LIBERTY, TECHNOLOGY AND DEMOCRACY

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Bachelor Thesis

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Introduction

Somewhere in early 2014 I made the decision to quit using Google. I had already quit Facebook many years before[1] but was still all-in with Google's services. Google not only provided me with Search capabilities, it also served[2] as my news reader, my online photo album, my mapping and routing service, and most importantly as my email and calendar provider. It took a lot of effort to find a new place to receive and store my email and to find a host where I could install an open source alternative search engine, news reader and photo album.

According to most measures I am worse off in the new situation: I can no longer easily find my emails, I have to invest time in maintaining all these self-hosted applications, I am probably less secure against people who want to hack into my things and I am now intimately aware of how much less convenient OpenStreetMap is in comparison to Google Maps if you have to get somewhere. Still, for some reason I am very happy having made the move. This is because without having to use Google I feel more free. I feel liberated.

How can I feel this way? How exactly was Google making me less free? From a classic liberal (and dominant) point of view I am free if I am not constrained in my options and if I am not interfered with. Isn't it the case that there is no interference from Google in our lives? Aren't they just a service provider whom nobody is forcing you to use? You could even argue that I have less functionality, less options and so have less freedom.

This thesis explores whether a different conception of freedom —a (neo-)republican one— could explain the feeling of liberation that I had after moving away from Google. If we don't see freedom as lack of interference, but as lack of domination, would that make it easier to take a critical look at the role of information companies like Google?

To see whether this is the case we will first take a deeper look at the thinking of neo-republicans like Quentin Skinner and Philip Pettit. Isaiah Berlin famously wrote about two concepts of liberty[3]: positive liberty (often seen as self-mastery) and negative freedom (the absence of interference). Skinner is inspired by the republican tradition to explicitly define a third concept of liberty. This social or political form of freedom can be characterised as not being dependent, a situation where there is no arbitrary domination. By looking closely at two critics of republican thinking —William Paley and Matthew H. Kramer— and by looking at the replies of Skinner and Pettit to these critiques we gain a more precise understanding of the differences between the concepts of negative freedom and republican freedom. Pettit and Skinner both deny that a slave —however benign their master— can

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[1] De Zwart, "Why I Have Deleted My Facebook Account."
[2] A highly inappropriate word in this context as we will come to learn later.
[3] 'Liberty' and 'freedom' will be used as interchangeable concepts in this text.

ever be considered free.

Back to Google. They are not the only US West Coast information based company that is having a big influence over our lives. Not too long ago the oil majors and a few big banks were at the top of the list of the biggest companies in the world. Currently the top five largest companies are Apple, Alphabet (Google's parent company), Microsoft, Amazon and Facebook.[4] These five companies show us that "the world's most valuable resource is no longer oil, but data."[5] So, is there indeed a form of arbitrary and domineering power from these information giants over their users? In order to answer that question we look at three different ways of framing our relationship with and our dependency on technology.

Firstly we delve into Shoshana Zuboff's concept of 'surveillance capitalism'. She explains how the internet giants extract value from us by collecting as much data about us as possible, analysing that data with data scientists and machine learning algorithms, then making behavioural predictions on the basis of data, to finally sell those predictions on prediction markets. Next we look at the work of Evgeny Morozov and Bruce Schneier who both make an explicit analogy between our relationship to the big five and those of the peasants to the landowners during feudal times. Finally we look at some of the research that Facebook has been doing to lift the veil that hides much of their activities.

These ways of looking at technology help us take another look at the different ideals of freedom. We show how a liberal strictly negative view of freedom has trouble addressing surveillance and thus surveillance capitalism. The republican way of framing power relationships is helpful in situations where we are not aware of the potential for arbitrary control that organisations have over us. Republicanism requires a deliberative democracy. This is put under pressure by technological developments. Finally we will look at what this will likely do to our psychological state of mind.

This thesis finishes with a set of directions for solutions that can possibly be offered by republican thinking. We touch on three forms of antipower: protection through data protection legislation and encryption, regulation through antitrust, and empowerment through free and federated technology.

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[4]Taplin, "Is It Time to Break Up Google?"
[5]Economist, "The World's Most Valuable Resource Is No Longer Oil, but Data."

Liberty

Understanding whether and if how our current technological reality inhibits our (political) freedom requires a deeper understanding of the different conceptions of liberty. In this chapter we first look at the classic liberal concept of negative freedom as described by Berlin, and then explore republican thinking through Skinner and Pettit. We finish with two liberal critics of republican freedom and the response to that criticism. This discussion gives us the tools to take a critical look at Silicon Valley and the services it provides.

Liberal freedom: freedom from interference

In 1958 Isaiah Berlin delivered an inaugural lecture before the University of Oxford titled *Two Concepts of Liberty*. In it he looks at two political senses of freedom. The one which he calls the positive sense is involved in trying to answer the question "What, or who, is the source of control or interference that can determine someone to do, or be, this rather than that?"[6] Whereas the negative sense is involved with the question "What is the area within which the subject — a person or a group of persons — is or should be left to do or be what he is able to do or be, without interference by other persons?"[7]

Berlin sees positive freedom as the ability to be one's own master. This self-mastery or the ability to be in control or to be fully yourself is then often equated with being rational. This is exactly where Berlin saw the danger in the concept. He notes how often in history a concept of positive freedom is used to force a collective will (from a tribe, the church, a state) onto the individual in the name of their 'real selves', arguing that the individual doesn't know what is good for them. Positive freedom can thus easily gain an authoritative streak, oppression in the name of freedom.[8]

It is therefore that Berlin's thinks that negative liberty is the more important concept for political freedom. He writes:

> I am normally said to be free to the degree to which no man or body of men in-
> terferes with my activity. Political liberty in this sense is simply the area within
> which a man can act unobstructed by others. If I am prevented by others from
> doing what I could otherwise do, I am to that degree unfree [..].[9]

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[6] Berlin, "Two Concepts of Liberty," 169.
[7] Ibid., 169.
[8] Ibid., 179–80.
[9] Ibid., 169.

He is very explicit that only constraints created by humans can take away our political liberty. So being free means the absence of interference. "The wider the area of non-interference the wider my freedom."[10]

This way of looking at freedom has become the dominant perspective on political liberty. When we talk about freedom in the context of politics we nearly always talk about negative freedom. It is wat lies under the individual liberties like freedom of speech, freedom of religion and freedom of movement. The role of the state in this perspective is clear. It is there to make sure that these individual liberties are protected and that citizens don't coerce each other without justification. State interference can be justified if it protects individual rights, but is still a limitation of our freedom (with being in prison as the ultimate form of not being free). Where the law ends, freedom begins. The current political liberal program is mostly based on this thinking.

(Neo)-Republican freedom: freedom from domination

Both Quintin Skinner and Philip Pettit believe that Berlin completely misses a particular dimension of political freedom. Effectively saying that there is a third concept of freedom, they argue that being free means being free of arbitrary domination. They are called neo-republicans because their thinking is a continuation of classic republican ideas. To confuse matters further Skinner prefers calling this thinking 'neo-Roman' as he considers Rome to be the birth ground of the republic.[11]

Skinner —an eminent historian— shows in *Liberty before Liberalism* what the republican traditions of Machiavelli, the English republicans and the American founders consist of. According to Skinner they all share a set of two assumptions. The first being that:

> [Any] understanding of what it means for an individual citizen to possess or lose their liberty must be embedded within an account of what it means for a civil association to be free.[12]

According to these authors the natural body and the body politic are very similar in how they can forfeit their liberty. The body politic should govern itself, preferably through some representative body of the people.

