Problems of Big Siren Servers and the Need for Personal Privacy Servers

Max Angelo Groff
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an activist paper
a humanist paper

Introduction

Big Siren Servers (BSS) are elite and centralized computing systems that secretively analyze the information of users,[1] usually for profit[2] or other strategic advantages. In the 21st century, software is becoming a public utility based on remote servers, rather than a tangible product.[3] As of 2018, the most popular *Software as Secretive Service* (SaSS), e.g. Google apps (including Gmail and Google Books), Facebook, and Canvas (a front-end to Amazon Web Services), are hosted on BSS. A critical problem, of which there are many, is that SaSS on BSS, such as Gmail, are actually back-end data-mining schemes disguised as front-end "free services".[4] In fundamental terms, they are dangerous to privacy[5] and institute winner-take-all schemes of extreme information asymmetry.[6]

The use of SaSS on BSS is unethical[7] and counterintuitive to academic ideals. Furthermore, BSS pose environmental hazards directly involving climate change.[8,9] Webmail services such as Gmail and social networks such as Facebook must be abandoned as soon as possible.[10] Public research universities such as Temple University should lead the way in abandoning SaSS on BSS, especially Gmail and Canvas. The primary solution to the problem is for institutions as well as individuals to run their own internal, decentralized servers[11] based on clearly-defined values of personal privacy and intellectual freedom. We will refer to these ethically-minded servers as *Personal Privacy*

Servers (PPS). The FreedomBox foundation, headed by Professor Eben Moglen of Columbia University, correctly and mindfully embodies the ideal application of PPS, as well as the necessary diaspora away from BSS. Institutions on the scale of large research universities should simply be educated, funded, and staffed enough to run their own internal servers.

The Many Problems

In delineating the many problems of BSS, we may begin with a discussion of data-mining, because a primary function of SaSS on BSS is to enable data-mining.[12] Data-mining is sometimes incorrectly termed "data science," but is actually a sub-discipline of statistics.[13] In *Technics and Civilization* (1934), Lewis Mumford characterizes *traditional* mining as an inhumane craft, in which the laborers are often prisoners of war, criminals, and slaves.[14] In addition, Mumford highlights the connection between mining and modern warfare, characterizing mining as a fear-inducing practice at odds with the physical environment.[15] Through the ruthless pursuit of hard metals, human labor is exploited and the war machine is fueled. Mumford's "animus of mining" is characterized by a "reckless, get-rich-quick, devil-take-the-hindmost" attitude in which "mankind behaved like a drunken heir on space."[16] It is quite ironic then, that contemporary technologists still use the term "mining" for data, when the history of mining is so fraught with problems. Since today's Internet users are not compensated for their contributions to data-mining, it is arguable that computational abstraction has hidden physical brutality, and that inhumane labor practices still persist in the digital "caverns" of data-mining.

Contrary to mass media zeitgeist, web-based data-mining and surveillance innovation has come mostly from private industry (e.g. Google, Facebook), more so than from government.[17] In fact, virtually *all* governments of developed nations are actively attempting to use data-mining and surveillance to their advantage.[18] To finger the U.S. as the sole perpetrator of electronic surveillance is deceptive. The recent coverage of Edward Snowden demonized the NSA to a great extent, thus eroding Americans' faith in their federal government. And yet, the Snowden coverage generally failed to draw obvious parallels to the analogous surveillance activities of private corporations, the Russian Kremlin, and the Communist Party of China. In actuality, various governments of various nations are routinely granted access to corporately-mined data, without transparency to the citizens.[19] Nonetheless, the primary actors of data-mining are in fact private corporations seeking immense profit, at the expense of users who are in no way compensated for their countless contributions to the “mine mind.”

SaSS on BSS, such as webmail and social networks, leads to centralization of information in huge datacenters.[20] Extreme centralization may render datacenters vulnerable to acquisition or targeting by various agents. Furthermore, datacenters consume massive amounts of electricity, posing environmental problems directly related to climate change.[21] Between 2000 and 2005, the electrical consumption of Internet servers was estimated to have doubled.[22] Today's BSS conduct petacalculations on petabytes, resulting in petaheat – for example, two entire floors of a large building housing a BSS may be dedicated to cooling, consuming massive amounts of energy to dispel massive amounts of heat waste.[23] In 2005, the Internet may have used up to 13% of the entire U.S. electrical supply, with all related equipment included.[24] It is also quite

notable that the related equipment, including the actual servers, are manufactured in other countries[25] (usually the People's Republic of China), leading to substantial and hard-to-quantify waste. Even the U.S.-based data centers are dependent on coal-fired power plants and constantly produce physical waste whenever hardware is routinely upgraded.[26] Large datacenters often resemble military-camp[27] or bunker-like structures, which seem "invoke the specter of a future disaster,"[28] as Mumford foresaw.

