not hold a majority of Amazon's voting shares, though he clearly is

[57] *See* Amy Deen Westbrook & David A/ Westbrook, "Snapchat's Gift: Equity Culture in High-Tech Firms", 46 *Florida State University Law Review* 861 (2019).
[58] Whether or not the list-maker bothered to figure out what Bezos' non-share assets and liabilities are seems irrelevant.
[59] Beth Kowitt, "How Amazon Is Using Whole Foods in a Bid for Total Retail Domination", *Fortune* (May 21, 2018), https://fortune.com/longform/amazon-groceries-fortune-500/.

in *de facto* control.[60] Several other members of the list have clear voting control, i.e., can unilaterally replace the board and thereby senior management. Even in such cases, legal processes must be followed within the corporation, and the corporation itself is regulated in many ways, deregulation notwithstanding. It is tempting to say that shareholders, even majority shareholders, are not kings.

Surely shareholders are not kings outside the corporation. While they can buy things, shareholders have little power to discover, make, coerce, or legislate, for starters. They are subject to the same laws as most other folks, at least most of the time and no doubt more comfortably. In corporation law classes, we teach that the one real power of the shareholder is the vote for the board of directors.[61] The law is a little more complicated than that, but the statement is true enough to mean that wealth defined by shareholding is wealth rather narrowly understood. The legal vehicle, the share, just does not capture the range of possibility implied by "wealth." Even astronomically wealthy shareholders have little power to change things outside of the business of their firms, as any number of foundations have discovered (Gates,[62] Ford[63] and Rockefeller[64] spring to mind).

For his part, Jeff Bezos paid the largest divorce settlement in history; unlike King Henry VIII he did not have his wife beheaded. If wealth is understood as the capacity to have one's way with their world – or perhaps, to ignore the world's demands – then Henry VIII and lots of other people have been, or are now, wealthier than the men currently listed as "wealthiest." It might be said that this comparison of divorce proceedings confuses wealth with power, and it does, but the two are difficult to keep distinct. One cannot talk about wealth, represented by dollars or shares or other form of property, without reference to law, and hence to power.

Conversely, however, kings are literally anointed, "made" and constrained by the laws of the monarchy, albeit often proved by God and my right arm. Kings "claim" their kingship, take a legal position, and are obeyed only insofar as they are collectively believed, either to be legitimate, or to command force, which may practically come to the same thing. Power, even of an illegitimate but at least for now successful regime, entails social authority, usually expressed as law, the same sort of social authority that makes dollars, or shares, acceptable, and is embedded in our notions of wealth.

So, to conclude this essay where it began: what does this hierarchy, the billions of dollars ascribed to the nation's wealthiest men, mean for its society? What do those of us who accept, willingly or not, this particular inequality as the way of their world, think?

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[60] Bezos' ability to control the company was notable when the COVID-19 pandemic erupted in the United States. Karen Weise, "Bezos Takes Back the Wheel at Amazon", *The New York Times* (Apr. 22, 2020), https://www.nytimes.com/2020/04/22/technology/bezos-amazon-coronavirus.html.

[61] *Alan Palmiter, Frank Partnoy, & Elizabeth Pollman, Business Organizations; A Contemporary Approach* 72 (3d ed. 2019) (explaining that voting for the board of directors is one of shareholders' fundamental rights).

[62] *See* Peter Kotecki, "Bill and Melinda Gates Were Just Named the Most Generous Philanthropists in America – Here Are Their Biggest Projects", *Business Insider* (Aug. 20, 2018) (discussing the Gates' generosity).

[63] *See* Larissa MacFarquhar, "What Money Can Buy", *The New Yorker* (Dec. 28, 2015), https://www.newyorker.com/magazine/2016/01/04/what-money-can-buy-profiles-larissa-macfarquhar (discussing the foundation's efforts to conquer inequality).

[64] *See* William H. Schneider, "The Difficult Art of Giving", 497 *Nature* 311 (May 16, 2013), https://www.nature.com/articles/497311a.pdf?proof=true (reflecting on the impact of the foundation on its centenary).