Their second shared assumption is that:

> [What] it means to speak of a loss of liberty in the case of a body politic must

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[10] Ibid., 170.

[11] For ease of reading I will write often write 'republican' when talking about neo-republican thinking.

[12] Skinner, *Liberty Before Liberalism*, 23.

be the same as in the case of an individual person. And they go on to argue [..] that what it means for an individual person to suffer a loss of liberty is for that person to be made a slave.[13]

They contrast the concept of liberty with the concept of slavery. Slaves don't lose their freedom because they are being coerced. There are enough examples of slaves who manage to avoid being coerced. The crux of the master-slave distinction is a power relationship:

A slave is [..] someone whose lack of freedom derives from the fact that they are 'subject to the jurisdiction of someone else' and are consequently 'within the power' of another person.[14]

This concept of 'jurisdiction' will be useful in our analysis further down the line. Living under an arbitrary power capable of interfering in your activities without having to consider your interests, is enough to make you unfree..[15]

Pettit puts more focus within the republican concept of freedom on non-domination. According to him there is no domination without unfreedom.[16] But domination and interference do need to be pulled apart from each other: we can have domination without interference (a non-interfering master) and interference without domination (a non-mastering interferer).[17]

For Pettit there are three aspects to a relationship of domination. The dominator has the capacity to interfere, this capacity will need to have an arbitrary basis and should be within certain choices that the other is in a position to take.[18] He considers acts of interference non-arbitrary when the act of power tracks the wellfare of the public (or the subject) rather than the wellfare of the power holder.[19]

Pettit considers non-domination to be both necessary and sufficient for the ideal of political freedom:

The necessity claim is that if a person is dominated in certain activities, if he or she performs those activities in a position where there are others who can interfere at their pleasure, then there is a sense in which that person is not free. [..] The sufficiency claim is that if a person is not dominated in certain activities—if they are not subject to arbitrary interference—then however much

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[13] Ibid., 36.
[14] Ibid., 41.
[15] Skinner, "A Third Concept of Liberty," 247–48.
[16] Pettit, *Republicanism*, 5.
[17] Ibid., 23.
[18] Ibid., 52.
[19] Ibid., 56.

non-arbitrary interference or however much non-intentional obstruction they suffer, there is a sense in which they retain their freedom.[20]

Basically Pettit is biting the bullet and agreeing that within a republican concept of freedom somebody who has been convicted for a crime and is in jail can still be free (in some sense). He would argue that the law in a well-ordered republic could be considered a non-mastering interferer.[21] As long as the interference is not arbitrary and is controlled by the interests and opinions of those affected, then it doesn't represent a form of domination.[22]

Republican thinking runs counter to the classic liberal thinking about the law which sees it as an inhibitor of freedom. It is the difference between liberty *by* the law and liberty *from* the law.[23] Republicans consider a strategy of constitutional provision as a way to achieve non-domination. A constitutional authority will not only make sure that its citizens aren't coerced, it also needs to make sure that citizens aren't arbitrarily dependent on the goodwill of others. Any interference that it practices must be suitably responsive to the common good.[24]

Critics of republican freedom

Looking at the critics of the republican ideal of freedom can help us get an even sharper perspective on the differences between freedom as non-interference and freedom as non-domination.

Paley's objections and Pettit's defense

In the late 18th century William Paley famously formulated three criticisms to the concept of non-domination as an ideal of liberty.[25] In *Republicanism* Pettit summarizes and counters his arguments.[26]

Firstly Paley says that republicans confuse the means with the end. They "describe not so much liberty itself, as the safeguards and preservatives of liberty."[27] Pettit thinks that Paley doesn't understand what republicans mean when they say they want to secure non-interference by taking away arbitrary power. It isn't their goal to promote non-interference,

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[20] Ibid., 26.

[21] Ibid., 31.

[22] Ibid., 35.

[23] Ibid., 39.

[24] Skinner, *Liberty Before Liberalism*, 119; and Pettit, *Republicanism*, 67–68.

[25] Paley, *The Principles of Moral and Political Philosophy*.

[26] Pettit, *Republicanism*, 73–78.

[27] Paley, *The Principles of Moral and Political Philosophy*, 315.

it is their goal to protect against it by taking away the ability of the other to interfere in an arbitrary manner.[28]

Next Paley argues that republicans are too black and white in their perspective on freedom. When republicans "speak of a free people; of a nation of slaves; which call one revolution the aera [*sic*] of liberty, or another the loss of it; with many expressions of a like absolute form; are intelligible only in a comparative sense."[29] Pettit explains that domination can actually vary in both intensity and in extent. He makes a distinction between factors that compromise liberty and factors that condition it. If you are not dominated and so your freedom is not compromised, there might still be significant limitations of your options conditioning your freedom. Your freedom as non-domination can be increased by taking away these conditioning factors.[30]

Paley's final objection is that an ideal of non-domination is just too hard to accomplish. Republican ideas about liberty will "[be] unattainable in experience, inflame expectations that can never be gratified, and disturb the public content with complaints, which no wisdom or benevolence of government can remove."[31] Pettit is convinced that one reason that the ideal of non-interference became so dominant is because the ruling classes couldn't stand the moral imperative towards equality that comes with an ideal of non-domination. The prevailing notions of the time where that employees and servants were subject to the will of their master and women were subject to the will of their father or husband.[32] Pettit's reply to Paley merits a full quotation:

> The shift from freedom as non-interference to freedom as non-domination [has] two effects [..]. [It] is going to make us potentially more radical in our complaints about the ways in which social relationships are organized. And it is going to make us potentially less sceptical about the possibilities of rectifying those complaints by recourse to state action.[33]

This point is important to remember when we start looking at our technological society from a republican perspective.

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[28] Pettit, *Republicanism*, 73–74.

[29] Paley, *The Principles of Moral and Political Philosophy*, 312.

[30] Pettit, *Republicanism*, 75–76.

[31] Paley, *The Principles of Moral and Political Philosophy*, 315.

[32] Pettit, *Republicanism*, 48.

[33] Ibid., 78.

