



Oxford Technology &
Elections Commission



LITERATURE REVIEW ON ELECTIONS, POLITICAL CAMPAIGNING AND DEMOCRACY

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0 EXECUTIVE SUMMARY

This is a literature review which answers the following research question: 'How have past and recent scholars theorized how the digital influences elections?'

Each text was chosen either because it was requested by the OxTEC committee or because the author felt that it would help readers to develop an understanding of influence in elections. Many other texts and subtopics were considered for analysis.

When considering the research question, I sought to understand the difference between 'influence' and 'manipulation' or 'influence' and 'propaganda'. It is generally assumed that 'influence' attracts a positive moral value judgement and 'manipulation' attracts a negative one. However, this line of enquiry proves unfruitful. There are few satisfactory distinctions between the two. Instead, the distinction is 'unambiguously and unapologetically asymmetric. The user of the term purports to convey the truth in contradistinction to the untruths, half-truths, distortions, and omissions of the "other party"' (Neuman, 2016, p. 31). This means that no communicator believes that they are seeking to manipulate rather than influence.

However, even if we reject the distinction between 'good' influence and 'bad' influence, the literature offers some answers about how the digital has shaped elections. It suggests that, however, we should be looking at how a lack of privacy reduces our free will. Zuboff's analysis shows how surveillance by private companies moves quickly to 'instrumentarianism', which is defined as 'the instrumentation and instrumentalization of behaviour for the purposes of modification, prediction, monetisation and control' (Zuboff, 2019, p. 357). External actors gather data about us so they can best predict what we may or may not do in the future – whether we will buy products or vote in elections, for example. Given that it is more profitable to be absolutely certain about what a person may do in the future, external actors try to nudge a person into behaving in an easily predictable way. This takes away our freedom.

Consequently, regulators should focus on protecting privacy in order to protect democracies. The Introduction goes into further depth with regard to this argument. Chapter 2 of this literature review examines the key texts, summarised in Table 1, more deeply.

Table 1. Literature review summary

Author	Title	Brief Summary
<i>Political and communication theory in a digital age</i>		
Achen, C. H., & Bartels, L. M.	<i>Democracy for Realists</i>	Seeks to understand the motivations behind the voting preferences of populations in elections. The authors reject a 'folk theory of democracy' and advocate a 'realist theory of democracy'. This means they acknowledge that voters are often motivated by non-rational forces and this changes their decision-making process.
Susskind, J.	<i>Future Politics</i>	Future Politics seeks to answer the following question: to what extent should our lives be directed and controlled by powerful digital systems – and on what terms? Susskind believes that 'how we gather, store, analyse, and communicate our information – in essence how we organize it – is closely related to how we organize our politics' (Susskind, 2018, p. 19).
Neuman, W. R.	<i>The Digital Difference</i>	Neuman argues that scholars do not have enough evidence to understand how the mass media affects the information environment and gives some recommendations as to how we should try and understand the way in which the mass media influences our decisions. He thinks we should look at the polysemy of messages and reject most arguments about information overload.
Moore, M.	<i>Democracy Hacked</i>	The new information environment created by powerful Internet platforms has made it easier for hostile actors to manipulate our democracies. In some cases, actors try to sway public agendas and opinions, and in others, power is transferred from a democratically elected government to commercial organizations or more power is given to governments at the expense of the people.
<i>Surveillance and privacy</i>		
Zuboff, S.	<i>The Age of Surveillance Capitalism</i>	Surveillance capitalists are after our identities, our personalities, and our emotions. Once surveillance capitalists are able to understand who we are, they try to modify our behaviour. This means that we are no longer free. The easier our behaviour is to predict, the more valuable our data is to them.
Frischmann, B., & Selinger, E.	<i>Re-Engineering Humanity</i>	The authors argue that humanity should not be numerized or machinized. Instead, we should embrace critical parts of our personhood, like our creativity, relationships, and free will, and ensure that these parts of us are not eliminated in a digital world.
Information Commissioner's Office	<i>Democracy Disrupted?</i>	Privacy is a good in and of itself. It is an 'enabling right' for individuals' dignity, personality, and community and has the same function in the community regarding creativity, innovation, and trust. The ICO does not use a consequentialist ethical argument, but rather adopts a deontological one. Therefore, it argues that it does not matter whether the use of data changes the result of elections or not; regardless this use has violated citizens' privacy.