The problems of BSS are so deeply-rooted that BSS have been criticized on the basis of the laws of thermodynamics.[29] Due to problems of thermodynamic inefficiency, there are legitimate doubts that BSS will ever benefit all of society in an egalitarian sense. Jaron Lanier invokes the work of physicist James Clerk Maxwell, who set forth the thought experiment of Maxwell's Demon. Simply put, due to the laws of entropy, extreme data-mining will lead to extreme amounts of heat waste, and so, economically, the benefits of data-mining may only be distributed to a small elite (i.e. those running or investing in the BSS).[30] In Lanier's view, it is not possible for the entire planet to benefit from a wastefully complex digital system that is subject to the laws of thermodynamics and Maxwell's Demon.

The problem is not necessarily the storage of information, but rather the increasingly complex "mining" performed as a practice of "big data." Furthermore, tech companies such as Facebook employ much fewer people than industrialized corporations of the past, e.g. General Motors.[31] In this sense, BSS do not truly benefit the vast majority of users, but rather benefit a few corporations that employ comparatively few humans, thereby eroding the middle class.[32] The average users are set to be trapped on the wasteful side of a "demonic" system.

BSS must be thoroughly scrutinized in economic terms of risk management ethics. Lanier cites the example of a BSS-enabled program that Amazon uses to undercut small/independent booksellers.[33] (It is notable that Canvas, the course management system adopted by Temple, is currently hosted on Amazon Web Services (BSS).) Amazon's "book bot" is advanced to the extent that Amazon is never undersold on books, which is a form of unethical risk-reduction that decreases risk for Amazon, while increasing risk for small businesses. Subjectively, it is quite noticeable that the price of most used books has plummeted internationally, possibly as a result of Amazon's "book bot." For example, the two-volume, full-color box set *Jewish Art and Civilization*, which was initially priced at $75 at House of Our Own bookshop in West Philadelphia, currently sells for 99 cents online (approximately five bucks with shipping). Our present situation is a result of a BSS that is constantly up-kept by the use of Amazon, including Temple's use of Canvas. As of 2014, Amazon's Elastic Computer Cloud (BSS), generates far more profits than its sales of books, DVDs, or groceries.[34] So, we must begin to scrutinize Amazon as a BSS superpower, rather than a convenient provider of affordable home goods.

Ironically, Temple's use of Canvas as a "server" to distribute crusty scans of books simply de-encentivizes students from investing in real books at all. Students then must choose whether to read poor reproductions of books on obnoxiously bright LED-backlit screens that are possibly carcinogenic,[35] or print even poorer-quality reproductions, leading to scattered, incomplete, *ersatz* derivations of the original books. As a result, use of Canvas increases health risks and/or paper waste, while decreasing book sales and physical library activity. The winners in this game are Amazon and the electronics

manufacturers, and the losers are independent booksellers, publishers, physical libraries, and the students, who now lack exposure to real books and gain exposure to possible carcinogens. Clearly, there is a need to support independent booksellers, publishers, physical libraries, as well as students, who are representative of a middle class that does not deserve to be undercut at every angle. These problems are social, economic, and environmental in nature.

Ebooks on BSS present even more problems than the loss of real books to crude reproductions. If one attempts to read a "book" on Google Books (SaSS on BSS), there occurs an immediate report back to "authorities" (i.e. Google, plus any intermediary actors)[36] that specific individual X read specific book Y, along with many other specific informatics that must be left unspecified due to Google's secretive nature. The geographic locations of Google's servers are held secret even from the press,[37] and thus the problem becomes geopolitical. Moglen believes that Google Books' underlying behavior violates readers' rights[38] on intellectual, ethical, moral, legal, and political grounds. Privacy of reading may be especially sacrosanct to legal professionals, businesspeople, and scholars from any branch of academia or industry where research is a high-value enterprise, such as advanced mathematics, the hard sciences or, ironically, computer programming.