A modern liberal criticism of the republican ideal

Current day critics of the republican ideal like Ian Carter[34] and Matthew H. Kramer[35] argue that a pure negative liberty theory is more capacious than the republicans say. These critics have a slightly enlarged view of negative liberty in comparison to let's say Hobbes who argues that only actual interference can count as limiting freedom ("Liberty, of Freedome, signifieth (properly) the absence of Opposition; (by Opposition, I mean the externall Impediments of motion;)"[36]). They see freedom not only as being reduced by actual interference but also by potential interference (like coercion, threats and displays of superiority), and they see freedom as being reduced when options are being foreclosed. So this means that the readiness to interfere, which according to them is what domination amounts to, reduces freedom. Thus they argue that there is no need to go beyond the theory of negative liberty.[37]

Central to the criticism that these thinkers have of Skinner and Pettit is that they say that freedom is only negatively and proportionally affected in relation to the probability of the power actually being exercised. The threat needs to be plausible.[38]

Kramer describes three interesting questions around dominance which he considers to be problematic for republicans. To understand them it is important to know Kramer's definition of freedom. He argues that "the overall freedom of each person [..] is largely determined by the range of the combinations of conjunctively exercisable opportunities that are available to him."[39]

The first question is if it matters for your freedom whether you know that you are being dominated. According to Kramer, Skinner would argue that you need to have knowledge of the dominating power of the other before your freedom is limited. Kramer thinks this is too narrow and comes up with the following example:

> If a man is in a room where the only door has been firmly locked by someone else, then he is unfree-to-depart irrespective of whether he knows that the door cannot be opened. Of course, he will not *feel* unfree unless he does apprehend that he is confined to the room; but he will *be* unfree even if he remains ignorant of his plight.[40]

So for Kramer your unfreedom is independent of your knowledge of your unfreedom.[41]

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[34] Carter, "How Are Power and Unfreedom Related?"
[35] Kramer, "Liberty and Domination."
[36] Hobbes, *Leviathan*, 145.
[37] Laborde and Maynor, "The Republican Contribution to Contemporary Political Theory," 5–6.
[38] Ibid., 6.
[39] Kramer, "Liberty and Domination," 34.
[40] Ibid., 39.
[41] Ibid., 39.

Secondly Kramer wonders whether it is important that the act of dominating interference is intentional. He quotes Pettit saying that non-intentional forms of obstruction can't count as interference.[42] Again Kramer thinks this is too narrow and demonstrates this with another example of people in a room. Imagine that Mark and Molly are both in a room and that Simon locks the door because he wants to forcibly confine Molly in the room. Imagine that Simon didn't know that Mark was in the room. If we correlate intentional and non-intentional with "unfree" and "not free" then we have to conclude "that a single human act which imposes exactly the same physical constraints on two people of similar capacities has affected their unfreedom in markedly different ways."[43] Kramer thinks that this shows that the republicans have a moralized account of freedom where there is not enough attention for the (in)abilities of Mark and too much attention for the morality of Simon's action.[44]

Kramer's final question is what it means if there is a situation of dominance where interference is completely improbable. Taking into account Kramer's definition of freedom you can see that the dominator's superiority by itself it not a source of unfreedom, rather it is what the dominator does with its superiority. Republicans see the dominator's superiority itself as a source of unfreedom. Kramer thinks this is a problematic perspective and uses the example of the friendly giant to make his point. Imagine a giant born in a community where he is larger, stronger, swifter and more intelligent than any of his compatriots. Imagine that if he wanted to he could get an autocratic sway over the community and that he himself is very aware of this. Imagine also that he actually loathes that idea and decides to live a lonely live in a cave in the hills nearby. According to Kramer, Pettit would call this giant a dominator even though he is not reducing the overall liberty of anybody else.[45] Kramer thinks this makes no sense, he concludes:

> In the very rare circumstances where relationships of domination genuinely involve extremely low probabilities of nontrivial encroachments on the freedom of subordinate people, we should not characterize the state of subordination as a state of unfreedom.[46]

A slave can't be free: a republican response to their critics

In response to the criticism Skinner decides to keep the strict disconnect between the presence of unfreedom and the imposition of interference. To him liberty consists of being in-

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[42] Ibid., 40.
[43] Ibid., 41.
[44] Ibid., 41.
[45] Ibid., 47.
[46] Ibid., 49.

dependent from the will of another. If you are subject to the arbitrary power of someone else, then you are no longer able to forbear according to your own will and desires, forfeiting your liberty.[47]

For Skinner it isn't necessary that the arbitrary power is ever exercised, just the *potentia* of the ruler turns its subjects into slaves depriving them of their liberty.[48] It is true that people who are aware of being dominated tend to have a lack of energy and initiative and can be expected to behave with servility and censor themselves, but that doesn't make knowing about your enslaved position a necessity for losing your liberty. As Skinner writes:

> [Anyone] who reflects on their own servitude will probably come to *feel* unfree to act or forbear from acting in certain ways. But what actually *makes* them unfree is the mere fact of living in subjection to arbitrary power.[49]

Pettit has a more formal analytical approach to answer his critics. He reformulates the republican conception of freedom in the process. He does this by formulating three axioms and four theorems.

The three axioms are as follows:[50]

1. The reality of personal choice — The options we face are really options and we choose them at our will.
2. The possibility of alien control — Alien control is a relationship where the first party will control what the second party does in a way that takes from the personal choice of the agent. The controller needs to be aware of the controlled as an agent subject to control, the controlled agent doesn't need to be aware of the controller.
3. The positionality of alien control — Alien control is a zero-sum commodity: if one gains, the other loses. It is about a relative position, not an absolute one.

From these axioms he derives four theorems defining the connection between interference and control:[51]

1. Alien control may materialize with interference — Pettit has an inclusive notion of interference that covers both intentional and quasi-intentional interventions. Examples of alien control with interference include hypnosis, brainwashing, intimidation and other forms of manipulation. The alien control is realized via reduction, removal or replacement of options.

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[47] Skinner, "Freedom as the Absence of Arbitrary Power," 89.
[48] Ibid., 90.
[49] Ibid., 93–94.
[50] Pettit, "Republican Freedom," 104–10.
[51] Ibid., 110–18.

2. Alien control may materialize without interference - Control doesn't have to be active it can also be virtual. It is possible for person A to control the choice of person B without any interference. For example when A is watching what B does and is ready to interfere, but only if required. This virtual control doesn't even have to be intentional on the part of person A.

3. Non-alien control may materialize without interference — Control is non-alien when person A controls what person B does, but person B isn't denied the thought "I can do that" and still has the options independently available. Pettit calls co-reasoning one way in which this happens. Interestingly he notes how offers (unlike threats) are always non-alien forms of control unless they can't be refused.

4. Non-alien control may materialize with interference — Interference can be non-arbitrary when it is forced to track the avowed interests of the person who is being interfered with. Pettit makes it clear that this is independent from any moral criterion, so that the republican theory isn't moralized.

Using these theorems Pettit shows that critics like Kramer ignore the most salient explanation of why coercion affects freedom of choice. Unchecked coercion doesn't just remove options, it also replaces options.[52] And Pettit's response to the friendly giant argument is very similar to Skinner's. Of course it can be a relief that your fear of interference can lessen if the giant decides to live in a cave, but that still won't give you any reason for thinking that you are now less unfree than you were previously.[53]

In the end liberty is defined by Pettit as the absence of alien or alienating control on the part of other persons. This distinguishes the republican theory of freedom from liberal negative theories of freedom on two separable counts:

> First, in taking freedom of choice to require the absence of alien control, not just the absence of interference; and second, in taking the freedom of the person to require a systematic sort of protection and empowerment against alien control over selected choices.[54]

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[52] Ibid., 122.
[53] Ibid., 124–25.
[54] Ibid., 104.