Author	Title	Brief Summary
Hankey, S., Morrison, J. K., & Naik, R.	<i>Data and Democracy in the Digital Age</i>	Argues in favour of the theory of dataism – which means that once big-data systems know me better than I know myself, authority will shift from humans to algorithms. This poses a threat to democracy. We can now start to think about how data can be used for influence.
Algorithms and bias		
Noble, S. U.	<i>Algorithms of Oppression</i>	Search results stigmatize minorities and produce incorrect and harmful content in response to queries. They autocorrect to racist and misogynistic tropes, which can reinforce discrimination in society.
O'Neil, C.	<i>Weapons of Math Destruction</i>	O'Neil argues that a weapon of math destruction (WMD) is a particular type of algorithm/model which has adverse effects. These WMDs define their own reality and use this new reality to justify their results. This type of model is self-perpetuating, highly destructive, and very common. There is no feedback loop which pushes back into the algorithm to tell it whether it was right or not. WMDs tend to penalize the poor. The privileged and wealthy get processed by humans, and the masses by machines.
Attention economy		
Williams, J.	<i>Stand Out of Our Light</i>	The goals of technology platforms do not match our own long-term goals. Technologies want to engage us; they want us to spend more time scrolling on our phones. However, we want to spend more time with our children, or perhaps learn how to play the piano, or spend time outside. There is a misalignment with our goals and so our will is being manipulated.
Historical thought concerning information environments		
Bernays, E.	<i>Propaganda</i>	In this 1928 manual, Bernays argues that propaganda is important and advises that it should be instigated. His view is that the use of the word 'propaganda' is unnecessarily pejorative. Instead, we should see propaganda as the means to uncover truths in a democracy and create order from chaos. His manual was included to give a historical perspective on influence in elections.

1 INTRODUCTION

Citizens in a democracy participate in a mediated environment. We cannot have personal conversations with all candidates nor first-hand experience of different policy issues and areas. Instead, we rely on the transmission of information through different media and by various actors to receive political messages. These include the values and actions of parties and candidates and the effects these values and actions have on society and the planet.

I've been asked to conduct a literature review and report to help the Oxford Technology & Elections Committee understand how the digital influences elections. For this task I read theoretical books and articles by communication scholars, philosophers, and political and social scientists. The scope is limited to examples from the US and the UK, and all the books were originally written in English. My findings are summarized here, and I have included detailed notes on each of the texts.

As is often the case, a simple question necessitates many lines of enquiry. One is a comparison: does social media differ in its influence compared with traditional 20th century media? How does its influence compare with an ideal democratic environment? Unsurprisingly, scholars in the 20th century were not particularly enthused by the mass media structures at the time. Writing *Manufacturing Consent* in 1988, Herman and Chomsky showed how broadcast and publishing networks distribute narratives which fit the ideological purposes and objectives of commercial and political elites. It is undeniable that disinformation was spread throughout the Vietnam War and preceding Bush and Blair's war in Iraq at the turn of this millennium. In 1928, Bernays argued that propaganda was required for democracy (Bernays & Miller, 2005). Without it, elites could not convey a coherent vision of the world to the masses to encourage a stable and unified society. Neither of these historical accounts points to an egalitarian democracy where the people communicate their concerns to the elites and this will is reflected in policy and election outcomes.