Reporting *all* research activities *immediately* back to a central command (which may be compromised by, for example, various nation-state actors) may negatively impact research in many domains. Today's human researchers are now at odds with Google's artificial researchers "enframing" the entire research process. We are moving towards a technocratic society where it is impossible to be alone with one's thoughts.[39] Lanier characterizes this type of society as "antihuman."[40] Where is the place of the intellectual

visionary or academic pioneer in such an oppressive society? How will we maintain a middle class in which humans have more dignity than computers?

The simplest solution to avoid intellectual oppression is to stop using Google and Facebook immediately. One individual who chose to abandon Google is a man named Christian Stewart, a specialist in cryptography. <choosetoencrypt.com> Stewart found that based on the advanced level of his mathematical searches, WolframAlpha delivered better results than Google. He also began using the privacy-focused search engine DuckDuckGo as a substitute for Google, as DuckDuckGo does not save or track individuals' search histories. Stewart was uncomfortable with the extreme amounts of geographical tracking that Google performed as he traveled about, and so he disabled Google on his phone. Most alarmingly, Stewart found that Google results were non-neutral to the point of being counter-informative. Since Google was able to infer his political leanings, it was selectively showing him news sources with political leanings similar to his own.[41] Stewart was only being exposed to selective slivers of the media spectrum, thereby enforcing confirmation bias and obscuring exposure to intellectual counterpoints. We have reached a point where SaSS on BSS is actively undermining the Western dialectical tradition.

Intellectuals and visionaries should shed the notion that Google is a bastion of intellect and freedom, and begin viewing it as a mechanism of thought control, advertising, and behavior management. As such, the best place of an intellectual visionary or academic pioneer is *somewhere other than Google and Facebook*. Educated people are better off accessing un-monetized sites, such as sites hosted by individual professors on *.edu* domains, which can simply be hyperlinked to related content

in a Web 1.0 style. Or, users should perform online research primarily through peer-reviewed academic journal host services. Educated people are better off sending thoughtful emails directly to admired peers, rather than "poking about" the Facebook bazaar or Twitter's walls of e-graffiti. There is an elite social network called The Well, in existence since 1985, that works in a Web 1.0 format, and simply requires users to pay a reasonable subscription fee, thereby eliminating the need for data-mining. More importantly, intellectuals should occupy real, physical libraries, to engage in the cyclical practice of reading, writing, borrowing, discussing, and publishing real, physical books and articles amongst peers. Human presence in traditional libraries – reading and borrowing books, not just using the computers – is the necessary means of physically defending a localized and truly social (not "socially networked") ecosystem.

We are seduced into using SaSS on BSS due to claims of "zero marginal cost"[42] and "universal access,"[43] i.e. the notion that Google Books makes books "free" for "everyone," but these claims are illusory in the long-term. There is abstract cost in the loss of intellectual freedom and autonomy, and tangible cost in total dependence on novel electronic gadgets and networked electrical consumption. Our use of BSS risks granting great advantage of information access to a few powerful organizations.[44] These organizations develop novel schemes to re-monetize information through Digital Restrictions Management (DRM), leading to proprietary, platform-specific formats; e.g., an Apple iPad eBook is incompatible with an Amazon Kindle (a product whose name invokes the burning of plant matter).

An iPad 1, released in 2010 at an MSRP of around $600, is almost useless and worthless in 2018, selling used for around $35. There is no guarantee that Google Books

will still be universally accessible five years from today – it is possible that Google Books, in five years, will only be accessible through a new version of Chrome on a new Android device, in limited geographical domains. It is unlikely that ten-year-old devices will still be supported, or even usable. Apple, Amazon, and Barnes & Noble ebooks are already platform-specific. Platform dependence, DRM, and the need for specifically novel gadgets (which are expensive to constantly upgrade, and usually end up in landfills) render "zero marginal cost" and "universal access" illusory in nature. As Heidegger recognized, "devices are things too,"[45] and yet many users fail to consider the *thingness* of their (inherently disposable) electronic devices. Some Silicon Valley leaders even want to do away with the concept of "books" entirely and reduce all information to a single SaSS,[46] thereby destroying the paradigm of independent authorship and physical provenance.