Technology

We now live in an information society. More and more of our interactions are technologically intermediated. Our social interactions (through for example Facebook, WhatsApp or Gmail), our economic interactions (via the likes of eBay, Google Maps, Amazon or PayPal) and even our cultural interactions (think of the Kindle, YouTube or Spotify). This means that there is now a third party between the two parties having the interaction. Just by interacting with each other and with the world we are creating data streams which can be captured by those third parties.

The prevalence of technological intermediation is altering the existing power relationships in society. This chapter will show how private companies are taking center stage and are starting to control the way we live.[55]

Tech's Frightful Five

In 2006 the five world's largest companies (by market cap) were Exxon Mobil, General Electric, Microsoft, Citigroup and Bank of America. In April 2017 that list has significantly changed and looks like this: Apple, Alphabet (Google),[56] Microsoft, Amazon and Facebook.[57] The Economist recently wrote an article about the dominance of these five companies. They collectively made more than 25 billion US dollar profit in the first quarter of 2017 alone. Amazon manages to capture half of every dollar spent online in the United States.[58] With over 2 billion monthly active users, Facebook is now a bigger sovereignty than any other country in the world..[59] Apple, Google and Microsoft can also call themselves billion-customer global businesses.[60]

Nowadays these five companies are often described together and in the context of our increased dependence on them. Farhad Manjoo writes in the New York Times about the Frightful Five[61] and the role they play in his life: "We are, all of us, in inescapable thrall

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[55] This chapter embodies a very Western-European and Northern-American view of the world. I am aware of that. For argument's sake let's assume I am writing about the lives of average people in Amsterdam in the Netherlands.

[56] In October 2015 Google did a corporate restructuring creating Alphabet as a new public holding company with Google as one of the subsidiaries (incidentally replacing the nonsensical "Don't be evil" moto with the slightly improved "Do the right thing"). For ease of understanding I will continue to refer to both Alphabet and Google as "Google". For more information on the restructuring, see: Page, "G Is for Google."

[57] Taplin, "Is It Time to Break Up Google?"

[58] Economist, "The World's Most Valuable Resource Is No Longer Oil, but Data."

[59] Nowak and Spiller, "Two Billion People Coming Together on Facebook."

[60] Ramo, "For Apple, Facebook and Amazon, 'Network Power' Is the Key to Success."

[61] There isn't a common name for these five companies yet. They are also called "the internet giants" (for obvious reasons) or "the stacks" (for their ability to create integrated ecosystems).

to one of the handful of American technology companies that now dominate much of the global economy". Manjoo then plays a game in which he decides in which order he would abandon the Frightful Five. He decides it would be Amazon last, because as he writes:

> Amazon has become, for my family more than a mere store. It is my confessor, my keeper of lists, a provider of food and culture, an entertainer and educator and handmaiden to my children.[62]

You could argue that nobody is forcing you to make use of the services of these five companies. And it is true that you could easily live your life without a smartphone and without being a member of some 'social' network, but your non-participation will come at an increasingly high social cost. Jason Ditzian writes how he can no longer make use of the car sharing service that he has been a member of for years if he continues to refuse to create a Facebook account[63] and Sander Pleij beautifully describes how he tries to avoid using Facebook but has to capitulate for WhatsApp (owned by Facebook) because his editors at Vrij Nederland, the parents at his children's school and his rugby club all use the tool to communicate.[64] I personally will not forget the time I was waiting all alone at the gym with my sports bag, only to learn that the basketball game had been cancelled ("Didn't you read the WhatsApp message?").

Currently the cost of opting out is mostly just awkwardness, soon it will be ostracism.

Surveillance capitalism

How did these companies from Silicon Valley gain their dominance? Shoshana Zuboff is one of the first academic authors to get a clear grasp of the fact that the global architecture of computer intermediation leads to a new and mostly uncontested expression of power (she christens that power 'Big Other'). In a recent article she describes 'surveillance capitalism' as the emergent logic of accumulation in the networked sphere.[65]

According to Zuboff each era has a dominant logic of accumulation. Mass production-based capitalism which was in sway for most of the 20th century made way for financial capitalism by the end of the century. Zuboff attempts to illuminate a new logic of accumulation, one that is becoming dominant in today's networked spaces: surveillance capitalism. Her primary lens for doing that is Google, because it is widely considered to be the pioneer of using big data.[66] Her explanation of surveillance capitalism is best understood as a four

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[62]Manjoo, "Tech's Frightful Five."
[63]Ditzian, "Facebook Goes Full 'Black Mirror'."
[64]Pleij, "Facebookisme."
[65]Zuboff, "Big Other," 75.
[66]Ibid., 77.

step process.

The first step is the accumulation and capturing of as much data as possible. Zuboff mentions five sources: data from computer-mediated economic transactions, data from billions of embedded sensors, data from corporate and government databases (often sold by data brokers), data from private and public surveillance camera's and finally user-generated data created by people using services like Gmail, YouTube and most importantly Google's search engine. This last category contains an interesting feedback loop: a search engine gets better when more people use it, leading to more people using it because it is better.[67] Zuboff writes about Google's hunger for data:

> What matters is quantity not quality. Another way of saying this is that Google is 'formally indifferent' to what its users say or do, as long as they say it and do it in ways that Google can capture and convert into data.[68]

This data is 'extracted' from the populations who are using Google services. It is important to note that there is an absence of structural reciprocities between Google and its users. This is different from earlier corporations who were always deeply interdependent with the populations they served. Because Google's clients are advertisers (and not its users) this interdependency is not present.[69]

The second step is to have data scientists analyse the extracted data (the 'surveillance assets') using methodologies like predictive analytics, reality mining and pattern-of-life analysis. Machine learning algorithms are also a new way to find patterns in the data.[70]

The third step is to use this analysis to create predictions of behavioral patterns. This is what underlies personalised technologies like Google Now, the assistent that seems to know what you need right at the moment that you need it. A mode of continuous experimentation is needed to turn the correlational patterns gleaned from the data into something that can have an immediate effect on a person's life.[71] The need for massive amounts of data to do this successfully was shown by Samsung's admission that the English version of their personal assistent (Bixby) was delayed because of a lack of "accumulation of big data, which is key to deep learning technology [..]"[72]

Finally, these behavioral predictions are sold on prediction markets. Currently Google's main prediction market is build around advertising (in the first quarter of 2017 Alphabet

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[67] Ibid., 78–79.
[68] Ibid., 79.
[69] Ibid., 80.
[70] Ibid., 80–81.
[71] Ibid., 83–85.
[72] Shin, "Bixby's English Version Delayed Due to Big Data Issue."

had 20.3 billion US dollar revenue, with 18 billion US dollar coming from advertising, that is close to 90%[73]), but there are many other behavioral patterns that could be sold other than buyer's intent, for example locational behavior or health-related behavior.[74]

For Zuboff these processes reconfigure the structure of power. There is no longer a centralised power of mass society (usually symbolized as Big Brother), it has been replaced by "distributed opportunities for observation, interpretation, communication, influence, prediction, and ultimately modification of the totality of action."[75] There is no escaping Big Other, with dire consequences:

> What is accumulated here is not only surveillance assets and capital, but also rights. This occurs through a unique assemblage of business processes that operate outside the auspices of legitimate democratic mechanisms or the traditional market pressures of consumer reciprocity and choice. It is accomplished through a form of unilateral declaration that most closely resembles the social relations of a pre-modern absolutist authority. In the context of this new market form that I call surveillance capitalism, hyperscale becomes a profoundly anti-democratic threat.

