
THE POLITICS OF ALGORITHMS

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Met dank aan Frank, mijn wijsgerige oom, van wie ik nog veel kan leren...

Chapter 1

Introduction

Whom did you vote for the last time you voted? Perhaps more interestingly, what moved you to vote for this party or even for that particular individual? This year the elections for the Dutch Parliament took place again and almost every Dutch citizen was confronted with these questions. Surely, the countless number of talk shows and newspaper articles aided people in passing a valid, rational, normative and all-encompassing judgement on political issues. Or perhaps not so much? Every election more people rely on voting polls, which are arguably still an acceptable way of determining one's vote. Less favourable, but unfortunately not entirely uncommon, is relying on what one reads on Facebook or other social media platforms.

Perhaps the reason for these developments is what Gijs van Oenen defines as democratic metal-fatigue, in his book *Overspannen Democratie*. Through exploring his argumentation, we will find out why and how representative democracy, particularly in the Netherlands, is running out of steam. Drawing from the theories of Jürgen Habermas and Michel Foucault, Van Oenen makes explicit what was implicit. The high expectations on both the sides of the government and citizens of the democratic representative system, in the context of contemporary society can lead to frustration on the side of citizens. The incapability to still do it anymore, on the side of citizens, results in the government pro-actively taking the interactive duty of citizens into its own hands. Van Oenen builds on this idea by postulating that an algorithmic democracy might pose a solution to many of the problems he identified.

In this essay, the book *Overspannen Democratie* will be explored in depth. Afterwards, several other phenomena are identified that emphasize the need for change. A thought experiment is designed, to find out whether an algorithmic democracy is as promising as it seems, to find out whether it would resolve some of our issues but also to find out what new problems it might lead to. Let us immerse ourselves in the politics of algorithms.

Chapter 2

Exploration of *Overspannen Democratie*

In his book, *Overspannen Democratie*, Gijs van Oenen presents the world with his view on democracy. More specifically, he argues that democracy is starting to turn against itself as the result of high expectations on the side of both the citizens and the government. The main focus of the book is on the Netherlands, but occasionally, other countries are also contemplated. Let us dive into his argumentation to find out how he arrives at this conclusion.

Van Oenen argues that we live in a time of ‘normative elevation’, meaning that we continuously increase our expectations of almost everything. This, he supposes, will eventually take its toll on those who feel the pressure that goes on a par with these expectations. At the end of his introduction, Van Oenen identifies two ways in which the government could react to this phenomenon. The first option is to accept that the world is only democratically governable to a certain extent. Alternatively, a new framework of governing could be adopted that relies on the principles of representation and democracy, but which provides insight into what citizens are trying to achieve through interactive processes. This latter option is explored in-depth in the remainder of the book and will be the central topic of this thesis as well.

The sections of this chapter consist of an interpretation and summary of the arguments put forward by Van Oenen in four of the main chapters of his book. Accordingly, the titles of the sections correspond to a translation of the titles of the chapters of the book.

2.1 The high expectations of democracy

According to Van Oenen, democracy as is currently known in the Netherlands is relatively new. Before the 1960s, active participation by citizens was not regarded as an ideal and the people were *represented* by authoritative, generally regarded as sensible, politicians. The 1960s and 70s witnessed the rise of movements like that of the hippies and rock ’n roll. Being fueled by the idea of emancipation, these currents might have led to the rejection of the idea of authority as it was known at that time. Similarly, new currents in political theory which identified power as omnipresent and having a disciplining ability, might also have contributed to this. From this point in time on, every civilian was expected to play an active role in politics.

This conception of democracy is currently internalised by institutions, which have come to play a more important part within society. Those who govern and those who are being governed

have adopted new roles, where the former are expected to be mindful of the opinions of citizens and the latter have a greater responsibility in the functioning of society. Perhaps consequentially, Van Oenen argues, citizens have started to value their own experiences, opinions and ideas more and more and have come to expect that institutions will abide by these. In turn, institutions try to act as responsively as possible, that is while trying to meet the wishes, preferences and needs of citizens as good as possible.

Although this process of democratisation could be regarded and experienced as a form of emancipation, Van Oenen attends the reader to the fact that this comes at a certain cost. Relying on the hypotheses of Michel Foucault here, he points out that there is now also a self-disciplining function of society, in which modern civilians are taught to function as their own surveillance. Van Oenen argues that this does not mean that either democratisation or emancipation is a hoax, but rather that this self-disciplining phenomenon is an inevitable effect of the project of enlightenment and democratisation. Anyhow, this places a great burden on citizens, as they are now tasked with evaluating the world in a rational, adequate, all-encompassing and normative way. Modern Dutch civilians are educated to expect quite a lot of democracy, but simultaneously, quite a lot of themselves. Moreover, Van Oenen continues, the project of emancipation is never finished, as there exists the idea that there is always more to improve.

Van Oenen also stresses the point that political parties have become highly dynamic and much smaller, whereas they used to be quite stable and supported by a large rank and file. Moreover, the media are more and more involved in influencing people's opinions than they used to be. They, quite literally, form the lens through which citizens view politics and, although they cannot vote, they can influence the opinions of the people. Additionally, citizens now expect that politicians act in line with their opinions and not in line with what these politicians as sensible and knowledgeable people deem to be best. If politicians do not act in line with the preferences of citizens, this can result in frustration and distrust among them. Because of all of this, the appreciation for, and trust in the notion of representation in the context of the political system is wavering.

Congruently, communication with citizens becomes an indispensable aspect of policymaking. Policies have to be adapted to the opinions of citizens. Being substantiated by a valid argumentation is not enough. Something has to be incorporated into policy if it is in line with the wishes, needs and expectations of citizens, almost regardless of whether something would be necessary or good.

Because of this, governmental institutions and the media investigate what and how matters should be improved, according to citizens. However, as Van Oenen stipulates, the paradoxical consequence of this is that there must arise such opinions among citizens. In other words, citizens are now expected to have formed an opinion about what and how things can be improved even if the status quo is already satisfactory. It starts to enforce the idea that there is always something to be improved. Polls and the media do not simply present the opinions and feelings among citizens, but actually start to form the perception that citizens have of reality, and through this, in a Foucaultian sense, also very reality itself. Considering it in this way, active participation by citizens could ultimately be regarded as disciplining.

According to Van Oenen, the new motto is "*actief burgerschap waar mogelijk, representatieve democratie waar nodig*" which roughly translates to active participation by citizens where possible, representative democracy where required. This aphorism epitomises and brings about the higher expectations of the possibilities of democracy, on both the sides of the government and on that

of the citizens. On the one hand, the government expects citizens to become more and more engaged, which leads to greater responsibility for citizens. On the other hand, citizens expect the outcome of the democratic process to be in line with their beliefs.

