

# Democratic Diffusion: Dreadful Dystopian Directions

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## ABSTRACT.

As information technology (herein referred to as *digital* technology, conforming to presently common nomenclature<sup>1</sup>) grows more and more prevalent in our modern lives, a parallel cyber world emerges, outcompeting the former. As the loose tethers connecting both seem not to stiffen<sup>2</sup>, agents acting in this *new world* have to negotiate between themselves and the greater system they are embedded within a world order which may only bear a faint resemblance to classical structures<sup>3</sup>. Deciding such an order hinges predominantly on the decision whom to give power to, akin to deciding whom to entrust the most coveted treasure this new world has to offer: *data*.

Tools to assert dominance and alleviate the necessity of trust are plentiful, varying in cost and effectiveness, yet no more pervasive than *surveillance*. Since it is a wholly new order which has to be defined, we as a society should take great care to dutifully select those who we entrust: private, self-proclaimed organisations or citizens given power to by existing democratic means.

Both the horrendous digital illiteracy observable throughout the general public – most relying on technology for more and more facets of life with only the vaguest knowledge of their true potential let alone their functionality – leading to inexcusable undemocratic actions by *both* politicians and ordinary citizens as well as the uncomfortable slippery slope between a government not entrusting their people and feeling the necessity to employ surveillance techniques plus the willingness on an individual level to act as a vector of surveillance for undisclosed privately acting companies will be discussed in this paper.

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<sup>1</sup>“The fourth industrial revolution [...] [is a]lso known as the *digital revolution*, it combines technological and human capacities in an unprecedented way through self-learning algorithms, self-driving cars, human-machine interconnection and big-data analytics.” [Sch18]

<sup>2</sup>Dual to this view in metaphor, yet supportive of the effect, von Randow writes “Mit ihr [der digitalen Technik] entsteht eine zusätzliche Gesellschaftssphäre, ein Überbau, oder besser eine Schicht, die sich wie eine Haut an die bestehenden Sozialbeziehungen schmiegt und sie zugleich überformt.” [Ran20], loosely translated “With it [the digital technology] another societal sphere emerges, an edifice layed atop, or better a layer of skin which assimilates existing social relations as well as outcompeting them.”

<sup>3</sup>“The question is whether the objectives of competitiveness, strengthening the scientific base and enhancing social cohesion can be achieved together.” [Sch18]

## GROUNDED IN REALITY.

As a case study to give sustenance to my upcoming claims and deductions thereof, I want to highlight an actively unfolding political scandal: non-European involvement in the Gaia-X project [BW20]. Cognizant that such an undertaking by the EU – attempting to loosen American technology giant’s fierce grip in a sector where no European company has managed to establish itself as a market force bearing any meaning – is thought of by some to be doomed to fail<sup>4,5</sup>, it could still be seen as a valiant effort of the EU uniting to attempt winding out of a decade-long rusting vice layed upon it. However, it is not a slow and gruesome death of hyped up political symbolism which causes outrage among democratically thinking citizens: it is the ignorant and uninformed political decisions undermining everything this project stood for.

Let me elaborate: Following its proliferation in the later half of the twentieth century in the United States of America, and the world-wide export of digital technologies from American companies, half a century later the entire world – except China which aggressively positions itself digitally independent and a few other Asian countries – finds itself in nearly all facets of live reliant on foreign-controlled technologies: Operating system updates are pushed from Redmond (Microsoft) or Cupertino (Apple), microchips are designed in Santa Clara (Intel, AMD) or Delaware (Nvidia), the one search engine operated from Mountain View (Google, which constitutes 92.16% of global search engine market share [Sta]). Hardware is predominantly manufactured abroad and software is also designed by technology giants agglomerated in Silicon Valley.