Conclusion

In recent history, a number of corporations have emerged with a technology or occasionally a collection of brands that creates a new market that can be globally scaled. Within that market, at least, the companies have utterly dominated, and have been immensely profitable for some substantial amount of time. It could happen again. From the perspective of an investor, the lesson is clear. Early stage investors attempt to identify such companies as they emerge, often long before they are profitable, and buy equity. If the company is successful, demand will increase. Once the company is sufficiently highly valued, the portfolio requirements of institutional investors will increase demand yet further. In many cases, the founders of the company retain substantial equity. Increasing demand for whatever equity is available for sale will increase the wealth of the founders, making some of them at least nominally the wealthiest people on the planet. But, from an investor perspective, why be jealous? Surely being an early stage investor in Facebook is reward enough, even if that kid is much richer still? Even some middle-class guy with a 401(k) portfolio run by Vanguard benefits from Facebook's wealth.

From any other perspective that I can think of, analytical or normative, things are much less clear, and much more could be said. I will confine myself to two observations.

First, as a society we pay relatively little attention to the specific sort of wealth discussed here, and do not seem very disturbed when we do. Perhaps the historically recent conjunction of globalization, the peculiar economics of digital enterprises, and corporation law are a bit much to think. True, Bernie Sanders railed against inequality in his recent Presidential campaign,[65] but in a general "soak the rich" sort of way that cuts against the grain of the American love of capitalism. Moreover, this wealth is in some senses rather nominal, in part a function of accounting, and so difficult to perceive. Nominal or not, billions of dollars are hard to comprehend, even for people who spend time worrying about financial matters. At least one can see Versailles or one of the Pyramids, but 10^{11}? Michael Bloomberg spent almost a billion dollars on his unsuccessful bid to become (a democratically elected!) President, which sounds like a lot, but that was less than 2% of his wealth.[66]

On occasion, the vast personal wealth generated by digital industries is acknowledged, but generally justified as the price to be paid for technological progress. Perhaps – the argument that shareholder capitalism is the mother of progress is an old one.[67] Many people believe in progress, at least in the abstract, though I have yet to hear a theory of technology or history that makes sense for the present situation. And for some, entrepreneurs like Elon Musk (not on the list, at least not yet) are heroes.[68] At any rate, it is hard to see somebody like Bill Gates, who has lately adopted an almost Mr. Rogers persona, as a villain. And while a more

[65] Bernie Sanders on Economic Inequality, feelthebern.com, https://feelthebern.org/bernie-sanders-on-economic-inequality/ (last visited May 28, 2020).
[66] Shane Goldmacher, "Michael Bloomberg Spent More Than $900 Million on His Failed Presidential Run", *The New York Times* (Mar. 20, 2020), https://www.nytimes.com/2020/03/20/us/politics/bloomberg-campaign-900-million.html.
[67] *See* David A. Westbrook, *Between Citizen And State: An Introduction To The Corporation* 31-37 (discussing veneration of the corporate form, including Nicholas Murray Butler's description of it as the greatest single discovery of modern times).
[68] Ashlee Vance, "Elon Musk Is the Hero America Deserves", *Bloomberg Businessweek* (May 22, 2020), https://www.bloomberg.com/news/features/2020-05-22/elon-musk-speaks-frankly-on-coronavirus-spacex-and-rage- tweets (discussing many of the controversies surrounding Musk, including his pandemic denialism).

equitable economy might be nice, we do have smart phones and facts at our fingertips, and that's something.

Second, the companies at issue dominate their markets, and are in turn dominated by their founders. Amazon is struggling for the domination of retail, that is, food, clothing, household items – the supply chain for most households.[69] Perhaps it will not achieve complete domination. Perhaps a duopoly with Walmart will emerge. Google is not the only search engine, but is so dominant that YouTube's earnings are not material for the purposes of securities disclosure.[70] Bloomberg is hardly the only provider of information to the public writ large, but it (and so he) is the key provider of information to the financial markets (and so capitalism?). Writing in the midst of the COVID-19 pandemic, which has exposed the fragility of our supply chains, and especially the vulnerabilities of overly concentrated markets, it is hard to believe that anyone would intentionally assign economic sectors like "food supply" or "financial information" to a single or even two or three sources, much less to individuals. But, through the accident of history (progress!), that is pretty much our situation. We have, to an astonishing degree, decided that political economy, at least the political economy of technology, is a matter not for more or less democratic governance, not for bureaucratic regulation, and not for civil society with competitive markets. Instead, we seem content with the idea that technology markets are the domain of individual monopolists, whom we are pleased to honor for their successes. It is a strange view of politics, and conversely, of citizenship.