In a purely academic context, we pose the following question to Temple University administrators: what is the benefit of Gmail, for the University ecosystem and its inhabitants – given that Google is profitably data-mining the communications of all students and faculty – if the results *and/or* profits of the data-mining are only granted to Google and other non-Temple actors? If the benefit of Gmail is primarily a matter of cost-saving, ease, and convenience (i.e. outsourcing and internal downsizing), we would suggest that universities reevaluate their moral, ethical, and managerial principles at the presidential level. If the benefit is derived from some vague notion of "security," (i.e. avoiding internal or external security compromises), then the understanding of security must be re-evaluated, because Gmail is inherently compromised, and computers may still be compromised internally via keyloggers, camera/microphone hacks, and automated

screen-captures. The rate at which universities have blindly adopted Gmail is alarming. The Amish scrutinize new technologies for years, in the process of *Gelassenheit*, before choosing whether to adopt a new technology or not.[47] If only academic administrators showed the same level of foresight as the Amish!

Large research universities should be the leaders of academia, and yet they are blindly handing over control of their core academic assets to a few private corporations. Heidegger's concept of "enframing" has never been more relevant. Unfortunately, students and faculty are the ones being "framed" by university administrators who implement SaSS on BSS. As Lanier points out, we are creating our own problem of "missing beneficiaries" – there are many careers that once employed a middle class, but will not "scale" into an BSS-based future.[48] A powerful case of a missing beneficiary is the language translator – while translation was once a time-honored profession, virtually all languages can now be translated automatically with the use of a machine. However, Google Translate was "trained" by data-mining the hard work of human translators, and none of those human translators were compensated for their contributions.[49] And so, we have a very problematic case of a missing beneficiary in which the BSS dominates, subjugates, *does not compensate*, and renders obsolete the professional human (assuming that Google Translate really works!).

Blind adoption of exploitive technology (i.e. dependence on BSS) may render today's first-tier universities second-tier in the near future. Google is primarily an advertising company that has created a culture in which all who advertise feel compelled to use Google.[50] We see plenty of ads already, but who remembers the concept of a social contract? The student body and faculty of Temple want to be associated with a first-tier

university that upholds its social contracts, and teaches others to do the same.

We have reached a point in history where all future generations will be born with the Internet, unless the current Internet as we know it (Web 2.0) is abandoned entirely. The way in which we use servers will affect the socialization of humans across the entire planet. Where is the social contract between the people and our servers (and the *people* who run the servers)? In the Lockean sense of a social contract, humans are free in a state of nature, and transfer some of their rights to a legitimate government for mutually beneficial results. As we move towards a technocratic society, we must consider the blurred and entangled nature of technology and government, as software becomes a public utility with hidden, asymmetrical control systems. Furthermore, the influence and wealth of certain technology companies may eclipse the influence and wealth of certain governmental institutions, and so the future viability of governmental regulation remains unclear.

In the today's SaSS- and BSS-driven Web 2.0 realm, we are routinely presented with *End User Licensing Agreements* (EULAs). EULAs are often hastily agreed upon by eager (and even pre-adolescent) users, without consideration of – or even comprehension of – the agreement. In pre-Internet democracies, clearly defined social contracts helped to legitimize the levees between the middle class and the rich, symmetrically, to encourage humanistic (and yes, capitalistic) modernity.[51] Today's EULAs may be viewed as the antithesis of humanistic social contracts, because they are authored solely by BSS providers (in convoluted, legalistic terms) to enable asymmetry of information control.[52] For example, Google's EULAs grant Google a license to use users' data for various purposes, which may result in accidental disclosure of private information.[53]

In this sense, the content stored on a BSS is controlled by the BSS much more so than by the user, who are both considered "licensees," but with vastly differing mechanisms of control, rather than equal-stake owners of shared property.

Due to the problems of asymmetrical information control, EULAs inherently benefit the BSS providers much more than the users. For example, subpoenas such as discovery, disclosure, or retention requests are made solely on the side of the BSS provider, and users (as well as institutions such as universities) may never be made aware of such requests.[54] Such exploitive and secretive behavior should be considered a violation of the Lockean social contract, perhaps to the point of undermining core tenants of Western democracies.

In *Reason and Revolution* (1941), Marcuse defends the Hegelian notion of the state as defender of the rational autonomy of the individual.[55] If one spends enough time analyzing today's SaSS EULAs, it may become evident that the EULAs function mainly to empower BSS, while removing the rational autonomy of the individual. Furthermore, Marcuse describes fascism as promoting a "pseudo-democratic ideology,"[56] which may correlate with SaSS's illusory notions of "free" social services, "free" speech, and "free" public utilities for "everyone." In the sense that fascism falsely promotes "power" to the people, while true power is held by an elite ruling class (without mediation of the democratic state), there exists a philosophical basis to equate BSS with fascism. In the name of *reason* and anti-fascism, we call for a *revolution* against the current Web 2.0 status quo. This should be a nonviolent revolution towards the abandonment of Web 2.0 services, and a reversion back towards a Web 1.0 ecosystem where *.edu* holds more sway than *.com,* and HTML functions elegantly without SaSS. Our lives may become

more enjoyable and less cluttered as a result.