So, both the impression that representative democracy cannot meet one's expectations and the increase in the appraisal of one's own opinion can lead to great frustration among citizens. Accountability of policy-making could perhaps present a way out here, but as Van Oenen duly points out, this is simply very unpragmatic at a national level. Although reports on the general proceedings of the debates are created, this does not directly provide people with insight into why their specific, individual opinion was not directly incorporated into the policies that were formed. According to Van Oenen, this insight raises a principal point. Namely, that this train of thought disposes of the whole idea of representative democracy!

Unfortunately, the tension between feeling recognised by representative democracy (through being represented by a policy that reflects one's individual opinions) and the representative system that does not always lead to the desired or expected result, only continues to rise. The problem is that no norm can be applied to justify or to judge what would be the optimal or appropriate degree of democracy. Here, Van Oenen identifies a tendency to always expect more (direct) democracy and of feeling that there is never enough democracy. A key idea of democracy is that people can give their opinion which is taken into account in a transparent process. Unfortunately, it is hard to determine when this has been done to a sufficient extent.

2.2 The colonising of democracy by alien powers

Van Oenen continues by pointing out that various powers influence democracy and cannot be withstood. He identifies neoliberalism, the kind of liberalism according to which the government should function in service of the economy, as being the strongest of such powers. Whereas the government and economy were there to support the citizens in classical liberalism, citizens and government are there in support of the market, pursuant to neoliberalism.

The common aspect of all these powers is that they tend to influence the "*openbaarheid*", that is, the freedom of civilians to speak their mind without being held accountable for their opinions or influenced in their opinions by other forces. This concept, which is similar to the idea of public sphere once put forward by Jürgen Habermas, is, according to Van Oenen, one of the most important conditions for freedom in modern society. The fact that one cannot be completely independent of other forces and powers is not a problem in itself, according to Van Oenen, but the undermining of the public sphere by such powers is.

Through a comprehensive explanation of the concept of a public sphere, an exploration of its historical context and the philosophy of Jürgen Habermas, Van Oenen establishes that the public sphere and the economy are inevitably intertwined. More precisely, Van Oenen establishes the economy as the infrastructure of public deliberation (as a cultural and social endeavour), which, unlike the government, does not always need to be justified. Van Oenen embeds the idea of the colonising of the public sphere in philosophy by presenting the views of the philosophers Jürgen Habermas, Karl Marx, Michel Foucault and Jacques Rancière. Most notably, he explains how, according to Habermas, the system world, with its capitalistic logic and technological powers, colonises the life-world, in which we feel comfort in the social and cultural determinants, by

shaping the life-world to its needs. The public sphere and democracy, according to Van Oenen, are connected to both of these worlds, in the sense that they are influenced by, but also able to influence the worlds themselves.

After having argued that the very possibility of a public sphere within civil society as social and cultural deliberation depends on the capitalistic economy, Van Oenen considers four different problems for, or criticisms of, the public sphere. He feels that the public sphere and democracy are far from lost, but that it is important to gain insight into how the public sphere is (implicitly) colonised, such that it can be safeguarded against this.

The first problem which he identifies is the bombardment of the media with (alternative) facts. According to Van Oenen, we should resist the postmodern tendency to accept the existence of alternative ideologies and lack of authority. Instead, we should destroy such ‘attacks’ on democracy, that want to define the public sphere. Van Oenen refers to the sabotage of the differentiation between fact and alternative facts as “*desinformatie*”, which translates to disinformation, and argues that this is a reaction to and resistance against the attempt of society to organise itself without any higher authority.

Another issue is that despite or because of its pretence of openness, the public sphere excludes certain groups or individuals. Consequently, these can respond by striving for recognition within counterpublics, a term coined by Nancy Fraser, that, following Van Oenen, signifies their ‘own’ disjoint public sphere. These counterpublics can have a constructive, emancipatory ability if they illuminate problems and integrate groups with the general public sphere through this. Conversely, these counterpublics can also be considered antipublics when they aim to sabotage the general public sphere and solely elevate themselves.

Closely connected to both these two criticisms is that of transnationalism, which counterintuitively might not lead to stronger connections between people of different nationalities, but to stronger connections among people of the same nationality. The problem is that, as societies are becoming increasingly diverse and multinational, this would need to be the case for a public sphere as well, while it is not.

Finally, Van Oenen addresses the problem of neoliberal logic. Before doing so, however, he stresses the point that unlike Hannah Arendt and Jacques Rancière, he does not feel that democracy can or should be fully separated from social and economic relationships. Rather, he would like to provide the reader with insight into the problematic relationships of such powers with democracy and citizenship. Focusing on neoliberalism and its differences with liberalism, Van Oenen points out that the ideas that the government should serve the economy, and that citizens are expected to actively participate as a consumer in the market, could eventually constrain democratic policymaking. Neoliberal financialisation constructions negatively affect the public sphere and the relationship between the public sphere and private life, as individuals become responsible for what happens at a collective level by the choices that they make in the market. Citizens are expected to make choices as a “*homo economicus*”, making a precise, rational trade-off between current and future cost, negative externalities etc. For example, if one wants the Netherlands to become more sustainable, this should manifest itself in choosing green energy. People are beguiled to commodify their social and cultural surroundings. Ultimately, this can result in the perversion of certain social goods and the deterioration of their non-economic value.

2.3 Democratic metal-fatigue

In this chapter, Van Oenen argues that there is a profusion of democracy. This starts to take its toll on citizens, who become incapable of handling the pressure of the responsibility that comes with active participation. Like metal can only endure a limited amount of bending before it breaks, certain generations, especially those who have only known this profusion of democracy, start to experience burn-outs and the incapability to meet the demands of democratic citizenship. More specifically, it is not necessarily the activity of participating that makes it so hard to endure, but rather the awareness of the demands that puts citizens under pressure. It is important to note that Van Oenen does not envision democratic metal-fatigue as a lack of motivation to participate, or tiredness of politics, but rather as the very incompetence to still do it anymore.

Van Oenen identifies democratisation as the political consequence of the process of emancipation that started during the Enlightenment. Concurrently, the value that is attached to democracy could also be identified as disciplining, in a Foucaultian sense, because active citizenship comes with and corresponds to a greater responsibility on the side of citizens. Put differently, the freedom to think comes with the responsibility to think. For example, citizens are now expected to continuously evaluate whether the institutions that facilitate the functioning of democracy do so according to correct norms, for instance, while allowing all citizens the possibility to raise questions and objections concerning the proceedings of the democratic process.