Appendices

The 10 Wealthiest Women in America[71]

Rank			Net worth
10	Nancy Walton Laurie	Heiress to Walmart fortune	$7.1 billion
9	Blair Parry-Okeden	Heiress to Cox Enterprises (Global conglomerate media company)	$7.6 billion
8	Anne Walton-Kroenke	Heir to Walmart fortune	$7.9 billion
7	Christy Walton	Married into Walton family by marrying John Walton, son of Walmart's founder	$8.9 billion
6	Abigail Johnson	Heiress, CEO, etc. Fidelity Investments	$10.8 billion
5	Laurene Powell Jobs	Heiress of Steve Jobs (Apple)	$16.4 billion
4	Jacqueline Mars	Heiress of Mars Inc. (manufacturer of pet food and other food products) Owns a third of the Snickers and M&M's confectionery empire	$24.7 billion

[69] *See* Lauren Thomas, "74% of Consumers Go to Amazon When They're Ready to Buy Something. That Should Be Keeping Retailers Up at Night", CNBC (Mar. 20, 2019), https://www.cnbc.com/2019/03/19/heres-why-retailers-should-be-scared-of-amazon-dominating-e-commerce.html (explaining that by the end of the year, Amazon was expected to account for 52.4% of the e-commerce market in the United States).

[70] Daisuke Wakabayashi, "YouTube Is a Big Business. Just How Big Is Anyone's Guess", *The New York Times* (Jul. 24, 2019), https://www.nytimes.com/2019/07/24/technology/youtube-financial-disclosure-google.html (citing estimates that YouTube generates $16-25 billion in annual revenue but noting that it is "lumped in" with Google which generated $137 in revenue in 2018).

[71] Taylor Borden, "The 15 Richest Women in America Right Now, Ranked", *Business Insider*, (Apr. 7, 2020), www.businessinsider.com/richest-women-us-america-billionaires-ranking-walton-koch-bezos-mars.

3	MacKenzie Bezos	Divorce with Jeff Bezos resulted in largest settlement in history owns 4% of Amazon company and is the company's second largest shareholder	$36 billion
2	Julia Koch	Heiress Koch Industries (chemical manufacturing company)	$38.2 billion
1	Alice Walton	Inherited fortune through her father/founder of Walmart, Sam Walton	54.4 billion

The Ten Wealthiest People Worldwide[72]

Rank	Name	Country		Net worth
10	Rob Walton	USA	Heir to Walmart fortune (Rob is the eldest son of Sam Walton, the co-founder)	$54.1 billion
9	Alice Walton	USA	Heir to Walmart fortune (daughter of Sam Walton, the co-founder)	$54.4 billion
8	Jim Walton	USA	Heir to the fortune of Walmart	$54.6 billion
7	Mark Zuckerberg	USA	Internet entrepreneur and philanthropist Co-founder, chief executive officer, and controlling shareholder of Facebook Co-founder and a board member of a sail spacecraft project called Breakthrough Starshot	$54.7 billion
6	Amancio Ortega	Spain	Founded Zara (clothing company)	$55.1 billion
5	Larry Ellison	USA	Business magnate, philanthropist, and investor Co-founder, executive chairman, and chief technology officer of Oracle Corporation (Computer software company)	$59 billion
4	Warren Buffett	USA	Investor and philanthropist CEO of Berkshire Hathaway (multinational conglomerate company that has subsidiaries in GEICO, Dairy Queen, Duracell and more)	$67.5 billion
3	Bernard Arnault	France	Chairman and Chief Executive of LVMH (luxury goods company)	$76 billion
2	Bill Gates	USA	Software developer, investor, and philanthropist Co-founder of Microsoft	$98 billion
1	Jeff Bezos	USA	Industrialist, media proprietor, and investor Founder, CEO, and president of Amazon	$113 billion

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SUGGESTED CITATION:
Westbrook, David A. (2020) "Climbing to 10^{11}: globalization, digitization, shareholder capitalism and the summits of contemporary wealth". *real-world economics review*, issue no. 92, 29 June, pp. 151-166, http://www.paecon.net/PAEReview/issue92/Westbrook92.pdf

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[72] Hillary Hoffower, "These Are the 15 Richest People in the World Right Now", *Business Insider*, (Apr. 7, 2020), www.businessinsider.com/richest-people-in-the-world-wealthiest-billionaires#1-jeff-bezos-15.