> Surveillance capitalism thus qualifies as a new logic of accumulation with a new politics and social relations that replaces contracts, the rule of law, and social trust with the sovereignty of Big Other. It imposes a privately administered compliance regime of rewards and punishments that is sustained by a unilateral redistribution of rights. Big Other exists in the absence of legitimate authority and is largely free from detection or sanction. In this sense Big Other may be described as an automated coup from above.[76]

Feudalism 2.0

What is the best way to characterize our relationship to the big five technology firms? In his book *Data and Goliath* Bruce Schneier uses a metaphor:

> Our relationship with many of the Internet companies we rely on is not a traditional company–customer relationship. That's primarily because we're not customers. We're products those companies sell to their real customers. The

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[73] "Alphabet Announces First Quarter 2017 Results."

[74] You could make an ethical argument that these companies aren't justified in selling these insights, see for example: Sax, "Big Data."

[75] Zuboff, "Big Other," 82.

[76] Ibid., 83.

relationship is more feudal than commercial. The companies are analogous to feudal lords, and we are their vassals, peasants, and—on a bad day—serfs. We are tenant farmers for these companies, working on their land by producing data that they in turn sell for profit.[77]

Schneier is aware that it is just a metaphor[78] but he does sees us pledging allegiance to Google (with Google Calendar, Google Docs, a Gmail account and an Android phone) or to Apple (iMacs, iPhones, iPads and a backup of everything in the iCloud). "We might prefer one feudal lord to the others. We might distribute our allegiance among several of these companies, or studiously avoid a particular one we don't like. Regardless, it's becoming increasingly difficult to not pledge allegiance to at least one of them."[79]

Evgeny Morozov is choosing the same metaphor to describe the dominance of both Google and Facebook. He considers it "quite likely that Google, Facebook and the rest will eventually run the basic infrastructure on which the world functions" and warns us for a "hypermodern form of feudalism, whereby those of us caught up in their infrastructure will have to pay [..] for access to anything with a screen or a button."[80]

It is already the case that before you are able to use any of the services of companies like Google or Facebook (pledging your alliance so to say) you will have to agree to their terms of service. By giving your consent you literally step into their jurisdiction. The terms are not negotiable, it is a matter of take it or leave it. Google's terms of service contain policies like: "Google keeps your searches and other identifiable user information for an undefined period of time", "Google can use your content for all their existing and future services", "Google can share your personal information with other parties" and "Google may stop providing services to you at any time."[81]

Facebook's research

Facebook has a research department which is constantly running different experiments to explore how a change in their services leads to a change in behavior of its users.[82] Facebook conveniently believes that their users, because they have consented to Facebook's data pol-

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[77]Schneier, *Data and Goliath*, 58.
[78]I am deeply uncomfortable comparing our current situation living in a technologically intermediated society with serfdom let alone with slavery. However I do believe that there are similar mechanisms of dependence and control leading to arbitrary power. Structurally we can compare them, in their consequences they are of course incomparable.
[79]Ibid., 58.
[80]Morozov, "Tech Titans Are Busy Privatising Our Data."
[81]"Terms of Service;Didn't Read."
[82]"Economics & Computation"; "Human Computer Interaction & UX."

icy, do not need to give explicit consent to participate in the research. Facebook's data scientists occasionally publish scientific papers with their findings. Usually what Facebook thinks they have learned from their research is different from the main learning points that the rest of world get out of it. Let us look at three different examples.

In 2012 Facebook researchers published an article in Nature titled *A 61-million-person experiment in social influence and political mobilization.*[83] In it they delivered political mobilisation messages to 61 million users during the 2010 congressional elections. Facebook found out that the messages could directly influence political self-expression and real world voting behavior and that the effect of social transmission on real world voting was greater than the effect of the messages. We found out that delivering just a single extra message in the news feed of 61 million people "increased turnout directly by about 60,000 voters and indirectly through social contagion by another 280,000 voters, for a total of 340,000 additional votes."[84] If they would want to, Facebook could increase voting turnout significantly.

In 2013 Facebook researchers published a paper at a conference for the advancement of artificial intelligence. It was called *Self-Censorship on Facebook.*[85] By keeping track of what 3.9 million users were typing into Facebook pages and then deciding to delete before posting, Facebook found out that 71% of the users exhibit some form of last-minute self-censorship during the 17 days of tracking ("[The] users produced content, indicating intent to share, but ultimately decided against sharing"[86]) and that people with more boundaries to regulate censored more ("[Current] solutions on Facebook do not effectively prevent self-censorship caused by boundary regulation problems"[87]). We found out that Facebook is capable of tracking what we type even before we press send and has no qualms in looking at exactly the data that we decided against sharing after all. We also learned that Facebook is actively researching what inhibits us from sharing more with the platform.

And in 2014 Facebook researchers published an article titled *Experimental evidence of massive-scale emotional contagion through social networks* in the Proceedings of the National Academy of the Sciences (PNAS).[88] For this research they manipulated the news feed of 689,003 people for a week to either show more positive emotional content from their friends or to show more negative emotional content from their friends. Facebook found out that massive-scale emotional contagion could happen in social networks: "When positive expressions were reduced, people produced fewer positive posts and more negative

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[83] Bond et al., "A 61-Million-Person Experiment in Social Influence and Political Mobilization."

[84] Ibid., 297.

[85] Das and Kramer, "Self-Censorship on Facebook."

[86] Ibid., 122.

[87] Ibid., 127.

[88] Kramer, Guillory, and Hancock, "Experimental Evidence of Massive-Scale Emotional Contagion Through Social Networks."

posts; when negative expressions were reduced, the opposite pattern occurred."[89] It also conveniently disproved a criticism that is often aimed at Facebook: that positive posts by friends on Facebook affect us negatively. We found out that Facebook can manipulate our emotions at will. This particular paper led to a lot of backlash for Facebook. The editors of PNAS expressed their concern about whether the participants in the study had properly opted in before they were made to feel less positive[90] and journalists found out that the subjects likely included children between 13 and 18 years old and that Facebook had only updated their terms of services to include 'research' as one of the ways it can use the data of its users after the research had already been done.[91]

Facebook's day to day manipulation goals are much more mundane than this research might make you think. They are mostly interested in manufacturing habitual use of their service.[92] More time spent on the platform is more money earned for Facebook. So we can safely assume that Facebook is currently not actively trying to get people to vote, not storing the texts that people have backspaced and not trying to induce particular emotions in people. Also Facebook manipulated its (unwilling) participants only for short periods of time and the participants were only a tiny percentage of the 2 billion users that could be manipulated.

Here Facebook has been chosen as an example, but we have to assume that the other information giants have similar potential powers for alien control.[93] There are two important things to note about examples like this. Firstly, each of these three examples show much more potential for interference than that they show actual interference. Secondly, we often don't realise that this potential for interference is present.

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[89] Ibid., 8788.