Furthermore, Van Oenen argues that, whereas politics traditionally was mainly collective, it has become important for the individual as well because it is necessary for one's unfolding and self-understanding as a modern citizen of a western democratic society. Through the practice of democracy, not only politics is determined, but citizens also determine themselves. Likewise, the private becomes the political, because awareness is created, for example by feminism, that the power relations within a household manifest themselves in that of politics.

Concurrently, the state starts to move away from its authoritative image and becomes, willingly, responsive to the wishes and needs of its citizens. Interaction has (almost) become an end in itself and citizens have become co-producers of political policy. Unfortunately, they start to snap under the weight of this task. They become 'interpassive', a term coined by Van Oenen, that hovers between the definitions of passive and protest. At the same time, Van Oenen argues, this process of interaction has now evolved so far that the system can anticipate what citizens want and need, and that active participation by citizens has become redundant because the government can now do this in name of the citizens. It should be noted that this does not make the government more authoritarian, but, following Van Oenen, that it could even be argued that this emancipates the will of the citizens.

Van Oenen identifies the blank vote as the refusal of the refusal to participate. According to his reasoning, blank voters are not protesting but simply refuse to express themselves through voting and have not become opponents of a democratic society. Rather, it could be considered as a consequence of interpassivity, as a symptom of the diagnosis of democratic metal-fatigue.

2.4 Algorithmic democracy

Van Oenen argues that due to the interpassivity that results from democratic metal-fatigue, the government starts taking care of the interaction with citizens to find out their opinions, paradoxically, with less input by citizens. This new form of democracy acts in name of its citizens by anticipating their wishes and needs, to accommodate for the aspiration of interaction but the incapability (on the side of the citizens) to provide this. In other words, Van Oenen notes, this happens when the quantity or quality of interaction from citizens deteriorates or becomes ineffective. According to Van Oenen, this could be regarded as the completion of the project of emancipation, as epitomised by the interaction between government and citizens and the responsibility of institutions. When analysing the idea among some citizens that democracy is failing because it does not take into account the opinions of its citizens, we now see that the opposite has rather become true as it even anticipates these!

Van Oenen identifies various institutions that have been set up by the government with the sole purpose of obtaining a better understanding of the sentiment among its citizens. In this way, Van Oenen argues, the support of emancipation by the government is a means to get a better grip on that emancipation. Facilitating becomes disciplining, but not necessarily in a negative sense, as it is aimed at fulfilling the wishes and needs of citizens. To this end, it relies on feedback and data retrieved through polls, institutions, etc. In doing so, the government might understand the people better than they understand themselves. As the government proactively becomes interactive, Van Oenen argues that the political system could be regarded as a service.

Nevertheless, Van Oenen points out that there is a Foucaultian downside to this. As he puts it, whoever can accurately fathom the people to such an extent, also holds the power to control the people. Van Oenen raises election polls as an example of the proactive facilitation of interaction as it aids the voter in determining its vote. Nevertheless, Van Oenen finds that for example, such polls do not force citizens to do anything. Following his reasoning, citizens simply do not determine their will themselves anymore but find it out through such a service.

Furthermore, Van Oenen states that not only the government but also the market becomes a service. In a similar fashion as the government, companies rely on feedback and data of their customers to further the wishes of these. Duly, Van Oenen notes that companies not only try to accommodate our preferences but also to influence them at times to maximize profit.

So, in both politics and the market, agents proactively try to determine choices and preferences in advance. This anticipation becomes more and more accurate through existing technology and algorithms. In that sense, Van Oenen notes, we are consumers (of the service that is being optimised to suit our needs) and providers (of the data that is used to do so). Our ability to make our own choices and determine our preferences is not taken away from us, but the possibilities in which we think are determined. Many objections have been made concerning the transparency, privacy and validity of the use of data by governmental agencies and companies alike. Nevertheless, not doing so would often result in a big disadvantage.

Van Oenen sees an opportunity here. By using big data and such algorithms, the preferences and considerations of citizens could be simulated and represented. Such a form of representative democracy could be argued to be just, according to Van Oenen, if the algorithm could create an accurate (or just as accurate as by the current political system) overview of our preferences and interests, which can then be incorporated into political opinion and policymaking. The algorithm

is similar to a coach and not to a commander because it does not proclaim to know things better nor forces us to do anything. One way in which this could be facilitated, according to Van Oenen, is through nudging as this could enable citizens to realize their intended interactive potential. Although nudging takes away the normative, critical dimension of determining one's own decisions, Van Oenen argues that it is justified because it only nudges citizens to do what they would want to do anyway (which was determined by the algorithms). Following this reasoning, nudging, in the context of mental-fatigue, is not to be considered paternalistic as the government does not make citizens do what is desirable. Through the use of algorithms, we can make sure that the nudges further the already existing wishes, needs, preferences of citizens. Consequently, an algorithmic society with nudging can only be justified when it is assumed that we live in a society where the people are emancipated and democracy functions at its highest level. It is what Van Oenen calls the democratic-algorithmic autopilot.

Van Oenen concludes his book by proposing the idea that a form of algorithmic democracy could solve the problems of democracy. It could be combined with deliberative democracy to verify the output of the algorithmic democratic process. In that way, according to Van Oenen, we can have the best of both worlds.

Chapter 3

On Constituting Political Opinions

In this chapter, I intend to build upon the arguments provided by van Oenen in his book *Overspannen Democratie*, of which some chapters were elaborately discussed in the previous chapter. More specifically, I wish to stress the point that democracy, but more specifically its current form of institutionalisation, is not appropriate under contemporary circumstances, like that of the media-bombardment, information bubbles, disinformation, democratic metal-fatigue and interpassivity.

3.1 The Perversion of Votes

In the previous chapter, we saw how certain powers, and in particular neoliberalism, colonise the public sphere, which lays at the heart of democracy. Van Oenen postulated that the influence of such powers does not necessarily endanger the public sphere. This influence is unavoidable because the very possibility of social and cultural deliberation is intertwined with the arrangements of a capitalist society, like theatres and coffee houses. On the other hand, the undermining of the public sphere by these powers does pose a problem, because this interferes with the free deliberative process.

Following his reasoning, neoliberal views negatively impact the public sphere, mainly due to the ideas that the government and citizens, respectively, should be in service of the market and act as consumers on the market. As, through such logic, the government is expected to base their policy on benefiting the market and citizens are expected to make choices as if they are rational economic agents, goods become ‘perverted’ because their value deteriorates to merely an economic one. In the worst-case scenario, the phenomenon of financialisation could become an end in itself, leading to the commodification of what is, or was, considered to be social or cultural.

