Decentralizing Servers and the Internet
to Avoid Being "Canceled"

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If we can't avoid control by tech monopolies and oligopolies, can we make our own solution?

Try to remember the last time your electricity went out. Was it a long time ago? Was it an inconvenience when it last happened? How long did it take to have your electricity restored? Did you feel like exchanging words with the power company about how inefficient and unreliable they were?

Now, imagine your electricity goes out, and your power company's only comment is to tell you to find another power provider, and that they are terminating your agreement within 24 hours of that notice. What did you do wrong? Did the terms of service change that drastically? Is the company going out of business? Later, you find

out that your electric company didn't like you (or so you've been told). You still have no idea what went wrong or why they don't like you, but you're too busy scrambling to find a way to connect to a completely different power grid that (most likely) is hundreds of miles away from your house, neighborhood, town, city, or even county.

Instead of this hypothetical situation with your home, imagine that you run a business that sells ice cream and relies on refrigeration on a 24-hour basis, or that you run a nursing home or a hospital that relies on electricity for medical devices that keep many of your residents or patients healthy and alive. Of all the possibilities for why your electricity was cut off, your power company not liking you is the last explanation

you would want to hear as the reason why you—and so many who rely on you—were left without a service whose absence could potentially create a matter of life or death.

Let's take a look at another example of a service, the presence or absence of which could also potentially mean the difference between life and death: cloud storage. It is terrifying to consider that services that you pay for can terminate you as a client at any moment they wish, with little to no notice. There are examples in the news in which companies that we may personally feel *deserved* to have the carpet pulled out from under them have had exactly that happen. But an intelligent person, regardless of his or her opinion of whether it was deserved or not, is always thinking, *Could they do that to me?*

They can—period. And they will. It is a matter not of "if" but of "when." The example I am talking about is Amazon's early 2021 decision to rescind and exscind Parler's use of Amazon Web Services (AWS). Regardless of your personal opinion about it, think of it as a consumer would; compare it to a situation in which your power company cuts you off today and tells you that you have 24 hours to detach from their infrastructure or else they will send a power surge to fry your house's circuits.

Your cable company or internet service provider could do the same thing. Why stop there? Maybe you're sitting in a restaurant that serves you dinner, then pulls your plate away and tells you that you have 60 seconds to vacate the building or else they will call the police. How about an ER doctor who has you under anesthesia and under the knife, then decides to walk out on you? We've entered dangerous territory; if someone finds a reason to blacklist you, even without a court-ready reason or allowing you due process, you can be canceled. Even in a non-emergency situation, you could find yourself without electricity, transportation, food, water, medication, etc., because no one will do any business with you.

Before all that inevitably happens—and it will, unless you know John Galt and he has sent you an invitation—let's focus on "cloud storage" and why it is so important. I once wrote an article, published in the July 2018 *Mensa Bulletin*, about how electronic medical records (EMRs) could be improved through modernization of storage and communication of patient records.[1] One such method is to use blockchain to encrypt data and allow a conduit for all medical professionals who have seen the same patient to easily coordinate with one another and to update the patient's profile through the same system.

Now, forget EMRs and focus on this hypothetical: What if your medical records were stored on Amazon's cloud server, and Amazon decided to cancel you? Suppose Amazon tells you your medical records since your birth will be deleted from their servers in 24 hours, and you have that exact amount of time to download everything and back it up somewhere else. This may sound reasonable to the technically inept; however, this could be gigabytes of data for an individual, and all the thumb drives or backup SSDs in the world wouldn't save you. Forget help from IT professionals to back everything up directly from AWS servers all within the slotted time frame, and forget about a legal team to buy you more time.

What if a hospital or healthcare system that you used was subjected to Amazon's or another cloud storage provider's tantrum? Gigabytes turn to terabytes, terabytes turn to pedabytes, and that amount of data takes a *lot* of time to transfer. (USB 3.0 thumb drives won't help… Sorry.) You're basically done for.

Synergy Research Group published a study in February 2021 that focused on cumulative data through Q4 2020, showing that Amazon currently owns and operates over 32% of the *world's* cloud infrastructure, followed by Microsoft Azure's 20% and Google Cloud's 9%.[2] Other big tech companies, including IBM, Oracle, Alibaba, etc., together with Amazon, Microsoft, and Google,

make up over 80% of the world's cloud storage. The remaining <20% is comprised of smaller, decentralized, proprietary storages that don't have the networking infrastructure to handle a larger scale. (Home and small-business applications wouldn't be sustainable at a larger scale, which makes growth for them nearly impossible.)