Even if average consumers are unwilling to embrace the “old-school” Web 1.0 format, universities and intellectuals could take simple steps to actively encourage Web 1.0 as a more erudite and humanistic form of digital information exchange. It is notable that Moglen's site <http://emoglen.law.columbia.edu> is quite “1.0” in design, and yet this author finds it more legible and coherent than many “2.0” designs that tend to resemble billboards, propaganda posters, or pop-up/”push” ads.

Marcuse warns of a technocracy that uses technology to produce and maintain a “one-dimensional” society.[57] The concept of one-dimensionality may be applied to a dependence on BSS, because a one-tape Turing machine (as originally described by Turing in 1938) is theoretically capable of reducing all information and computation to a one-dimensional format. One-dimensional information, while abstract in nature, is an obvious “culture flattener” when compared to the three-dimensionality of a physical book. Real books require the three-dimensional interaction of human hands to flourish, as well as a semi-transparent supply chain that enables multiple small businesses to recoup labor costs. Physical books also serve a function in the anthropological modes of gift exchange cultures and collective sharing/reuse. Real books even contain our DNA! The loss of the physical book (three-dimensional and exchangeable) in favor of ebooks delivered by BSS Turing machines (one-dimensional and resistant to exchange) directly coincides with Marcuse's critique of the technocracy: “In manipulating the machine, man learns that obedience to the directions is the only way to get the desired results… There is no room for autonomy.”[58]

To “fetishize” a gadget such as an iPad is to detach the gadget from the human labor that produced it, “but to continue nevertheless to project human meanings upon it, mistaking these projections for an independent reality.”[59] Sadly, there has been a prevalence of illnesses such as nerve damage, paralysis, and cancer at the factories that produce Apple devices in the People's Republic of China.[60] And yet, those who fetishize devices such as iPads are often unaware (or uncaring) of the human sacrifices inflicted through the production of their devices. Some advocates of ebooks sanctimoniously claim to be “saving trees” by eschewing paper books. Unfortunately, ebookers tend to overlook the notion that trees *could* be harvested as a sustainable natural resource. The logging and paper industries may need to be regulated before true sustainability is achieved. And yet, it is undeniable that real books can be reused for decades and even centuries through libraries and resale – real books easily outlive electronic devices. By comparison, the loss of loved ones to cancer is much more hurtful than than the mindful sacrifice of trees. Advancements in water technology, recycling, and hydro-electric power could make book manufacturing more eco-friendly. Furthermore, the production of electronic gadgets requires the mining of tantalum (a “conflict mineral”), resulting in dangerous and exploitive labor practices in African nations such as Congo.[61] Mumford's critique of mining is still *actively* relevant, once we are made aware of the tantalum mining problem!

BSS data-mining is not just for passive surveillance and control over information, but also for actively predicting and influencing future behavior.[62] As discussed, Google already demonstrably delivers different results to different people, possibly as a form of psychological manipulation. The ultimate goal of BSS is to dominate the exchange of goods, to influence trans-national politics,[63] and to control thought. The situation

is so dire that Moglen testified before the Subcommittee on Commerce, Trade & Consumer Protection of the Committee on Energy and Commerce of the Congress of the United States on December 2nd, 2010. Moglen made clear to Congress that the Internet does not require centralized control of shared data,[64] and that Facebook's "privacy settings" are deceptive, because Facebook always has access to all users' data regardless of "privacy settings," which simply hide information from other users.[65] Facebook subcontracts Moroccan freelancers who earn $1 per hour to "screen" (censor) content.[66] We now risk becoming a "reputation society,"[67] or perhaps a Deleuzional (*sic*) "control society,"[68] more so than a truly productive society.