However, this is not the only issue that follows from or can be linked to neoliberalism. Corporations have become so powerful in contemporary society, that they are now able to influence voting behaviour. Strange enough, such endeavours are not illegal and only a limited amount of time, effort and money has been invested in matters like researching and safeguarding online privacy. This only emphasizes the power that the government indirectly grants corporations.

The intentional influence of certain entities on the voting behaviour of citizens is also something that van Oenen briefly touched upon in his book. However, this phenomenon might be more corrupting to democracy than foreseen and, because of this, poses an interesting topic for further exploration.

A relatively recent, but arguably the most famous example of such an interference with politics can be found in the pursuits of the notorious company Cambridge Analytica. This data analytics company hit headlines when it was suspected of having played a major role in not only the public referendum of the United Kingdom, concerning its European Union membership (commonly known as the Brexit referendum), but also in the election program of the former president of the United States, Donald Trump. The whistleblower that caused all this uproar is a now 31-year-old data consultant, Christopher Wylie. In 2018, Wylie opened up to *The Guardian* about the unauthorised use of personal data, mined from tens of millions of Facebook profiles. This data was used for operations that targeted users based on psychological traits, to influence their political views through digital advertising campaigns. (Cadwalladr, 2018)

This example illustrates what the intentional manipulation of the political views of citizens can accomplish, and consequently, also the gravity of such undertakings. It can be deduced that the political views of citizens and thus, of voters, are not necessarily constituted through rational deliberation in a public sphere, free from external powers. In this case, political views were pushed into certain directions by a profit-driven corporate power. One could argue that the votes resulting from manipulated political views are ‘perverted’. Companies used these votes to realise a favourable political outcome, that is, favourable for the market or for the party that paid the company. The value of a vote deteriorated to a merely economic one as it became an instrument, fueled by money, with a purpose that was quite probably of an economic nature. Although it is very much true, like pointed out by van Oenen, that the existence of the public sphere relies on that of the social endeavours enabled through the market, it should not be the case that it is directly influenced by it, seeing that democracy starts to crumble when it does not rely on free deliberation anymore.

Interestingly, the intentional, targeted influencing of people’s opinions is not as uncommon as one may think. Although it is widely known that marketing strategies do so, it is often being done in politics as well. As Wylie notes, SCL Group, another company of whom a subsidiary, SCL Elections, would later found Cambridge Analytica, has done such things in more than 200 elections in the world. Many of the countries in which these elections took place were not able to guard against such interferences. Furthermore, there even is a term for altering the (political) views of people, based on their psychological profiles. This term is “psyops”, which is short for psychological operations. These psyops often rely on “informational dominance”, a set of techniques that includes rumour, disinformation and fake news, and does not rely on any deliberative, argumentative forms of persuasion. (Cadwalladr, 2018)

3.2 Conditions Entertaining the Possibility of This Perversion

As plain as it sounds, the media is the lens through which people perceive politics, however curved or opaque it may be and whatever distorted vision might be presented. As pointed out by Van Oenen, we are surrounded by disinformation, which sabotages the status that facts once held. Van Oenen argues that disinformation could be regarded as a reaction to but also as a form of resilience against the excessiveness of democracy that characterises contemporary Western society, where higher authorities are often downplayed rather than respected and recognised. However, disinformation is not only a reaction to and form of resilience against the excessiveness of

democracy, but, could, together with the omnipresence of media, also be regarded as one of the conditions of contemporary society under which its polarisation and fragmentation can occur.

Before we delve into the reasons for this, let us first get acquainted with the concept of information bubbles. As pointed out by Van Oenen, counterpublics could be argued to have their own disjoint public sphere. Information bubbles are similar in this sense. Nevertheless, counterpublics also entertain the possibility for those groups that fall outside the general public sphere to recognise themselves within this disjoint public sphere, and thus, within a group. When counterpublics gain a substantial rank and file, this leads to an emancipatory potential, as they can make themselves heard within the general public sphere and eventually even integrate into it. For information bubbles, this is not the case. Once one finds oneself inside an information bubble, it is hard to escape it. Generally, people in the same information bubble share the same interests or views. Consequently, when inside, one is only confronted with one's own worldview or a more extreme variation of this worldview over and over again and the chance of coming across new ideas diminishes. As people are continuously confronted with the same arguments and opinions, it is only logical that they start to adopt these as their own and consider them as the only ones legitimate. One can imagine that the more often this happens, the further a bubble starts to drift off from the general public sphere.

So, why does disinformation, in the context of the media, further polarise and fragmentise society? The answer to this question is that in the context of social media, like Facebook, which are bombarded by disinformation, counterpublics are quite likely to evolve into information bubbles and subsequently into antipublics. The algorithms in place in (social) media, tend to present one with similar views as one already holds. Differences in opinion and world view between different bubbles, *especially* once based on alternative facts, are only deepened. This can easily lead to hostile behaviour towards 'others'. The focus becomes to further the wishes and needs of those who have a similar, supposedly rational and true worldview, and thus of those who find themselves in the same bubble only. Instead of integrating into the general public sphere, counterpublics evolve into antipublics that only distance themselves from what is left of the general public sphere and lose their constructive and emancipatory potential.

To influence politics, Cambridge Analytica relied on the Breitbart doctrine, which, according to Wylie, means that "If you want to change politics, you first have to change culture because politics flows from culture." (Wylie, 2018) In an interview with the Guardian, Wylie added to this that if you want to change culture, you have to understand and change the units of culture, that is, the people, for example, through psyops. In Wylie's words, psyops "change the perception of reality". They operate by targeting people not as voters, but as personalities. By creating psychological profiles Cambridge Analytica could analyse what kind of posts a person was most susceptible to, including for instance its framing, topic and tone. Consequently, all different types of content, like posts, blogs, photos, etc. were developed based on these criteria. People could now be targeted with the appropriate content, in the appropriate places, at the appropriate times and a specific number of times, so that this would lead to the precise change in their perception of reality, that was envisioned for them.

It is highly likely that these psyops amplify the effect that disinformation already has on the rise of phenomena like information bubbles and antipublics. Conversely, psyops, are effective, precisely because people are already bombarded with alternative facts. As the validity of facts is put up to question, and an age of disinformation arises where a recognised authority is absent,

people become more and more susceptible to psyops. People feel that they cannot trust any authority. They might experience difficulties in distinguishing between fact and fiction and have to rely on their own opinion. These opinions are constituted by their own perception of the world because one naturally expects that what one sees and experiences is the only thing about which one can assume that it is true. A downside is that the reality of people can, because of this, more easily be affected by psyops. As people feel that they cannot rely on any authority, the (dis)information that they are presented with is the only perception of reality which they believe is true. Consequently, they fall prey to phenomena like confirmation bias, the Baader-Meinhof phenomenon, and synchronicity, to name a few, and start to perceive reality in an entirely different way.