All extremes aside, would you want to lose a service you rely on for everyday life or work in the blink of an eye, with either no reason provided to you or the reason being something convoluted or absurdly obscure? You would either be forced to rebuild your data from scratch or simply forego something you have been doing—or need to do. Let's talk about the company Parler for a second, and let's tiptoe so as to avoid politics.

To summarize as robotically, objectively, and unemotionally (apathetically?) as is possible, Parler is ("was" may be the more accurate verb here) a social networking website, similar to Twitter, that allows its users to post character-limited messages to their accounts that are viewable to the user's own network of other Parler users, to the broader Parler network, or to the entire internet (depending on the user's privacy settings). Acting more as a platform than a publisher, Parler allows its users to post messages of any content, under the banner of free speech, so long as those messages do not infringe upon the law. This means Parler prohibits direct calls to action involving any activities that present a clear and present danger to a user or to any other individuals, anywhere.

Calls to action involve direct instructions/declarations to execute an order that is outlined in a given message; but for the time being, that's a semantics argument waiting to happen between cable news talking heads. (Twenty years ago, it was straightforward.) In Parler's own words, "Parler is built upon a foundation of respect for privacy and personal data, free speech, free

markets, and ethical, transparent corporate policy."[3]

That sounds nice on paper and all, but here's the question: If a publisher or platform isn't subjected to the terms and conditions of Section 230 of the Communications Decency Act (CDA) of 1996,[4] is it responsible for its users' content, so long as the users haven't made any harmful calls to action? Users who post content on publisher sites are considered "third-party" contributors. (Think of those annoying forum comments at the bottom of any digital news article.) Section 230 of the CDA provides protection to publishers and platforms (with caveats) from liability, so long as material published was produced by third parties, or "users," and the content is not inciting any direct, harmful call to action.

Well, we've seen a subjective and then democratized public trial in the media, where apparently any content posted by third-party users—even that which has nothing to do with a call to action of any sort—can be deemed as dangerous; and onus can be placed on a publisher/platform to take responsibility and face repercussions. Interestingly, those repercussions don't have to be legal ones in a court of law. There is a judge, a jury, and punitive measures, but they don't operate in a court of law. Big tech, politicians, and (ultimately) society can destroy a company, group, person, or any entity based on the sentiment of the time.

I promised no political debate, so worry not. But, consider this: Parler's membership numbers increased by multiples several times over the last six months, which was mainly a reaction by users who did not agree with Twitter's stance on supporters of Donald Trump, as well as Trump himself. Ultimately, when Twitter banned Trump from their platform in early 2021, Parler membership soared. Many speculated on Parler's valuations, and Twitter was visibly wounded from the user migration and loss of ad dollars. Forget about the reason for the migration of users. As an investor, you would look at a

company like Parler as something to rival an indomitable company, such as Twitter, on its own court. Then, Amazon pulled the rug out from under Parler. Amazon terminated their service agreement with Parler, basically evicting them from any redshift clusters (little notes of data storage) they occupied on the Amazon cloud, all with a 24-hour notice. Parler spent over one month basically offline in its entirety and experienced difficulty gaining users when Amazon added insult to injury by removing Parler from their "Appstore." Apple also removed Parler from their "App Store," and Google removed Parler from the "Play Store." Parler had inflicted billions in losses on Twitter and Facebook, and big tech made sure that the mosquito sting they felt would be turned into a bloody, messy example.

Why is this a cautionary tale? Referring back to the days of the robber barons (Rockefeller, Vanderbilt, Carnegie, Morgan, Gould and Fisk, etc.), Congress—while slow and, as some would say, incompetent—finally got wise and launched antitrust investigations that were ultimately successful, at least to some degree. Today, *every* politician benefits financially and professionally from big tech. (That's speculation, but I really hope it is incorrect.) Why launch an antitrust investigation when your political campaign, your finances, and your way of life are made possible by allowing big tech to go unchecked? The alternative is standing against big tech. Unlike Rockefeller, big tech can hunt you by publishing private information or releasing it to hostile parties. It can censor you, prevent you from getting urgent resources, and allow slander and/or dissemination of harmful information about you and your family. Big tech could even do what Rockefeller could possibly have done, which is make sure no one ever sells you oil/gasoline ever again. What if all you did was make fun of Jeff Bezos, Mark Zuckerberg, or Jack Dorsey; then, the next day, you found yourself without electricity, unable to get medication refills or food, your home was scheduled to be bulldozed due to an eminent-domain claim, and there were

several hundred deep-fake videos circling the internet that appeared to be depicting you committing heinous crimes? It's hyperbole, but never say never.