[90] Verma, "Editorial Expression of Concern."

[91] Hill, "Facebook Added 'Research' To User Agreement 4 Months After Emotion Manipulation Study."

[92] Through the four phases of the "Hook Model": trigger, action, variable reward, and investment. See: Eyal, *Hooked*.

[93] For example with Google there is what the researchers call the "search engine manipulation effect", see: Epstein and Robertson, "The Search Engine Manipulation Effect (SEME) and Its Possible Impact on the Outcomes of Elections."

Democracy

There isn't much academic work which uses a republican lens to look at the way that corporate technology shapes our society and our democracy. We look at two articles that use a republican framework to look at surveillance and privacy respectively and see what we can learn if we try to translate their argumentation to the world of the frightful five.

How freedom as noninterference doesn't address surveillance (capitalism)

J. Matthey Hoye and Jeffrey Monaghan use neo-republicanism to give a normative critique of surveillance in relation to freedom.[94] Even though their focus is mostly on government surveillance[95] some of their argumentation can help us form a republican perspective on surveillance capitalism and its consequences.

For instance they argue that "regarding surveillance the neo-republican concept of freedom does not suffer the same conceptual impediments as liberalism."[96] Hoye and Monaghan are convinced that a liberal critique of surveillance, rooted in a privacy argument that tries to balance state protected civil liberties with state intrusion, can't address a broader conceptualization of surveillance as "a governing rationality — or governmentality — for the entire spectrum of social conduct."[97] The focus on the balancing act between individual rights and state interference then leaves space for the state to circumvent the critique of interference by declaring "that information is being collected, stored distributed, and analysed, but interference is kept to a minimum."[98]

A similar dynamic is taking place when looking at the role of the information giants. The discourse about these companies is usually framed from a perspective of individuals making the free choice to either consent to the terms of these services or to abstain from their use. Who isn't free in this framing? The systemic power imbalance does not get addressed.

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[94] Hoye and Monaghan, "Surveillance, Freedom and the Republic."

[95] There is a lot to say about the powers that governments are accruing through their use of technology and data and how that impacts a republican conception of freedom, but this is outside the scope of this thesis.

[96] Ibid., 3.

[97] Ibid., 4.

[98] Ibid., 11.

What if we don't know about the potential for arbitrary control?

Andrew Roberts gives us a republican account of the value of privacy.[99] He is convinced that the republican concept of domination can provide a solid foundation to account for the value of privacy. Liberals and republicans do not differ much in their perspective on privacy as a protection against interference from others and as a pre-requisite for leading an autonomous life.[100] The two accounts start to diverge when a person is not aware of their loss of privacy.

To illustrate this, Roberts uses the example of somebody who writes potentially embarrassing information in their personal diary. Imagine that a second person takes the information in this diary without the writer's consent and shares this information with a third person. From the perspective of freedom as the absence of interference it is quite difficult to label this situation as a loss of freedom for the writer. As long as the diarist is aware of the loss of their privacy a liberal can explain the harm in terms of positive freedom. Roberts quotes Beate Rössler who argues that privacy is also valuable because to have control over your self-presentation is an intrinsic part of your self-understanding as an autonomous individual.[101] Somebody sharing your information without you wanting to erodes this control. But what if the person with the diary doesn't know that their privacy was breached? In that case a liberal perspective will not be able to argue for a loss of freedom, but a republican perspective can. As Roberts writes:

> While liberals are generally concerned about the effect that a loss of privacy will have on the autonomy of the subject, the focus of republican concern will be any unchecked inequality in power that is created by such a loss. Republicans will say the loss of privacy we suffer when others watch or acquire information about us is harmful to the extent that it provides others with power to interfere in our decisions that we do not control – the power to remove, replace or misrepresent options that would be available to us had we not suffered a loss of privacy. This harm arises whether or not we are aware that others are watching or acquiring information about us.[102]

Now it becomes clear why it so hard to criticize technology giants like Google and Facebook. From our dominant liberal perspective on the world we can only see a problem when these companies actually interfere in our lives and can only argue against their surveillance capitalist methodology to the extent that we are aware of the fact that they are using it. While

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[99] Roberts, "A Republican Account of the Value of Privacy."

[100] Ibid., 328–29.

[101] Ibid., 333.

[102] Ibid., 335.

looking at Facebook's research experiments we saw that the potential for interference is much bigger than the actual interference and that we are very much unaware of this potential. Our language around autonomy makes us blind to the power for arbitrary control that these companies have. We aren't free, but we barely know it.

The death of deliberation

Fulfilling a republican political ideal of freedom and making sure that state interference involves as little arbitrariness as possible demands a particular organisation of the state: a constitutional democracy.[103]

Pettit lists a set of constitutional requirements that help to diminish arbitrariness. The instruments of the state need to be non-manipulable through making sure there is an empire of law rather than an empire of men, through dispersion of legal powers and through making the law resistant to the majority will.[104]

Any system of law leaves the decision-making power in the hands of certain public authorities. It is therefore important to make sure that these decisions are made in a way that rules out arbitrary power. Pettit writes: "The promotion of freedom as non-domination requires, therefore, that something be done to ensure that public decision-making tracks the interests and the ideas of those citizens whom it affects."[105] Traditionally that tracking of the interests is assured through some form of collectivised consent. This isn't enough for Pettit as it is obvious to him that certain decisions may have majority support while representing very arbitrary interference in the lives of minorities. According to Pettit "non-arbitrariness requires not so much consent as contestability."[106] And this contestability needs to be effective. This requires a certain democratic profile, one that is contestatory rather than consensual. Pettit says that for this to be the case three conditions need to be satisfied: there should be a basis for contestation, there should be a channel available by which decisions may be contested and a suitable forum should exist for hearing contestations.[107]

The basis for contestation should be debate-based rather than bargain-based, decisions should be made in a deliberative way. The democracy can't just be deliberative, it also needs to be inclusive with all stakeholder groupings being represented. The democracy will need to respond appropriately to any contestations raised against decisions.[108]

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[103] Pettit, *Republicanism*, chap. 6.
[104] Ibid., 172–83.
[105] Ibid., 184.
[106] Ibid., 184–85.
[107] Ibid., 186–87.
[108] Ibid., 200.

We can now see how our technological predicament is democratically problematic in two distinct ways. The first is that the frightful five are starting to have a level of governance over our lives that is very similar to state interference, but without any of the constitutionally democratic controls. A company like Facebook, for example, has put a lot of effort in its corporate structuring to make sure it is an empire of a single man (founder Mark Zuckerberg), rather than an empire of law.[109] And while European legislation forces the companies that want to collect and use our data into getting our unambiguous and freely given consent,[110] there doesn't seem to be any way to seriously contest the decisions that these companies make about our lives.[111]

The second problem is that these companies are eroding deliberative democracy itself. This is because of the level of personalisation that is done by these platforms to try and capture our attention. Maciej Cegłowski writes:

> The feeds people are shown on these sites are highly personal. What you see in your feed is algorithmically tailored to your identity and your interaction history with the site. No one else gets the same view. This has troubling implications for democracy, because it moves political communication that used to be public into a private space. [..] Obviously, in this situation whoever controls the algorithms has great power. Decisions like what is promoted to the top of a news feed can swing elections. Small changes in UI can drive big changes in user behavior. There are no democratic checks or controls on this power, and the people who exercise it are trying to pretend it doesn't exist.[112]

Robin Celikates calls this "the outsourcing of self-determination — the reduction of democratic control to editorial control of norms authored by others."[113] It is impossible to be a free citizen in such a situation.[114]

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[109]"Facebook Reports First Quarter 2016 Results and Announces Proposal for New Class of Stock."