So how have people historically voted for parties and candidates? In *Democracy for Realists*, Achen and Bartels (2017) vehemently argue against the 'folk' view, which celebrates the wisdom of popular judgments by informed and engaged citizens and states that elections can easily shine a light on the majority view on a particular issue. To state the obvious, political issues are complicated. Most citizens do not have the time to make intelligent decisions about whether policies proposed by candidates are in their interests. There are many different perspectives in the public sphere, and the average person cannot tell the difference between a self-appointed guru spouting nonsensical 'common sense' and an educated expert. The whole population struggles with this in relation to issues that they are not experts on. This makes citizens vulnerable to spin. Citizens often change their minds based on how a question is phrased. For example, in the 1950s, half of Americans stated they would

'not allow' a communist to give a speech, but only 25% said they would 'forbid' it (Achen & Bartels, 2017). Not only are voters bad at determining whether a policy will benefit them in the future, but they are also bad at determining whether governments have benefited them in their most recent term in office. Most voters tend to punish governments for factors which are objectively out of politicians' control, for example an arbitrary increase in shark attacks, world economics, or environmental disasters. This provides little incentive for governments to behave responsibly towards their citizens.

Information environments have never lived up to the democratic ideal, and voters have never been good at choosing governments that reflect their interests. But what has changed in a digital age?

For a start, online platforms are no longer ruled by human gatekeepers but are increasingly governed by algorithms. An algorithm takes a data set and analyses it in a way that answers a specified question or problem. Quite often the algorithms are trained by machine learning (ML). This means that very few humans are completely aware of how a computer is processing the data and how it arrives at its various outputs. As O'Neil (2017) puts it in *Weapons of Math Destruction*, algorithms define their own reality and use this reality to justify their results. It does not matter whether this corresponds with the real world because there are few feedback loops that correct algorithms. In *Algorithms of Oppression*, Noble (2017) shows how data sets which reflect the racist tendencies of society are presented as 'neutral' search results on Google. This affects the information environment around elections as prejudiced tropes are reinforced and incorrect conspiracy theories proliferate. How, then, can citizens be expected to make rational decisions about future politics when the information presented to them is distorted or false?

What's more, algorithms also coerce citizens to behave in certain ways. Zuboff (2019) has a conceptual theory for understanding this phenomenon, articulated in *The Age of Surveillance Capitalism*. Platforms no longer make money by making products which benefit the end-user. They gather more data than is required to create a product, which can then be sold on to other companies. This is called 'behavioural surplus'. Other companies use behavioural surplus to predict how people might behave in the future so they buy certain products or vote for certain ideas. The better the prediction, the more valuable the behavioural surplus. As a result, platforms are after a new type of market power that Zuboff calls instrumentarianism. This is 'defined as the instrumentation and instrumentalization of behaviour for the purposes of modification, prediction, monetisation and control' (Zuboff, 2019, p. 352). Instrumentarianism takes away our freedom. By this, Zuboff means our 'right to the future tense' (p. 329). We can no longer make promises to ourselves and others about our future and be responsible for that outcome. Surveillance capitalists now have an exclusive claim to our futures.

Another way of understanding this lack of freedom comes from Frischmann and Selinger (2018) in *Re-Engineering Humanity*. They state that technologies make it easy for us to make mini decisions that compromise our privacy and freedoms. For example, I will hit 'accept' on any app's terms and conditions without reading them because I know I cannot dispute them and I want to experience the convenience of using the app. This is rational, but it leads to limited long-term privacy, which is not something that any of us would choose. In *Stand Out of Our Light*, Williams (2018) states that we are being seduced by these technologies and this means we cannot achieve our long-term goals because we are constantly distracted by short-term convenience.

A lot of attention has been given to the role that micro-targeting plays in elections. Different categories of people are sent different messages depending on what the campaigner thinks will successfully persuade them to vote in a certain way, or perhaps not vote at all. Although we know that campaigners have used these tactics (Moore, 2018), we do not know to what extent they are successful.

This all affects our ability to vote freely in elections because our will is being manipulated in ways unfathomable in a pre-digital age. As platforms increasingly try and win public service contracts around healthcare and transportation, this is even more of a concern.