Can you fight back against big tech? No, not *directly*, at least, just as you can't pitch a tent next to the nuclear Elephant's Foot at Chernobyl. However, politicians can threaten patent breaks, which would also work against big pharma companies who price-gouge. (As you and I both laugh while reading that, we know that will never happen, ever.) Congress could launch antitrust investigations; but I've made you laugh already, and we all know that's just a pointless exercise in virtue-signaling that a handful of politicians keep touting. Some Congress members still need their kids' help with downloading apps on their smartphones, let alone do they understand *how* to investigate an antitrust case against each big-tech company. But, just like the wildlife in Chernobyl, you can live *around* the area and wait it out if you can't directly detoxify it. Eventually, after thousands of years, you could move right back in. Big tech will never go away, though there are ways to live around it without making it so angry that it infuses you with radioactive poison and laughs and posts Instagram Stories about you while you slowly die to get likes and ad dollars.

If you hate Silicon Valley as much as do many people around the world, you might have watched a series aptly named *Silicon Valley* that ran on HBO. Created by Mike Judge and co-creators John Altschuler and Dave Krinsky, the show was a satire on the culture, recklessness, and scheming within the Valley. Many of the situations that the show parodied were based on actual events within the industry, as well as Judge's own experiences while working in Silicon Valley in the 1980s. Some of the concepts that the show introduced were legitimate and potentially viable, albeit too far into the future, such as a decentralized internet, independent from big tech, governments, etc., and in the hands of individuals and good faith.

On one episode of *Silicon Valley*, "Internet 2.0" was proposed.[5] The show explored the idea that—instead of relying on big tech, server farms, and ads—the internet could be hosted on the cloud, through a neural network comprised of the mobile devices of every human who owns one. While the internet is petabytes of data, the network of all active mobile phones across the globe, tethering off one another, could technically house any and all data, through shared bandwidth. It would also prevent domination by a single party (Amazon AWS, Microsoft Azure, Google Cloud—basically all of Silicon Valley).

Realistically, as the show pointed out, you would need an insanely fast and efficient data-compression mechanism to make the data digestible and containable, even in limited amounts, by individuals' mobile devices. While everyone celebrates a new "G" level of mobile networks every couple of years, that level would have to be well into the double digits for the idea to work.

Let's revisit Parler. Early into its shutdown, a company called Gab—basically a competitor to Twitter and Parler, but sharing Parler's ideals— agreed to take Parler's data and house it on their own proprietary servers.

I wonder if that concept could be on to something and if we will see a shift towards creating a proprietary server infrastructure. This could set a precedent, whether Parler and/or Gab survived or not. If individuals built their own servers (or bought them) and opened them up to the public networks—allowing them to be connected to a larger network (a neural network, if you will)— and companies or individuals that created the data then placed the onus on themselves to encrypt their own data, theoretically, would this create a decentralized internet and take power away from AWS, Microsoft, and the likes?

I spoke with a couple of peers, including Julie Konrad-Dunn, an accomplished veteran of the tech industry, field engineer, systems engineer,

software architect, and Mensa member, who has worked with servers, the cloud, software, and the Internet of Things (IoT). I posed to her my question about decentralizing the internet through the means of interconnected, privately owned server/computer-storage space, and I also shared with her my thoughts about the tale of two companies, Amazon and Parler. Konrad-Dunn had this to say:

> The internet existed before the platform companies. Servers are hardware that can be purchased… What has been touted as this huge barrier, which is knee-high, is the messaging protocols that ride on top of the routing. … I'm all for free speech; just don't be a knucklehead about technology. Use messaging middleware not based on proprietary platform software, or at least if it is proprietary, then make sure about the terms. Hire some real programmers, use independent server farms. … Or maybe this is an exercise in political Darwinism, where the clueless lose their cause, due to ineptitude.[6]