As such, the majority of governments and individuals governed by them, dependent on their surrounding structure, are dependent on a select few foreign actors, exerting immense power over them. Attempting to escape this dependence and gain some form of digital sovereignty, Gaia-X “[...] aim[s] [...] to create a data ecosystem in Europe that will generate innovations and new data-driven services [...]” [Gai20, Peter Altmaier, Federal Minister for Economic Affairs and Energy, Germany]. However, in the same press release it is also noted that “[t]he second day of the conference [the Pan-European Gaia-X Summit] will be attended by [...] IBM Cloud, [...] Microsoft, [...] Amazon Web Services, [...] Google, [...]” [Gai20], seemingly undermining the project’s goals. Whilst Casper Klynge (representing Microsoft at the Pan-European Gaia-X Summit) for one claims Microsoft’s involvement was necessary for Gaia-X’s viability [BW20, p. 29], vitally *eliminating exactly this dependence* had been its primary goal.

Such circumstances vividly illustrate prevalent technology company’s influ-

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<sup>4</sup>“Ohne Zugriff auf die neueste Technik werde die europäische Wirtschaft stagnieren, warnte Microsoft-Manager Casper Klynge [...]”, [BW20, p. 29], loosely translated “Microsoft manager Casper Klynge warns [...] that without access to the newest technologies, the European economy will stagnate.”

<sup>5</sup>“Der Zug [der europäischen digitalen Souveränität] ist also nicht nur abgefahren, sondern auch der Ersatzzug auf der Alternativroute ist weg. Wir können jetzt nur noch auf einer klapprigen Draisine hinterherhumpeln. Die einzige Draisine weit und breit ist im Moment RISC-V, eine offene CPU-Architektur.” [Lei20], loosely translated “Any chance [for European digital sovereignty] has not only been missed, but utterly abandoned. One of our last hopes currently is RISC-V, an open CPU architecture.”

ence on the world at large. Furthermore, it shows how *trust*<sup>6</sup> in the government is routinely undermined, in part by apparent lack of expertise from those in charge<sup>7</sup>.

Having painted a very dark picture of the circumstances of the past years including present time, the optimistically inclined<sup>8</sup> may see the beginnings of some democratic strength being shown, as political expertise regarding the digital realm could start to form: “The Federal Trade Commission today sued Facebook, alleging that the company is illegally maintaining its personal social networking monopoly through a years-long course of anticompetitive conduct.” [Fed20]. Also the European Union is waking up: “Der EU-Beamte Prabhat Agarwal soll [...] die mächtigsten Konzerne der Welt bekämpfen [...] Frühere Kommissare sollen sogar stolz darauf gewesen sein, keine Ahnung vom Internet zu haben. [...] Sogar eine Zerschlagung der Plattformen hält Breton [im Amte des Binnenmarktkommissars] – im Gegensatz zu seiner liberalen Kollegin Vestager – für ein probates, wenn auch letztes Mittel.” [BN20], loosely translated “Prabhat Agarwal, an EU official, is [...] tasked to take on the most powerful corporate groups on the globe [...] Earlier commissioners are said to even be proud of their lack of expertise regarding the internet. [...] Even a divestiture of these platforms is seen by Breton [an Internal Market Commissioner for the EU] – as opposed to his liberal colleague Vestager – as an appropriate form of action, if a last resort.”.

## ACTORS BESIDES THE NSA.

At the dawn of cryptographic endeavors, the NSA held a firm grip on computing facilities, cryptographic techniques and the availability of them [Phi97, pp. 255-258]. Discussing a government agency whose purpose is secrecy often fails as factual evidence of their behavior is disclosed. Furthermore, whilst enjoying lack of supervision, an intelligence apparatus is still a branch of government, allowing it to draw legitimacy from it. Assuming trust in the government, a portion of this trust may be enjoyed even by intelligence agencies. As such, I do not want to discuss government surveillance in greater detail in this paper.