Of course, technology design is not necessarily deterministic. Many different cultures use the same technology in completely different ways to enable different ends. Consequently, it is worth looking at the way actors are using platforms to achieve political goals to determine whether this is acceptable in a democracy. In *Democracy Hacked*, Moore (2018) examines the role of the Russian state and Robert Mercer's investments in Breitbart and 4chan culture. 4chan culture is populated by a group of (mostly) disenfranchised white men who practise a form of nihilism. They attempt to bring down targeted institutions and individuals for 'lulz' via DDoS attacks, doxing, and oppressive messaging. If an individual reacts negatively, the attacks get worse. Mercer sought to mobilize this group to create 'hyper-partisan, distorted or false narratives, that distracted and obscured substantive debate, that sought to demoralize constituencies and depress voter turnout, and that trashed candidates and critics' (Moore, 2018, p. 25). The Russian state's role comes via the Internet Research Agency, a department of information warfare which uses bots to undermine confidence in democratic systems by playing to people's prejudices. The aim is to weaken the enemy and 'sow division in their populations' (Moore, 2018, p. 80).

Let's take a look at the future relationship between social media and government. In *Future Politics*, Susskind (2018) notes that a future government could be 'voted for' by the data that we generate on our devices. This data could determine whether different policies would benefit us or not and be 'purely rational'. However, this could be open to manipulation and would also mean that no one would have a conscious

choice while electing the future government. We could also use mobile apps to vote on issues directly, but then we're back to the problem of time-poor and information-poor citizens. As Achen and Bartels (2017) argue, we do need professional politicians to represent us.

But how do we expect politicians to interact with the citizens in a democracy? Do we expect them to lead us or would we prefer that they blindly follow the will of the people? Most would advocate a middle ground where politicians are able to listen to the electorate and then translate what they hear into the best policy decisions. How do we expect politicians and candidates, commercial and media elites, and citizens to communicate with each other and themselves in the most democratic way? The literature offers few answers.

You may have noticed that I ignored the critical question about what an ideal information environment in a democracy actually looks like. In my opinion, the most promising articulation of this protects the identity of humans and refuses to reduce our humanity to the same level of personhood as machines. Perhaps regulators could prohibit behaviour being exploited by political and commercial actors to influence our decisions. This means that we must embrace the chaotic and unpredictable nature of being human. Frischmann and Selinger write that 'what meaningfully distinguishes *homo sapiens* from all other species is our capability to imagine, conceptualise and engineer ourselves and our environment; and *what matters about being human* is how we exercise such power over generations to collectively produce, cultivate and sustain shared normative conceptions of humanity' (emphasis in original, 2018, p. 247).

To conclude, how does social media affect elections? The new digital information environment has established new ways of targeting and influencing prospective voters. However, we are unsure about the exact extent to which this influence is successful. We need to understand the effects of media more. For example, in *The Digital Difference*, Neuman (2016) states that we have very little understanding of the polysemy of different messages, that is, how the same message can have completely different meaning for and interpretation by different individuals. Without this kind of insight, it is difficult to understand the influence of media. However, if the literature was to offer a deontological recommendation for digital regulation, it would be to protect our privacy and reduce surveillance which does not directly benefit the end-user. Perhaps the greatest threat in a digital information environment is to our humanity itself. Platforms should ensure that they do not quantify humans and treat us like machines without free will.

2 DETAILED SUMMARIES OF CHOSEN TEXTS

2.1 Political and Communication Theory in a Digital Age

Achen, C. H., & Bartels L. M. (2017). *Democracy for Realists: Why Elections Do Not Produce Responsive Government*

Central Argument

This book seeks to understand the motivations behind the voting preferences of populations in elections. The authors reject a 'folk theory of democracy' and advocate a 'realist theory of democracy'. A review is included here because the book helps us understand how people are influenced to vote (or not) and for which candidate/party.

The Details

Folk Theory of Democracy (pp. 1–20)

A folk theory of democracy articulates that citizens are capable of voting for policies which can serve their best interests. A folk theorist might say that a citizen can rationally think through the available options and elect governments which reflect their preferences. Democracy reflects the 'will of the people'. The folk theory of democracy celebrates the wisdom of popular judgments made by informed and engaged citizens and suggests that elections can easily shine a light on the majority view on particular issues. There are two views on how this is achieved: 1) the population can give a mandate for future policies, or 2) it holds the previous government accountable for its actions.