Did Parler's and Gab's troubles happen because they were newer companies that were simply complacent with their reliance on Amazon AWS, and they had no contingencies in place? Was this a case of accelerating too quickly and being unable to step on the brakes when headed for a concrete wall? As I spoke more with Konrad-Dunn, we came to an understanding that perhaps some of the contingencies would still *have* to be predicated on existing infrastructure provided by big tech, with no actual room to pivot, based on how servers communicate/message one another. For example, Konrad-Dunn stated,

> The internet has always been about the constantly adjustable path of the data, hopping from one router to the next. … Most server farms have huge redundancy, usually replicated in multiple locations. Software is just a bunch of components, and if you use standard interfaces, then there are thousands of coders that know AWS (Amazon Web Service) or Google Firebase

Messaging, to name a few. … Sure, you can make your own, but then you have to kind of productize it to the point of having some level of documentation and support. That way, the coders you hire know what formats to [code in]. Point is, the general public has no idea how hostage they are when they buy an iPhone, or Android, etc. So many features have been given away to the consumer that they didn't notice how beholden they have become to the platforms. … We knew what we were creating was incredibly powerful, just had no concept how it would be used.[7]

Has big tech further extended its oligopoly by ensuring that present and future generations of students who learn coding, server systems, and cloud computing are taught these skills while using big tech's own specific infrastructure, communication languages, and hardware?

I'll use the analogy of McDonald's. Harry Sonneborn, former president and CEO of McDonald's Corporation, had introduced the idea of not owning each franchised McDonald's restaurant but, instead, owning the land on which each restaurant was constructed, then leasing those lands to the eligible franchisees.[8] This gave the corporation far more control over how to manage the brand as opposed to simply lending the brand to the franchisee. This also allowed McDonald's to bypass its voting system and force the franchisees to follow certain practices by simply evicting the franchisees or threatening eviction if the demands weren't met. Similarly, big tech seems to have created the perfect infrastructure to "evict" at will—or to threaten eviction, at least—if demands aren't met.

One idea is to treat these grassroots-created servers similar to real estate, but with a twist. For example, Airbnb works with individual property owners who earn money by allowing visitors to stay in their properties and pay "rent." Unlike hotels, Airbnb doesn't own the lodgings, nor is it responsible for the conditions of the lodgings or the behavior of the guests. However, it hopes its

platform will allow for quality control through its ratings system and by regularly reviewing users on both sides. Uber and Lyft are similar, except that they deal with car transportation. Now, what if our publicly sourced, decentralized network of servers could act like hotels leasing rooms from private individuals' homes, thus creating a hybrid?

Imagine you lease rooms in your home to Hilton. You provide the infrastructure and space; but once the guests arrive through your front door and are directed to the areas where each "hotel room" is, Hilton becomes legally responsible for the guests, the condition and appearance of the rooms, and everything else. Hilton simply pays you rent, makes sure damages don't spill out to the rest of the house, and covers all costs attributed to their guests. In a simple way, could data not simply be a temporary guest in all of the public, decentralized storage spaces out there? The host of that data, whether it's a healthcare provider, a financial institution, or a vendor, could retain full responsibility for the encoding of that data as well as for detection of any perilous networks. Perhaps this could be a way to explore the "tethering" of storage devices to create a decentralized cloud. While I was wrapping up the discussion with Konrad-Dunn, she made an excellent point to reflect on:

I'm not against big tech, nor do I advocate anything illegal. We could not have gotten through [COVID-19], connected socially, [and have continued] work and education without big tech. But anything powerful does need a counterweight. Big tech is so powerful that there is the possibility that public opinion can be skewed. And with algorithms that give people more of what they already believe, folks can end up in deep rabbit holes of thought. It's always good to have balance and independent venues for thought and discussion. My motivation in the discussion was fun technical curiosity as well as wanting the world to be a fair place for all.[9]

Big tech has made both tangible and invaluable positive contributions to society. No one questions that. However, being willing to place our faith in one company to house all of our valued data, investments, and belongings is against natural instinct. In war, soldiers are trained to stick together; but as soon as mortars and bombs start blasting, they are told to spread out in order to minimize the collective casualties and ensure that there are enough soldiers to complete the mission through diversification of position. When we're young, we are told to diversify our diets, because eating the same thing over and over can lead to a nutrition deficiency. In financial dealings, we are told to diversify our portfolios, because any market volatility could adversely affect a single company or sector, and if you were invested in that one company or sector, you could lose everything. Why, then, would we not diversify our options in technology?