Moreover, firms like Cambridge Analytica can analyse the psychological make-up of such a bubble and target the whole bubble with only a few posts. It is reasonable to expect that those users who share the same psychological and political profiles find themselves within the same information bubbles. This could make the targeting of such groups by political advertisements a lot easier, as the infusion and triggering of certain views within the bubble will spread throughout the rest of the bubble, like a disease. Like pointed out by Wylie as well, the possibility of shared experiences and understanding within a society diminishes which poses a problem to the functioning of society. Nevertheless, he points out that this is beneficial to those who want to fundamentally change society as to do so “you first have to break it” and “it is only when you break it that you can remould the pieces into your vision of a new society”. (Wylie, 2018)

Finally, the interpassivity and democratic metal-fatigue that characterises citizens living in this age of democratic profusion might also be a factor contributing to the effectiveness of these psyops and disinformation. As civilians start to experience symptoms of interpassivity and do not have the energy to actively participate in the deliberative process to the extent that they and the government expect of them, they start to rely on other things to form their political opinion, like what they read on Facebook.

3.3 The Ramifications of This Perversion

“Instead of standing in the public square and saying what you think and then letting people come and listen to you and have that shared experience as to what your narrative is, you are whispering into the ear of each and every voter.”

- Christopher Wylie (2018)

What we have seen is that not only the possibilities in which we think are predetermined by other entities, like explained by van Oenen, but also that the very perception that people have of reality is reshaped.

The quote above, taken from an interview with Christopher Wylie, demonstrates precisely what should be prevented. As also noted by Van Oenen, the concept of a public sphere, where people are free to speak up and free from the influence of other forces (as far as possible) is an essential condition for freedom. Again, the fact that one cannot be completely independent of other forces is not so much a problem. Rather the undermining of the public sphere by powers, like Cambridge Analytica, very much is.

Representative democracy is not what it once was, and does not cope well with the omnipresence of (social) media, disinformation and conditions of democratic-metal fatigue. According to van Oenen, we are consumers and providers of the democratic process (and the market) at the same time. But is this really the case? Have our opinions, and thus our votes, not become perverted in the sense that we are now in service of the corporations to vote for political outcomes that are favourable and beneficial to these corporations? Has citizenship not become a service to the market as the votes of citizens are merely economic instruments for profit-driven companies? Have we already been caught up in the neoliberalist logic to such an extent, without even realising it? Can we even call ourselves emancipated?

There is a tendency to reject or fear algorithms which, as we have just seen, is not entirely out of place. However, to make sure that the previous questions are prevented from fully becoming reality (rather than a possible future reality), politics cannot stay behind. If the government does not undertake any measures against the influence of the “full-service propaganda machine” (Wylie, 2018), like that of Cambridge Analytica, companies have free play. Perhaps a suitable way to combat algorithms is through using the power of algorithms themselves. Actually, algorithms are already used in politics, although not always in a desirable way. The Dutch party Forum voor Democratie has already admitted to using the same kind of methods as Cambridge Analytica. If action is not taken quickly, politics might become a game of influencing people’s views. In the following chapters, we will explore how algorithms might be used for the better and what this could lead to. Like addressed by Van Oenen, one thing is certain: the government cannot just passively stand by, watching how alien powers corrupt the public sphere and undermine democracy.

Chapter 4

Reimagining Democracy

The question is what such an algorithmic society would look like. Van Oenen mentions various forms of institutionalisation for an algorithmic society, based on the use of big data. The most radical form would be the one in which algorithms completely replace democratic representation. Another possibility is one in which the deliberative and algorithmic processes become complementary, in the sense that they control, assist or support one another.

Specifically, Van Oenen delves into the combination of an algorithmic democracy with nudging. However, as he also attends the reader to himself, nudging can only be regarded as emancipating or democratic when it nudges behaviour that was originally intended to be undertaken by emancipated democratic citizens, but which could not be undertaken, for example, due to the condition of interpassivity. As nudging is a powerful tool, it could become dangerous and deceptive in the hands of those with a manipulative motivation. Furthermore, in my opinion, it also greatly depends on what is being nudged. For example, the nudging of voting could be considered to be a valuable nudge, with no harmful consequences. Contrarily, nudging citizens in what to vote is not as this undermines the deliberative and argumentative nature, like in the Cambridge Analytica scandal. Therefore, nudges by political parties already find themselves in a grey area. Combining algorithmic democracy and nudging is perhaps too challenging to realise because of this thin line between nudging in a democratic/emancipating way and in a manipulative way.

The institutionalisation of the algorithmic democracy that is presented below, in the form of a thought experiment, is more like what Van Oenen proposed in a later chapter, where he hinted at the use of a voting advice application in which we make our preferences and opinions known while the government remains mostly deliberative, as to not do away with the symbolic, cultural and theatrical aspect of democracy. The thought experiment presented in this chapter, however, proposes a more fundamental change of the institutionalisation of democracy by replacing the Second Chamber with an algorithm and letting the First Chamber serve as a policy-making, controlling entity. In other words, one could say, not just “Omtzigt functie elders” but “iedereen functie elders”.

4.1 The Second Chamber

For this, arguably quite radical, experiment, we replace the Second Chamber of the political system in the Netherlands, as currently instituted, by a combination of various algorithms. The main purpose of these algorithms is to accurately create an overview of the various opinions, preferences and sentiments, their prevalence within and their significance to the Dutch population. This can be done by periodically surveying the population, say once a year and analysing the data that is gathered with the help of an algorithm.

The surveys are similar to the election polls that are used more widely every year to determine one's political standpoint. They also remind of the voting advice application proposed by Van Oenen. However, the surveys are different from both of these as they are targeted at the core norms and values of people, rather than at their political opinions. To ensure that every person understands them well and can have an adequately developed and valid opinion about it, they are of a simplistic nature. So, for example, it does not ask to reply to the statement, "The Netherlands should exit the European Union", with 'yes', 'no' or 'none of both' but rather to answer a combination of questions on various topics that will be affected by this. For instance, one of the questions relating to this statement could be, "On a scale from 1 to 10, how important do you rate free trade with all of the EU countries?". Another example is to replace the statement "More nature parks have to be located in the Randstad." with, among others statements, the statement, "Within x minutes I want to be able to access nature." where the number x has to be filled in.