A final problematic question: why is Temple University, a Pennsylvania state school, impermissibly exporting its students' and faculty's work-in-progress and weekly machinations on secretive *interstate* (and possibly international) trade routes? Shouldn't our information be kept inside Pennsylvania, until we choose to publish, for the benefit of the students, faculty, and the (federated) Commonwealth of Pennsylvania? Fortunately, certain top-tier institutions, such as MIT, do not support Gmail for reasons similar to those cited in this paper.[69] MIT still run their own internal servers, thereby employing more people within the University. Kudos to those institutions who reject Google apps with thoughtful consideration for intellectual, personal, and monetary freedom – as well as the need for middle class employment.

Temple University has some great human assets (namely the students, faculty, and staff), but its dependence on BSS will lead to the anti-academic problems of anti-humanism. Using BSS sends a message: "We can't be bothered to run our own servers. Let someone else do it, cheaply." Temple should not so easily reduce itself to economies

of scale and trends of technocratic budget-slashing. Temple should not so easily reduce its students and faculty to consumers in an ad-driven SaSS/BSS scheme.

The Few Solutions

In the summer of 2002, this author attended the prestigious Pennsylvania Governor's School for Information Technology at Drexel University. One of the courses at PGSIT (or *PiGShIT* as we lovingly detracted it) was called Networking, and the primary focus of the course was for students to build and maintain their own servers. To be clear, "social networking" was not yet a fad, and was still a relatively unknown term. The Networking course taught Networking in the true sense: building and maintaining servers in a clearly-defined TCP/IP client-server relationship. In 2002, we were still in a period of Web 1.0, and the concept of wikis was still emergent (federated wikis, mind you – not a single meta-Wiki). Facebook and Twitter were not launched publicly until 2004 and 2006, respectively.

Unfortunately, something happened between the early 2000's and the late 2000's: "monetization." In essence, Web 1.0 became Web 2.0, and much of the optimism for building independent servers was lost. Computer Science departments began teaching Social Networking (i.e. applied graph theory) in place of true Networking. The black backgrounds of the command-line interface were replaced with the bright white backgrounds of Web 2.0 SaSS. Analytic scripts (hidden from users, but easily made visible using browser add-ons such as NoScript and Ghostery) began to appear on countless web sites, as a hidden means of "monetization" and "reputation" tracking.

In his 2010 testimony to Congress, Moglen suggested that Congress should address the privacy problems of BSS through a process similar to environmental regulation.[70] He proposed a National Privacy Policy Act, analogous to the National Environmental Policy Act. Furthermore, he stated that the Federal Trade Commission could take the role as the lead agency on privacy.[71] However, Moglen also mentioned that "regulation of social networking technology in the interest of privacy can't work by regulating technology."[72] Considering that SaSS on BSS is quite profitable, and also considering the presence of tech-industry lobbyists, it may be considered doubtful that Congress will ever do anything to effectively regulate BSS.

Without any need for governmental regulation, the initiative towards decentralized, ethically-minded servers can start with individuals, professors, and small businesses. In 2018, most people don't run their own servers because they don't know how, or feel it is unnecessary.[73] However, the practice was quite commonplace in the previous decades, and some consumer ISPs (e.g. Speakeasy of Seattle) actively encouraged it. Running one's own server is becoming easier, not harder. The FreedomBox Foundation, headed by Eben Moglen, aims to make personal servers as simple and user-friendly as possible.[74] Much of the needed development for FreedomBox has already been accomplished through Free Software (e.g. GNU/Linux).[75] Unlike Moglen, this author does not *necessarily* advocate Free Software over closed-source software, but it is clear that Free Software really works in the server arena, as demonstrated by the strength and prevalence of Apache <https://www.apache.org> on both GNU/Linux *and* *BSD.

Eben Moglen is a highly qualified advocate for PPS through the FreedomBox Foundation. Moglen's powerful oratory and presentation skills and "mediating"

personality (part lawyer, part intellectual, part techie, part hippie) could convince conscious millennials (e.g. those young people in the "maker" subculture) to adopt PPS. What could be more fun for a techie kid than to run his or her own personal server? Most ISPs now discourage personal servers, although it is still technically possible. And, while there once were many ISPs to choose from (especially in the era of DSL), there are now very few choices, as cable and fiber ISPs providers practically have regional monopolies. Hopefully the propagation of PPS and the abandonment of BSS can help reverse the trend of monopolistic ISPs. That is, if the monopolistic ISPs discourage or block PPS, a new kind of privacy-encouraging ISP may rise. It is time for individuals to take responsibility for their own intellectual property as *physical* property.