[110]"Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the Protection of Natural Persons with Regard to the Processing of Personal Data and on the Free Movement of Such Data, and Repealing Directive 95/46/EC (General Data Protection Regulation)," recital 32.

[111]It is also possible to raise some serious doubts as to whether any of the consent given to these information giants is truly given freely.

[112]Cegłowski, "Build a Better Monster."

[113]Celikates, "Freedom as Non-Arbitrariness or as Democratic Self-Rule? A Critique of Contemporary Republicanism," 50.

[114]It has to be said that this new publication and distribution method, often described as the 'filter bubble', is of course also deeply problematic from a liberal point of view: It is an example of actual interference.

An abject condition of torpor and sluggishness

One argument that republicans often make for pursuing freedom of domination is because of what it does to a people when they are subjected to masters with arbitrary power. This is a worry about the psychological impact. Skinner, for example, writes about the concerns of Sallust and Tacitus:

> When a whole nation is inhibited from exercising its highest talents and virtues, these qualities will begin to atrophy and the people will gradually sink into an abject condition of torpor and sluggishness.[115]

Servitude inevitably breeds servility. Skinner points to the classical belief that we can only expect greatness from people who live in truly free states. You only have to look at the European peasantry or the subjects of Sultan at Constantinople to see that they "have become so discouraged and dispirited by the experience of living under arbitrary power that they have become totally supine and base, and nothing can now be expected of them."[116]

After reading these descriptions of what a lack of (republican) freedom can do to people, and after assessing the current direction our technological world is moving in, it becomes easy to see how the 2008 movie WALL·E[117] has cutting predictive qualities. As Rod Dreher writes about the future in which the movie is situated:

> Every possible need of its inhabitants is taken care of by high technology. [..]
> They are constantly entertained, and fed by junk food. And they all look happy.
> They have been thoroughly infantilized [..] and have grown completely dependent on the BNL Corporation, the massive company that, it appears, became the government back on Earth, and whose priorities —sell crap to consumers, and make them totally dependent on their own desires— led to the catastrophe on Earth. BNL is totalitarian, but it's the softest totalitarianism imaginable: they've taken over by fulfilling every desire of the populace, a populace that (apparently) came to think of politics as chiefly a matter of ordering the polis around the telos of satisfying human desires.[118]

Frederick Douglass wrote in 1855 that to "make a contented slave, you must make a thoughtless one."[119] Is the way Google turns us into consumption serfs the 21st century manifestation of the contented slave? In a world that is now again rapidly becoming less equal in

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[115] Skinner, "A Third Concept of Liberty," 258.

[116] Ibid., 261.

[117] Stanton, "WALL·E."

[118] Dreher, "'Wall-E'."

[119] Douglass, *My Bondage and My Freedom*, 254.

economic terms[120] we can't afford to stick with a liberal perspective on freedom only and have to start working explicitly towards republican freedom. Freedom from domination, freedom from arbitrary control.

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[120] Piketty, *Capital in the Twenty-First Century*, 571.

Conclusion: the need for antipower

So what are we to do? Pettit argues that from a republican point of view three broadly different, but consistent, strategies come to mind:

> We may compensate for imbalances by giving the powerless protection against the resources of the powerful, by regulating the use that the powerful make of their resources, and by giving the powerless new, empowering resources of their own. We may consider the introduction of protective, regulatory, and empowering institutions.[121]

Pettit does not only see a role for formal state initiatives, he also thinks that other forms of organisation like trade unions, consumer movements, rights organizations, women's groups, civil liberties groups and even competitive market forces have a crucial role to play in increasing the range of undominated freedom.[122]

Though much more work will need to be done, we can already try and do a speculative sketch of how these strategies could be applied in a technologically intermediated world.

Protection: Europe's California effect and encryption

Pettit has the most faith in this particular antipower: "The protection of the individual is mainly ensured in our society by the institutions of a nonthreatening defense system and a nonvoluntaristic regime of law."[123] These laws will then have to constitute a rule of law by being general, transparent, nonretroactive and coherent.[124] So how does the law try to regulate the data giants?

Currently there seem to be two approaches towards regulating the collection and use of data.[125] The first, prevalent in the United States, focuses on how the data is used by the organisations that collect the data. It focuses on reducing the harm that is done, for example through self-regulatory *Fair Information Practices* or by creating protection through consumer law. The second approach, more European, focuses on fundamental human rights and thus doesn't just look at the use of the data, but already starts regulating at the collection phase. This second approach is behind Europe's soon to be introduced *General Data*

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[121]Pettit, "Freedom as Antipower," 589–90.
[122]Ibid., 592.
[123]Ibid., 590.
[124]Ibid., 590.
[125]Van Hoboken, "From Collection to Use in Privacy Regulation? A Forward- Looking Comparison of European and Us Frameworks for Personal Data Processing."

Protection Regulation (GDPR) which aims to protect the right of natural persons to the protection of their personal data.[126]

In a globalized world we have to worry whether companies will not just move their operations to the countries that have the least amount of rules around data: a race to the bottom. This is traditionally called the "Delaware Effect" (named after what happened with corporate chartering requirements in the US, which are lowest in Delaware). In *Trading Up*, David Vogel shows that there can be another regulatory effect, a race to the top. Especially protective regulations can move into the direction of stricter regulatory standards. Vogel calls this the "California Effect", after the way in which California's stricter emission standards for cars have helped to up the federal minimum requirements. He thinks that this effect can also take place between national legislations as long as the right market and political forces are in play.[127] It does seem to be case that Europe's stricter regulatory framework around data could lead to a California effect. That is mainly because Europe is big enough as a market for creators of information services to make changes to their products in order to continue to have access to the European market. As a way of protecting citizens the GDPR already functions as an aspirational piece of law for other countries.[128]

All the legislation around data and information focuses on either reducing the harm done (a very liberal point of view) or on protecting the fundamental human right to privacy (a slightly more republican way of looking at the world). Unfortunately neither approach directly addresses the tremendous power imbalance, leaving opportunities for arbitrary control and thus dominance.

Another way of protecting people against the prowess of the information giants is a technological one: stimulating and using Privacy Enhancing Technologies (PETs). Encryption is the most important PET.[129] It makes (communications) data only available to the persons having the key. The Snowden disclosures led to a push to get more of our communications encrypted, making it harder for the secret services to try and intercept the traffic.[130] But well designed encryption and data minimisation schemes can also help immunise ourselves against corporate domination. Compare for example what the chat app Signal knows about its users (just the phone number, the account creation date and the last connection date, nothing else[131]) with what apps like Google Allo and WhatsApp know (occasionally the con-

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[126]"Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the Protection of Natural Persons with Regard to the Processing of Personal Data and on the Free Movement of Such Data, and Repealing Directive 95/46/EC (General Data Protection Regulation)."