One might wonder why a survey would be a suitable format for retrieving the required data that serves as input for the algorithms. Considering that companies have succeeded in making sophisticated psychological and personal profiles of us, why could the government not do it in the same manner? Of course, the alarm bells of those who value their privacy might start to ring here. Others may find this completely agreeable, as our behaviour is already tracked very closely to optimize the marketing strategies of companies like Instagram and that of their partners. Nevertheless, there is also another reason why this idea must be opposed. When filling in a survey, one consciously makes normative decisions about what one believes is right. The norms and values one holds might, unfortunately, not always correspond to the way in which one acts. Simply analysing behaviour would therefore result in an inadequate picture of the beliefs and opinions of the people and certainly not in a better world. This is closely connected to the problem of neoliberal logic that was addressed before, and the example concerning the choice between green energy, or a cheaper variant. People simply do not always make rational choices that reflect their values.

The algorithms that analyse the input try to form a representative model that accurately portrays the population and can predict what people's opinions and preferences on certain political issues would be (were they highly informed about the matters connected to these political issues), with a satisfactory level of significance. Finally, the preferences of those citizens who did not fill in the surveys can simply be modelled by the algorithms.

To make the workings of these algorithms more concrete and realistic, consider the following. In a pragmatic sense, the second chamber, as is, could be regarded as an entity that approves or disapproves laws before they are instantiated. Typically, these laws were devised by the different departments of the government, like the Ministerie van Onderwijs, Cultuur en Wetenschap and the Ministerie van Infrastructuur en Waterstaat. In fact, the text for certain laws has often

already been formatted in such a way that laws can simply be updated by adjusting certain variables in the laws, like the number of refugees that should be taken in or the sentence for a certain criminal offence. The values of these variables can be optimised by the algorithm in such a way that best fits the preferences of the citizens. It is important to note that the algorithm does not decide on matters, permits and penalties alike, in real-time. Although this would make democracy very direct, in the sense that every individual case could now be adapted to the will of the people, and would require fewer government officials, this would cost us the certainty that the rule of law provides us as it now fluctuates in its judgement.

Artificial Intelligence (AI) algorithms and Machine Learning (ML) are promising tools to incorporate in the algorithms. They are state-of-the-art and have been proven to be highly accurate. These methods can link and relate topics to each other in ways that could not be envisaged by humans. However, whereas Van Oenen speculated that the algorithm that he envisioned might lead to a better understanding of the preferences of citizens, this algorithm moves past the concept of understanding in the sense that the output needs to be interpretative.

4.2 The First Chamber

The First Chamber will also be adapted to facilitate the algorithmic decision-making process that will replace the Second Chamber. It will mainly serve as a controlling and monitoring entity but also be the one that eventually finalises and votes for the policies.

After the algorithms created a certain policy based on the preferences, wishes and needs of the population, this policy can still be adapted to what the politicians of the First Chamber think is best. The output of the algorithms could be conceptualised like a model that can be tweaked. For instance, an increase in expenditures of health care added by the First Chamber leads to a decrease in expenditures where this would be judged the best suitable place by the algorithm. There are, however, certain constraints that cannot be broken. These constraints are those of entities like the EU, UN etc. but also, for instance, those that make sure that there will be enough houses in the future.

The politicians are limited in the extent to which they can tweak the policy. Nevertheless, they do have a right to veto (which needs a majority of votes). If such a situation arises, a new survey will have to be designed in such a way as to find the best policy to tackle the problem or a new law might be proposed allowing for a larger solution space. In other words, a creative solution will have to be found by the First Chamber to resolve the problem at hand. Furthermore, the First Chamber is also in charge of aspects of the algorithm like deciding what the error margins for the different estimations incorporated in the models may be.

Finally, it is important to note that the First Chamber in this paper is made up of politicians that are experts in various fields. For example, it includes experts in agriculture, economics, external relations, biology, jurisdiction, etc. These function as full-time politicians with as few conflicts of interest due to ancillary activities, as possible.

Chapter 5

A Solution to All of Our Problems?

Before we delve into the consequences of the proposed form of algorithmic democracy, let me briefly sketch the context of democracy that it will lead to. The endless talk shows and TV programmes broadcasted during the weeks of upcoming elections will shift their attention from the politicians, and their empty promises or personal issues, to political issues that are actually on the agenda. These political issues will be analysed differently, however, as the questions that need to be answered are fundamentally different. The emphasis will not lie on personal characteristics like charisma, but rather on the nature of problems and how these affect people. Ethical debates might gain popularity and debates about complex political issues might move to the background. Whether this is desirable is highly doubtful as debate about political issues unquestionably ameliorates understanding about such issues. This understanding might be a prerequisite for the programming of the algorithm. Nevertheless, let us look at the existing problems before we venture off into endless speculation.

5.1 On Representation and Interpretation

According to Van Oenen, the justification of an algorithmic democracy resides in the fact that preferences and needs can be incorporated into policy forming and political decision making at least as good as, or even better than, by the current democratic process. This is also very true for the institutionalisation proposed above, as the personal norms and values of every citizen serve as input for the algorithm.

In fact, I believe that it will lead to a better understanding and incorporation of the preferences and needs among citizens, because of several reasons. First of all, by the abandonment of a system with political parties, every preference and opinion on every issue is directly incorporated into every policy. This will be a resolution to various strange situations that arise because of the political system with parties.

A problem of democratic representation that Van Oenen illuminated in his book, is that people tend to vote for politicians rather than for parties, which nonetheless leads to seats for other politicians of that same party. In a way, the views of individuals that make up political parties have become more important than the general views of political parties. This is not so strange as it happens increasingly often that people leave a certain political party which then results in

a seat for themselves. Take, for example, ex-50PLUS politician Liane den Haan who left her seat only six weeks after the previous election! What is worse, is that she was the only politician having a seat that represented the party 50-PLUS, so that currently the views of 50-PLUS are not represented in the second chamber anymore, while people did vote for this. It could be considered quite strange indeed that a politician can make such a decision without consequence. As in these situations, politicians are not replaced by another party member, this proves the point that individuals and opinions of the people who voted for this person have become more important than their parties and the views of the people that these parties represent.

Another undesirable scenario, although not so unthinkable as it may seem, is voting based on fame instead of based on qualification. One may think of such practices as only happening far away, like in the United States of America, where a rapper, Kanye West, ran for president. However, there are also cases of this to be found in the Netherlands. Take, for example, the political party, the Christen-Democratisch Appèl (CDA), who enlisted Lucille Werner, a disabled person and famous TV presenter, quite high on their election list. Perhaps they did this to represent disabled people, but one could also imagine that it was done to attract voters who knew her from Lingo, a famous TV programme in the Netherlands. Their exact incentive for doing so is up for speculation, as it is not because of her experience in politics. Consequently, however, other members of the CDA, with many years of experience in politics and valuable qualifications, saw their chances of taking a seat in the second chamber abate. Some decided to quit. This, perhaps to be considered quite a desperate manoeuvre of the CDA, did not pledge loyalty to the idea of instituting sensible, knowledgeable politicians that can skillfully deliberate about important national matters. Moreover, this did not only leave some of the members of the CDA offended, but it might have also caused voters that initially wanted to vote for CDA to now refrain from doing so, as they certainly did not want their vote to go to Lucille Werner.