The case of universities is a somewhat different matter. Large research universities are behemoths compared to individuals and small businesses. But again, what happened to Networking as a sub-discipline of Computer Science and/or Telecommunications Engineering? If a university properly teaches Networking, then the university should be generating its own staff capable of running its own internal servers. Again, to take MIT as the example, universities can still demonstrably run their own internal servers without handing over control to Google. It is, indeed, an issue of money, resources, staffing, etc. Universities must reconsider how they spend money (including the students' money, and in the case of Temple, Pennsylvania Commonwealth money), now that many problems are posed, front and center.

We were raised in a generation of "just say no." As a free society, we were once *mandated* to say "no" to forces that threatened our collective freedom and civil liberties. What if professors as well as students simply started saying "no" to antihuman schemes

of technocracy? Does a professor *really* need to spend countless hours clicking through Canvas, or else risk getting fired? Why can't a professor host his or her own course content on a FreedomBox (located *inside* the university)? Why are we neglecting real, physical books of incredible historical provenance? Does a student *really* need to access course materials through Canvas, when the texts are readily available elsewhere? Do assignments *really* need to be submitted through Canvas, even if the student and professor both prefer hard copies? Do students and professors *really* have to use the school-supplied Gmail account, even if they already have their own personal email servers?

We have reached a breaking point. We must now take back our autonomy and dignity, and "just say no" to the forces of anti-humanism. Each step we take in the digital realm leaves a footprint, and each day we take many steps into uncharted territories. Where are *technics* leading us? Who *owns* our collective future? It is deeply important that we, as humans, regain our dignity and "just say no" to the forces of antihuman technocracy. If our *technics* function *only* under a policy of "all must say yes," then there is little hope for the future of intellectual freedom. Freedom hinges on the ability to disagree. If we simply allow ourselves to "just say no," collectively and peacefully, then we truly hold the power to change the world – for the better.

It all starts with a little box: *your own server.*

https://www.freedomboxfoundation.org

Notes

1. Lanier, *Who Owns the Future?*, 54-55.

2. Moglen, "Testimony of Eben Moglen," 4.

3. Moglen, "Freeing the Mind: Free Software and the Death of Proprietary Culture. (Annual Law and Technology Lecture)," 2.

4. Moglen, "The Tangled Web We Have Woven," 20.

5. Ibid.

6. Lanier, *Who Owns the Future?*, 54.

7. Moglen, "The Tangled Web We Have Woven," 22.

8. Doctorow, "Big Data: Welcome to the Petacentre," 21.

9. Hu, *A Prehistory of the Cloud,* 79.

10. Moglen, "The Tangled Web We Have Woven," 21.

11. Ibid., 22.

12. Moglen, "Testimony of Eben Moglen," 1.

13. Moglen, "The Tangled Web We Have Woven," 21.

14. Mumford, *Technics and Civilization,* 67.

15. Ibid., 69.

16. Ibid., 158.

17. Moglen, "The Tangled Web We Have Woven," 20.

18. Ibid., 21.

19. Ibid., 20.

20. Ibid., 22.

21. Doctorow, 21.

22. Rattle, *Computing Our Way to Paradise? : The Role of Internet and Communication Technologies in Sustainable Consumption and Globalization*, 81.

23. Doctorow, 17.

24. Rattle, 81.

25. Ibid., 84.

26. Hu, 67.

27. Ibid., 81

28. Ibid., 82.

29. Lanier, *Who Owns the Future?*, 55.

30. Ibid., 56.

31. Ibid., 56-57.

32. Ibid., 2.

33. Ibid., 62.

34. Hu, 40.

35. Alpert et al., 1.

36. Moglen, "The Tangled Web We Have Woven," 22.

37. Doctorow, 18.

38. Moglen, "The Tangled Web We Have Woven," 22.

39. Ibid., 20.

40. Lanier, *You Are Not a Gadget : A Manifesto,* 26.

41. Stewart, “I Stopped Using Google As My Search Engine, Here’s Why...”

42. Moglen, "Freeing the Mind: Free Software and the Death of Proprietary Culture. (Annual Law and Technology Lecture)," 3.

43. Ibid., 2.

44. Moglen, “The Invisible Barbecue,” 951.

45. Thomson, "From the Question Concerning Technology to the Quest for a Democratic Technology: Heidegger, Marcuse, Feenberg," 210.

46. Lanier, *You Are Not a Gadget : A Manifesto,* 46.

47. Thomson, 208.

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