The folk theory of democracy is wrong. The 'spatial model of voting' is often used to show how a population can mandate future policies. It asserts that the political space consists of a single ideological axis on which feasible policies are arrayed from left to right. The best policy would sit at the median point on the axis. However, this should be rejected, for the following reasons (pp. 23–30):

1. Populations change their preferences according to how a question is phrased. In the mid 1970s, half of Americans stated they would 'not allow' a communist to give a speech, whereas only a quarter said they would 'forbid' it (p. 31).
2. Most voters do not have the time or the inclination to truly understand the consequences and intricacies of different policies, so it is difficult for them to make decisions about their best interests (pp. 36–41).
3. Most political parties do not change their policies according to what the median voter wants. They sit on either side of the median voter (p. 47).
4. Many thinkers seem to believe that 'more democracy' will solve problems concerning representation. This means that we should give voters more

autonomy and decision-making powers. However, there are many examples where citizens vote to harm their finances, or other specified preferences. This is because it is easy to get confused without the requisite expertise. Many different perspectives exist in the public sphere, and the average person cannot sort out the self-appointed gurus from the competent experts. This does not mean that 'more democracy' is always wrong, but rather that we should be mindful of the potential cost of this approach.

5. Political parties play a substantial role in the selection of candidates – there are no real examples of populations being able to select candidates themselves that serve their articulated preferences (pp. 60–68).
6. There is evidence that 'political entrepreneurs' exploit people's lack of understanding. A democracy functions best when it includes professional policy-makers who seek to understand which measures lead to beneficial results for the people (pp. 73–79).

Achen and Bartels argue that citizens cannot accurately assess a government's previous performance and reward and punish it accordingly (pp. 90–145). They believe the following:

1. Most populations tend to punish and reward governments for factors which are completely out of politicians' control. Examples given include unprecedented floods, increased shark attacks, worldwide health scares, and global financial problems. The authors call this 'blind retrospection'. If the politicians cannot control the situations that cause them to lose power, there is no incentive for them to be held accountable.
2. Governments tend to get elected based on economic 'musical chairs'. If the economy is on the rise from the six months before an election date, then they will tend to get re-elected. If the economy is poor, then they won't. It doesn't matter how well the economy has been doing for the rest of their term (pp. 146–176).

The authors suggest that, instead, we should adopt a realist position to understand why citizens vote for their candidates. The realist position emphasizes groups and social identities (pp. 213–231):

1. Populations tend to consistently vote for the politicians who they believe represent people 'like them', even if those politicians do not hold the views a voter thinks they do. It takes a major upset for people to change their allegiances, and then they hold them for decades. (pp. 267–296)
2. Sometimes citizens change their votes temporarily if a candidate shares the same religion, ethnicity, or other identifiable characteristic as them. Voters also always assume that policies are better when their preferred party is in power, even if the facts show otherwise (pp. 240–246).

3. Voters do not tend to set the direction that political parties take, but rather follow their lead. Through the 1980s and 1990s, those who identified as Democrats became pro-choice as a result of their allegiance. The party took a stance and then the people followed (pp. 258–264).

Susskind, J. (2018). *Future Politics: Living Together in a World Transformed by Tech*

Central Argument

Future Politics seeks to answer the following question: to what extent should our lives be directed and controlled by powerful digital systems – and on what terms? Susskind believes that ‘how we gather, store, analyse, and communicate our information – in essence how we organize it – is closely related to how we organize our politics’ (Susskind, 2018, p. 19).

The Details

Over the next century, politics will be transformed by three developments: 1) increasingly capable systems; 2) increasingly integrated technology which is becoming more pervasive, connective, sensitive (i.e., there will be more sensors), constitutive (i.e., there will be more robots), and immersive (i.e., AR and VR); and 3) an increasingly quantified society.

Politics refers to the collective life of human beings, including why we live together, how we order and bind our collective life, and the ways in which we could or should order and bind that collective life differently (p. 74). Words and concepts like ‘power’, ‘equality’, and ‘democracy’ are inherently political. However, these words mean different things to different people at different times. Hence, conceptual analysis, normative analysis, and contextual analysis are necessary to understand modern politics. That is what this book seeks to do.