Before we lose ourselves in an analysis of the historical loss of seats for the CDA and the issue faced by 50PLUS, let us take a step back. The main point here is that political parties are moving away from the idea of a representative, deliberative democracy and start to undertake odd manoeuvres to attract voters. Whether they can be blamed for this is not clear. During times of interpassivity and mental fatigue, this might be one of their last resorts. Fortunately, however, these kinds of strange situations vanish as a result of the abolishing of the system of political parties.

Another reason why the proposed form of institutionalisation might lead to a better understanding and incorporation of the views of citizens is the following. Within our current representative democracy, if one votes for a political party, it rarely happens that one votes for a party that is exactly in line with all of one's wishes and needs. As addressed by Van Oenen, not every citizen can be labelled as belonging to a single group. Nevertheless, representation by political parties is not needed anymore because the algorithm directly transforms the input of citizens to a sensible output automatically (with the help of the First Chamber).

A final reason why I believe that it will lead to better representation, as far as it can still be called *representation*, is because the surveys demand less political knowledge on contemporary issues. Democratic mental-fatigue leads to a state of interpassivity, where people simply cannot bring up the effort to interactively participate in the democratic process. This leads to a situation in which they do not always base their opinions on argumentative deliberation like has been addressed before. Furthermore, some people might not grasp the complexity and normative

dimensions of problems, which could be considered as a prerequisite to a valid opinion on them. Finally, as addressed in the previous chapter, votes can become perverted by the intentional influence that some corporations exert on citizens. These problems are solved by designing the surveys in such a way that they can be filled in by anyone, without any knowledge of contemporary society, because it mainly focuses on norms and values.

Similarly, I believe that citizens do not only become represented in a better way but also that their wishes and needs can be better accommodated. In the first place, because of what was just explained. When there is a more detailed and accurate overview of what citizens want, the policy that is designed naturally fits better with this. In the second place, because the algorithms can draw links and discover relations which humans do and cannot think of themselves. As also noted by Christopher Wylie, it can translate to odd patterns. For example, he found out that “People who liked ‘I hate Israel’ on Facebook also tended to like KitKats”. (Wylie, 2018) The workings of algorithms that make use of AI and Machine Learning can be considered a black box. You do not know what lead to certain relationships, you only know that they exist, how illogical or strange they may seem.

5.2 On cultural and symbolic significance

Nevertheless, the proposed form of institutionalisation disposes of the idea of representation by political parties, or, on a more individual level, by certain politicians. Although representation, as explained by Van Oenen, already was of a merely symbolic significance because people cannot be divided into distinct groups in contemporary society, the extent to which people can recognise themselves in parties or people diminishes with the replacement of the Second Chamber by the algorithm. Some might therefore feel inclined to object to the proposed institutionalisation, fearing that the cultural and symbolic significance is lost. However, by retaining the deliberative element in the form of the First Chamber and instituting experts from different fields, some of the symbolic, cultural and theatrical nature of the deliberative democracy may still be preserved.

Let me dive a little deeper into the function of the First Chamber. As mentioned before, it serves as a controlling entity that tweaks and votes for policy, based on what the algorithms deduce from the periodic surveys. To construct policies, creative solutions might have to be found. For example, one can imagine that for certain ethical debates, many different emotions and historical events are at play among the stakeholders. In such cases, a compassionate and unique approach, for example, might fit best but the algorithm can only come up with a solution that has been used for a similar case before. Through algorithms, we might deduce strange relationships and odd connections, but thinking of something new for these kinds of issues is still troublesome. This is where the First Chamber comes in. It can provide a creative element as well as deal with issues like empathy and emotion. Similarly, it might be hard to quantify certain things or unpredictable events, like the COVID-19 pandemic. Of course, one could incorporate certain principles as constraints but a lack of guidance and creativity could easily lead to cases of infeasibility. To work around such deficiencies, the First Chamber is crucial. It can tweak solutions in such a way to accommodate for, among others, the problems that come with quantification and unpredictable events.

The consequence of this is that the most difficult, ethical debates persist in the First Chamber, and so does the symbolic and theatrical aspect of debate, although perhaps to a lesser extent.

The question remains, however, whether this would be enough for citizens to accept the new form.

In a series of articles for *De Correspondent*, David Van Reybrouck discusses three possible remedies, populism, technocratic government and anti-parliamentarianism, for what he calls the democratic fatigue syndrome. He defines a technocracy as a society where the needs and wishes of a population are taken care of by experts who, according to him, are like managers who create policy by civic engineering. He argues that some countries have already incorporated technocratic ideals into politics, like Italy, when they appointed people with economic expertise in times of economic distress, like Loukas Papadimos and Mario Monti. Nevertheless, he finds that although people tend to trust the power to experts, who presumably have no hunger for power, this tendency diminishes when they take measures that are hard to deal with. (Van Reybrouck, 2013)

Of course, the proposed form of institutionalisation in this thought experiment is fundamentally different from what he defines as a technocracy. Direct participation from civilians is possible through the periodic surveys and the experts instituted in the First Chamber are not merely of an economic background. Nevertheless, the point he raises about the issue that backing for expert politicians diminishes when they impose measures that people are reluctant to accept, is a viable one. But it simply cannot be the case that people agree with everything. For example, adhering to the needs of future generations is a well-known issue for democracy. Future generations do not have a vote in the current democratic process, but their well-being is affected by it and arguably deserves to be safeguarded. Those who do have a vote are inclined to vote for something that they deem best for the coming four years, or for their lifetime, not for the four years, one hundred years from now.

5.3 The Remedy for Democratic Metal Fatigue?

Moving on, let us find out whether the proposed form of institutionalisation of an algorithmic democracy remedies democratic metal fatigue, as diagnosed by Van Oenen.

The pressure on citizens, that flows from the high expectations that they but also the government has of them, as emancipated and participatory citizens, will not increase but decrease with the help of an algorithmic democracy in its proposed form. The algorithm that Van Oenen envisioned proactively takes interactivity into its own hands by anticipating the opinions and preferences of citizens. By taking care of the need for interactivity through simulation, prediction and modelling this new form of democratic representation alleviates the pressure from citizens as their wishes and considerations are imitated and they do not have to actively declare these themselves. It happens ‘automatically’ and, arguably, more efficiently.