Beginning with the twenty-first century, another form of surveillance has emerged: financially motivated, distributed surveillance from the private sector. As opposed to aim for national security or ensuring global superiority of their nation, their primary goal as encoded in the reason for their existence is to maximize profit. Their ability to capitalize on an emerging market niche has enabled them to offer products of near paradisiacal quality to the benefit of many customers: monetary-absent web page indexing, low subscription fees

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<sup>6</sup>“The power of trusted agents stems from their access to information or expertise not available to the principals. Trust is necessary only under conditions of uncertainty. Therefore, the management of uncertainty is in part the management of systems of trust.” [Phi97, p. 244]

<sup>7</sup>von Leitner writes “Da [in den Händen Mozillas] würde es sicher mehr für unser aller IT-Sicherheit tun, als wenn wir es in eine neue Cyberagentur stecken, bei der offenbar nicht mal dem Chef klar ist, was die eigentlich inhaltlich tun soll.” [Lei20], loosely translated “[In the hands of Mozilla], our financial resources would be of far greater use than those of some new cyber agency whose boss is not sure about its purpose.”

<sup>8</sup>“[W]hile Europeans are optimistic about the future, this optimism is tempered by real concerns about the drawbacks of scientific and technological innovations (European Commission 2015). EU citizens are more wary of technological openness than are the citizens of non-EU countries.” [Sch18]

for vast multimedia consumption, convenient purchasing of international goods only to name a few. To the great detriment to the common populous, however, most revenue streams or capabilities in itself are heavily reliant on a hidden cost taxing every individual<sup>9</sup>: unconstrained data collection synonymous to mass surveillance.

## MORAL NONLOCALITY.

One superficial argument *not to worry* about surveillance is to have nothing up one's sleeves: if my life and my actions within it are at all times conforming with present law, there can be no harm in governments assuring themselves of my lawful compliance. As such, the reasoning goes, there is no harm in private companies collecting and aggregating *my* data, especially when they provide services of such high quality for such low (monetary) prices. Often naively thought of as evident, what may be *one's data* is not restricted in usability to *control over oneself*, but the society at large:

With regards to artificial intelligence advancements made in the *last few decades*, dependent upon an unfathomable increase in computing capabilities within the same time frame, I am convinced this local and egotistical view is not morally justifiable: Assuming any amount of malice or any possible harmful side effect of any actions perpetrators employing artificial intelligence technology (currently those are government agencies and private technology companies), one has to trace this tool's power back to its origin. Since current artificial intelligence methods heavily rely on exorbitant amounts of data, this trace bifurcates through the whole of society leading to *every digital actor contributing power* which they themselves have no control over. As such, whilst the majority of citizens may righteously supply their data to brighten their digital endeavors, they do their part in empowering private agents to make educated stochastic guesses about personal behavior, identify and possibly hinder politically active members of society or gain an unfair advantage in negotiations.

Looking at the increase in digital technologies *outside of any human's immediate control* (automated vehicles with a plethora of detailed sensors, Internet of Things devices, smartphones and public surveillance cameras recording video and sound continuously), inter-human discourse on a private level suffers, too. Assuming one party is interested in privacy, another insistent on their technology (over which they cannot confidently claim their functionality<sup>10</sup>), it is not possible for both to communicate, *even face-to-face in the real world*. Problems regarding democratic thinking are obvious: *How may educated political opinion be formed when society is dividing itself into two camps: privacy-minded and technology-enthusiastic citizens?*<sup>11</sup>

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<sup>9</sup>“[Es] entstehen die ungeheuren Gewinne der Tech-Giganten aus dem, was ich [Shoshana Zuboff] die Überwachungsdividende nenne, aus der Ausschachtung privater Daten.” [Tha19], loosely translated “[The] immense profit of tech giants are extracted from what I [Shoshana Zuboff] call the surveillance dividend, exploiting private data.”