I wrote an article that was published in the July 2017 *Mensa Bulletin* focusing on digital ad exchanges and Silicon Valley's (Google's) stranglehold on monetizing ad dollars.[10] Through Google's Ad Manager, the Google Ad Exchange, and AdWords, Google has a virtual monopoly on digital monetization. The feckless startups that claim to be innovators by creating their own ad exchanges, demand-side platforms, and supply-side platforms—still obsequious in their nature—abide by Google's rules of complying with integration into Google's Ad Manager. All solutions, including server-side integration, are simply illusory theater to give their clients the impression that they have a stand-alone alternative. They do not.

In order to truly gain independence from the big-tech stranglehold on digital ad monetization, a completely independent exchange system would have to be built, one more similar to a mark-to-market, Arca-like digital exchange predicated on financial exchange-grade technology. Pricing compliance and transparency, similar to those you see in the fixed-income markets, would

have to be established; and regulations would be needed in the digital advertising industry, akin to Financial Accounting Standards Board SFAS 157, which exists in the financial markets.[11] However, I contemplated the subject of cloud storage and server ownership, and I realized that the solution I originally envisioned for independence within the digital advertising industry would never have worked. The primary reasons lie with the tech oligopoly over cloud storage and the fact that any threat would immediately be slaughtered in its infancy; the plug would never need to be pulled, because big tech would simply deny the power outlet by boarding it up.

Diversification in any industry is needed to create not just one solution but many, so that there are alternatives and, thus, alternate means to an end. There was once a time when competition was encouraged and existed freely. The Silicon Valley corporate oligarchs were once fledgling companies themselves, which were hungry to innovate and provide the country and the world with new, innovative solutions to improve the flow of information—and improve our everyday lives. Can we trust that the current lords of Silicon Valley will always be hungry enough to continue innovating for the better, for our benefit, or for the good of the planet as a whole? Do we feel that they aren't powerful enough to become complacent and just focus on fortifying their market share? Would you be comfortable storing all of your personal data on one single system? If something went wrong mechanically, you could lose *everything*. Perhaps, if the management team of that storage system found any small reason to dislike you, you could lose everything. They could even make up a reason. After all, they're big tech.

Diversification is key. And if this government is a government by and for the corporations and not the people, we can't rely on legal checks and balances. Historically, we humans have always had to rely on our natural inclinations to look for new sources of food, water, shelter, etc., when

our environments became inhospitable with too many predators or too much toxicity. It's time to leave this tech Chernobyl and find something a little less radioactive.

Until we find that new environment, I'll be looking for a postcard from John Galt.

NOTES

1. Harish Vallury and Shruti Pandita, "EMRs Rushing to the ER," *Mensa Bulletin* (July 2018): 25-28.

2. "Cloud Market Ends 2020 on a High while Microsoft Continues to Gain Ground on Amazon," Synergy Research Group (February 2, 2021), https://www.srgresearch.com/articles/cloud-market-ends-2020-high-while-microsoft-continues-gain-ground-amazon.

3. "About Parler," Parler.com, https://company.parler.com.

4. "47 U.S. Code SS 230 – Protection for Private Blocking and Screening of Offensive Material," Legal Information Institute, Cornell Law School, https://www.law.cornell.edu/uscode/text/47/230.

5. "Artificial Lack of Intelligence," *Silicon Valley* (season 6, episode 1), October 27, 2019.

6. Julie Konrad-Dunn, "Decentralizing the Internet - Only Way to Change a Country?" Mensa Connect (January 15-25, 2021), online conversation with author.

7. Ibid.

8. Brad Auerbach, "Business Lessons from Ray Kroc 'The Founder' — McDonald's Story," Forbes (January 20, 2017), https://www.forbes.com/sites/bradauerbach/2017/01/20/business-lessons-from-ray-kroc-the-founder-mcdonalds-story/?sh=7ddb99763534.

9. Konrad-Dunn.

10. Harish Vallury, "Ad-tack of the Digital Exchanges," *Mensa Bulletin* (July 2017): 30-34.

11. "Summary of Statement No. 157," Financial Accounting Standards Board, https://www.fasb.org/st/summary/stsum157.shtml. Ω