In the form of algorithmic democracy proposed in this thesis, however, a certain amount of participation is required. Yearly surveys that need to be more elaborate than a simple voting poll, are a prerequisite as this serves as input for the algorithms. Is this not just a case of more democracy again? Are we not falling into the same old routine? No. To participate, citizens indeed have to fill in a survey, but they need not have submerged themselves within the highly complex and multidimensional political issues, of which it is only the question of whether they understand them, even if they try to do so. The burden of normatively and rationally evaluating contemporary society is lifted from them. The reason for this is that the survey is targeted at simple norms and

values and that consequently everyone can answer the questions legitimately.

Will the proposed algorithmic democracy also solve symptoms, like the blank vote? Van Oenen identified this symptom as the refusal of refusal to participate, a consequence of the interpassivity that flows from democratic metal fatigue. The answer to the question of whether this will also disappear is probably yes. If the proposed algorithmic democracy alleviates the expectations from citizens and remedies democratic metal fatigue, its symptoms will also fade and more people will probably participate in the survey. Moreover, those who do not wish to engage, because they still feel it might be too big of a burden, can simply leave it up to the algorithm to model their wishes and needs with high precision. However, it could, of course, also be the case that it continues to exist when it is not simply a consequence of interpassivity, but an expression of discontent with the political system. In that case, there will be blank votes in any political system.

5.4 Algorithmic Accountability and Transparency

Something extremely important to stress is that a considerable amount of time and effort will have to be invested into designing a scheme for algorithmic accountability and transparency before the proposed form of democracy could be instantiated. Now already, the technological and algorithmic accountability and transparency lag behind recent technological developments and their effects on contemporary society. This has become clear in this thesis as well through the illustration of the scandal of Cambridge Analytica. If we would like to adopt the institutionalisation as described before and use algorithms on a much greater scale, radical advancements will have to be made in this area of jurisdiction.

The first and foremost reason why time and effort has to be invested in developing such schemes is that whoever knows the people also holds the power to control them. Because of this, it might be best to not make the exact relationships and links that the algorithm finds public. Making the proposed policy and the tweaks of the First Chamber public might be transparent enough.

On the other hand, transparency is also highly important for accountability. To this end, two things will need to be made transparent. First, the reasons for formulating the questions of the survey in a certain way have to be clear and legitimate. Duly noted by Van Oenen, algorithms like that of Netflix, do not take away the possibility to make your own choices and develop preferences, but they do determine the architecture of choice in which we find ourselves. A similar thing holds for the formulation of questions. It is not without reason that separate studies exist on the way questions can be formulated and answered. Both aspects have a definite influence on the responses. To ensure that the questions are not framed in a biasing way, an independent team will have to be appointed to formulate the survey. The reasons for formulating the questions in specific ways will have to be approved by the First Chamber as well.

Furthermore, it also has to be clear what is being optimised and what trade-offs are being made within the programming of the algorithms. In decision-making processes, Reuben Binns distinguishes between explicit programming, “in which existing knowledge about the world is formally represented, enabling software agents to make inferences and reason on the basis of that knowledge” and machine learning, which “involves training models with learning algorithms, using large datasets of relevant past phenomena (often generated as a by-product of digitally-mediated human activity), to classify or predict future phenomena”. (Binns, 2018) In the first case, identifying the trade-offs is easy and they can be labelled as legitimate or illegitimate. In black-box

algorithms like that of machine learning, however, it might not always be possible to find these out. In fact, Binns states that there is often even a trade-off between accuracy and interpretability. Therefore, it is harder to make such algorithms accountable if we wish to have a high level of performance.

Nevertheless, like mentioned by Binns, it might already help to legitimize what kind of approach the algorithm has, in terms of optimization. For example, it could be an idea to explicitly let the First Chamber decide on whether a max-min, an egalitarian, a total maximization approach or anything else should be adopted for different topics. Furthermore, it is also important to discuss what is being optimised and how it can be determined whether the algorithm works properly. Otherwise, the algorithms might end up only optimising our satisfaction or well-being, and for example not the incorporation of a broad palette of norms and values or the quality of life. One only needs to watch Wall-E to understand what this means.

Chapter 6

Conclusion

Building on the argumentation presented by Dr Gijs van Oenen, from his book *Overspannen Democratie*, it has been established that the current system of democracy is no longer tenable under the circumstances that contemporary society offers us. Phenomena like, but not limited to, democratic metal-fatigue, psyops, information bubbles and disinformation pervert votes and negatively impact the core values of representative democracy.

The central question of this thesis was whether an algorithmic democracy could perhaps offer a way out here. Through a thought experiment that replaced the Second Chamber with a combination of algorithms that were based on normative surveys, the possibilities and possible consequences of such an algorithmic democracy were evaluated. In this thought experiment, the First Chamber functioned as a controlling and tweaking entity for the policies that were proposed by the algorithms and was made up of experts coming from various fields of expertise.

It was established that the proposed form of institutionalisation would make room for more direct democracy. It could resolve some of the problems flowing from a system with political parties and release citizens from the burden that the high expectations as postulated by Van Oenen, put on their shoulders. Unfortunately, some of the cultural, symbolic and theatrical significance of representative democracy would be lost, as only a limited amount of it can be preserved through the First Chamber. Finally, to prevent scandals like that of Cambridge Analytica, big advances would have to be made in terms of algorithmic accountability and transparency.

Whether an algorithmic democracy, especially in the proposed form, is desirable remains highly doubtful. Moreover, whether it would have a feasible solution space, is also not without question. If the algorithms would succeed in aggregating all the individual norms and values of people and build a comprehensive overview of this, will they also succeed in finding the appropriate values of variables? Is the input not too complex, temporally-dependent or conflicting? What biases would arise? Would the policies be fair? Will the output of the algorithms lead to so many adaptations that it does not do justice to all the individual needs anymore? Whether this would be the case, can only be found out through putting it to the test, perhaps in the form of another thought experiment, perhaps in the form of an algorithm.

However, the possibilities of algorithms have proven to be endless and with a good amount of debugging, we might succeed. Perhaps this is a naive idea, based on a belief in the existence of an objective function for the best solutions, perhaps not. However, finding out whether it was or not, was not the main purpose of this thesis. The main purpose of this paper was to raise interesting questions, provoke thought and stir up the debate, because what we *can* be sure of,

is that certain powers are actively trying to colonise and tweak the public sphere to their benefit and that sooner or later (rather sooner), the government will have to take matters into their own hands and tweak its policy to the wishes and needs of its citizens.

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