[127]Vogel, *Trading Up*, 259–60.

[128]See for example: "Doing Business with Argentina Just Got Easier."

[129]Schneier, *Data and Goliath*, 215.

[130]See for example Finley, "Encrypted Web Traffic More Than Doubles After NSA Revelations" and "Encrypt All The Things.".

[131]"Grand Jury Subpoena for Signal User Data, Eastern District of Virginia."

tents of the messages, the complete social graph of their users, IP addresses, location data, connection times and more).[132] It is obvious that services like Signal provide much more protection as antipower than the services provided by the frightful five.

Regulation: dispersion of power through antitrust

When making sure that the resources of the powerful are regulated there is a focus on those who are in government. This is why we have a set of rule-of-law constraints like regular elections and limited tenure, democratic discussions and the separation of powers.[133] Pettit warns that those who are in economically privileged positions can also dominate others. This requires a different form of regulation. One type of measures he mentions is those against monopoly power.[134] Classic (neo)liberalist thinking doesn't like government interference into private corporate affairs. From a republican point of view antitrust measures are less problematic. First of all because it doesn't think that regulatory interference by the state is necessarily as bad as the private interference against which it guards, but mostly because it manages to secure a benefit that is more important than noninterference: non-domination.[135]

Initially governments were very hesitant to apply antitrust measures to the information monopolies, but in the last couple of years there has been an increasing understanding that something needs to be done to try and disperse the power.[136] Even The Economist, who has argued in the past that breaking up the tech giants was too drastic of an action, now has cause for concern: "Internet companies' control of data gives them enormous power. Old ways of thinking about competition, devised in the era of oil, look outdated in what has come to be called the 'data economy' [..] A new approach is needed."[137] They have two ideas that could help with this new approach.[138]

Firstly, it is important to realise that monopolies are created through acquisition. When regulators currently assess whether a merger is acceptable they mostly look at size. They will need to start looking at a firms data assets to see how the deal will impact the freedom

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[132] Lee, "Battle of the Secure Messaging Apps."

[133] Pettit, "Freedom as Antipower," 590–91.

[134] Ibid., 591.

[135] Pettit, "Freedom in the Market," 145.

[136] The EU, for example, has recently handed out fines to Facebook for giving misleading information when acquiring WhatsApp and to Google for abusing its power with their Google shopping results (see: "Commission Fines Facebook €110 Million for Providing Misleading Information About WhatsApp Takeover," "Commission Fines Google €2.42 Billion for Abusing Dominance as Search Engine by Giving Illegal Advantage to Own Comparison Shopping Service.").

[137] Economist, "The World's Most Valuable Resource Is No Longer Oil, but Data."

[138] Ibid.

of consumers. The fact that companies are willing to spend billions of dollars for the acquisition of companies with barely any revenue (Facebook, for example, buying WhatsApp for $16 billion[139]) clearly shows the mechanism of incumbent companies buying nascent threats.

Secondly, it will be essential to loosen the grip that these companies have over the data of its users. One way of doing this could be to increase the transparency. A more radical approach would be to force companies like Google and Facebook to open their data vaults and turn their data into public infrastructure. This is what Evgeny Morozov argues for:

> All of the nation's data [..] could accrue to a national data fund, co-owned by all citizens (or, in the case of a pan-European fund, by Europeans). Whoever wants to build new services on top of that data would need to do so in a competitive, heavily regulated environment while paying a corresponding share of their profits for using it.[140]

Jonathan Taplin adds a third way of regulating. This is to remove the "safe harbor" clause from the Digital Millennium Copyright Act. This clause defines the platforms as mere conduits and limits their liability when it comes to copyright. He argues that this is what allows services like Facebook and Google's YouTube to free ride on the content which is produced by others. Taplin clearly sees the relationship between monopolies and governance: "Woodrow Wilson was right when he said in 1913, 'If monopoly persists, monopoly will always sit at the helm of the government.' We ignore his words at our peril."[141]

Empowerment: free and federated technology

When Pettit writes about empowerment as the third antipower, he mainly means welfare-state initiatives and refers to things like universal access to education, services like public transportation and communication, and measures for the vulnerable like social security, medical care or legal aid.[142] Could these type of initiatives have technological equivalents?

Software usually comes with a license prohibiting you from copying it and sharing it with others. Online services come with terms that you have to accept before you get to use the product. There is one category of software that doesn't come with these type of limitations and even explicitly promotes freedom: free software.[143] Free software guarantees every-

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[139]"Facebook to Acquire WhatsApp."
[140]Morozov, "To Tackle Google's Power, Regulators Have to Go After Its Ownership of Data."
[141]Taplin, "Is It Time to Break Up Google?"
[142]Pettit, "Freedom as Antipower," 591–92.
[143]'Free' here refers to liberty not to price, or as is usually said: "Free as in free speech, not as in free beer".

one equal rights to the program through using a license that explicitly gives the user the following four freedoms:

- The freedom to run the program as you wish, for any purpose (freedom 0).
- The freedom to study how the program works, and change it so it does your computing as you wish (freedom 1). Access to the source code is a precondition for this.
- The freedom to redistribute copies so you can help your neighbor (freedom 2).
- The freedom to distribute copies of your modified versions to others (freedom 3). By doing this you can give the whole community a chance to benefit from your changes. Access to the source code is a precondition for this.[144]

This way of looking at software can radically decrease the dependence on any particular company or even actor and therefore can truly enhance (republican) freedom.

When free software is used as a service on the web, we can easily still fall in a dependency trap. If we all would be communicating and sharing knowledge through the same service provider who uses free software, then that provider would still have a level of arbitrary control. It is therefore important that these technologies are implemented in a decentralised and federated manner. Email is the canonical example of a standards based technology that can be implemented by any party (you can run your own mailserver, use a web host or use a dedicated web based email service) and still allows for interoperability. Multiple free software projects attempt to do the same in domains like social networking, voice communications, file sharing or (personal) publishing.[145] These usually allow for identity to federate over multiple instances of the same software, increasing your independence from one particular service provider.[146]

The state can promote the use of free software in different ways. Richard Stallman, the founding father of free software, argues that the state has a moral obligation to so and introduces a practical set of measures. First of all the state should have a clear educational policy to only teach the use of free software to students rather than the use of any proprietary alternatives. Next the state can advance the use of free software by never requiring non-free

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[144]"What Is Free Software?"

[145]Projects like GNU social (https://gnu.io/social/), FreedomBox (https://www.freedomboxfoundation.org/), Nextcloud (https://nextcloud.com/) or IndieWeb (https://indieweb.org/).

[146]Looking at free and federated software as an antipower is based on the assumption that people have access to the internet. Universal access to the internet would probably be one of the things that Pettit would now put under his heading of access to communication.

software, distribute only free software and make use of free formats and protocols. It should also make sure to achieve computational sovereignty by migrating to free software and by truly controlling its own computers. Finally the state should encourage the development of free software and discourage the development of unfree software.[147]

[147]Stallman, "Measures Governments Can Use to Promote Free Software, And Why It Is Their Duty to Do so."

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