<sup>10</sup>“Power corrupts; the proprietary program's developer is tempted to design the program to mistreat its users.” [GNU]

<sup>11</sup>“Humans are becoming *dislocated* not only technologically but also in economic and societal terms.” [Sch18]

## CENTRALIZATION OF OWNERSHIP.

In the analogue realm, a plethora of ownership-regulating and ownership-ensuring jurisdictions have been established. And whilst one may naively think the core concept of ownership had been transferred to the digital realm, one could not be further from the truth: With the aim of ensuring financial viability and fend off piracy, an unhealthy tendency has evolved for digital property never being transferred and instead to offer a *license* to a software product for purchase. Furthermore, this license is not purchased *with* the product, but in isolation and thus has to be *continually authenticated*, embedding in the identity of software purchase surveillance methods for fine-grained usage data accumulation. Adding to this, since no software but only a weak reference to it is sold, individuals have no right or opportunity to ensure *their* (more aptly their supplier’s) software’s stability: forceful updates leading to wildly differing software behavior than at the time of purchase or even willful harming of users: “Windows 10 Version 1809 musste Microsoft nur wenige Tage nach der Veröffentlichung wieder zurückziehen, weil bei einigen Anwendern Datenverluste auftraten. [...] Tester der Vorabversionen hatten auch diesmal bereits lange vor der Veröffentlichung von 1809 genau diese Probleme gemeldet.” [BV19], loosely translated: “Windows 10 version 1809 had to be retracted by Microsoft only days after release, as some users experienced loss of data. [...] Also in this case, testers of the pre-release did report these problems long before the release of 1809.”

Implications for power distribution and thereby the *possibility of δῆμον κράτος* are immense: The act of purchasing a product cannot be completed, as after acquiring a license, power over the purchased product is kept by the vendor<sup>12</sup>. Since the product exhibits possibility of surveillance or can be modified to exhibit it, users find themselves in a very helpless state:

Third parties distributing Adobe software warn of their intrusive data collection behaviors [XCi18] and entire countries fear for their ability to process digital documents being taken away: “Anfang Oktober hatte Adobe angekündigt, seine Creative Cloud für venezolanische Kunden zu sperren [die Sperrung trat nicht ein]. [...] Die Kunden hätte das hart getroffen, denn Adobe bietet seine Software schon länger nicht mehr als Kaufversion an.” [Tre19], loosely translated “At the beginning of October, Adobe announced to revoke Venezuelan’s access to their Creative Cloud [which they did not follow through on]. [...] Customers would have been hit hard since Adobe no longer offers their software as a purchasable version.” (see also [Lee19]).

As Phillips writes, “[i]dentification practices tend to favor organized collectors of information over the identified individuals, since it affords those organizations the opportunity to collate bodies of knowledge about the population while withholding that knowledge from the individuals who constitute that population.” [Phi97, p. 245].

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<sup>12</sup>“It’s an unfortunate situation that highlights a downside of Adobe’s subscription-based model – users lose access to the company’s products immediately as soon as the option to pay for them is removed, no matter how long they’ve been a customer.” [Lee19]

## CONCLUSION.

Uttering wholistic skepticism about an entire industry's competency – both the assurable capabilities of information technology and the individual technician's field literacy – combined with a dystopian yet reasonably deduced look into a future where non-elected, self-empowered tech giant's CEOs concentrate all forms of power may lead some to speculate a stance akin to conspiracy theory.

In my view, such a valuation is justified when made by an individual not blessed with rigorous insight into the very real technological possibilities as well as poorly crafted legislature and moral industry care instituted at present time. I find the Status quo very reminiscent of world orders preceding the Age of Enlightenment, where a small minority held the keys to wholly knowledge and thus perfect power. In the Age of Information said link could not be more bluntly obvious; *as most of us stare at illuminated screens all day, so are most of us in dire need of true enlightenment.*



Proudly typeset on a Pinebook Pro emphasizing hardware transparency, using L<sup>A</sup>T<sub>E</sub>X and accompanying free software.



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