Power

A person or entity is powerful to the extent that it has a stable and wide-ranging capacity to get others to do things of significance that they would not otherwise do, or not to do things they might otherwise have done (p. 92). Power can come in the form of force, coercion, influence, authority, and manipulation. Code fits this definition of power, and it can take many different forms.

Force (pp. 100–122)

Law will be enforced by digital systems rather than humans. This code will *force* us not to break the law, rather than simply punishing us after we have done so. ML and AI will also be able to interpret standards and thus create individual rules for specific situations. Code would therefore determine and enforce the rules. Before code, only the state could use force. But with code, private corporations can use force too.

Scrutiny (pp. 112–142)

Scrutiny is defined as power over someone’s mind. In the future we will be scrutinized constantly by machines that are capable of gathering and processing information. Scrutiny is power. Firstly, it helps to gather information that would be

useful in the deployment of power. Secondly, scrutiny can in and of itself make people do things they might not otherwise do. There are now devices which record what you are up to in your private home. This has never occurred before. Where is the line between public and private? Our devices never forget. They bring up old failures and regrets. Remembering used to be the exception and forgetting was the norm. Now the opposite is true. All this data can be used to predict what you might do next. It can also be used to rate how you behaved in the past.

Perception Control (pp. 142–153)

The final way to exert power is to control what a person knows, what they think, and what they are prepared to say about the world. You might prevent someone from desiring something in the first place, or convince them that their desire is wrong, illegitimate, shameful, or insane.

In the 20th century, this was done through the mass media. In the future, it will be done through what is revealed to us via digital systems. The gatekeepers will be algorithms, not humans. It may be that VR will replace our eyes, and so even our sensory information will be filtered, too.

Future Liberty

Freedom of action: the ability to act without interference (p. 164).

Freedom of thought: the ability to think, believe, and desire in an authentic way (p. 165).

Republican freedom: being free is being an active member of a free community (p. 167). This means that Republicans' freedom is not subject to an arbitrary will that could take it away at any time.

Freedom and the Tech Firm

If tech firms assume the kind of power that affects our most precious liberties, then they must also understand and respect some of the rudimentary principles of liberty, for example free speech. Almost all of our speech will be mediated and moderated by private technology firms. They will decide the form of communication we can use (e.g., gifs, images, text, VR, 140 characters), the audience, and how content is ranked and will create rules about what content is allowed.

Additional problems arise in relation to private firms: 1) private firms are not democratic or answerable to citizens so their power cannot be held to account, 2) private firms do not exist to serve the general interest; they exist for the commercial benefit of their owners, 3) legal systems develop in a systematic way over time, but code develops in an ad hoc and inconsistent way, and 4) code will be a lot more complex and inscrutable in the future compared to the workings of government.

The harm principle: the only purpose for which power can be rightfully exercised over any member of a civilized community is to prevent harm to others (p. 196).

Machines could have a digital paternalism to ensure that we don't 'harm' ourselves, even if this goes against our express wishes. How would we deal with this?

What happens if a person wants to break an immoral code, even if it is not directly harmful? What if a person wanted to experience what it was like to be a Nazi executioner at Auschwitz via VR?

Neuman, W. R. (2016). *The Digital Difference: Media Technology and the Theory of Communication Effects*

Central Argument

Neuman argues that we do not have enough evidence to understand how the mass media affects the information environment and gives some recommendations as to how we should try and understand the way in which the mass media influences our decisions. He thinks we should look at the polysemy of messages and reject most arguments about information overload.

The Details

The Propaganda Problem (pp. 20–51)

Neuman argues that there are too many theories in communication research and that the idea that we always need a new theory to cope with a new medium is wrong. He begins by looking at the history of communication studies.

The field broadly developed in the 1930s and 1940s, and as a result of the worldwide political climate, scholars looked at the issue of the effects of propaganda and the media. Neuman points out, though, that the notion of propaganda is necessarily asymmetric (Neuman, 2016, p. 31). It assumes that there is a solid line between truth and manipulation, deceit, and lies. He also notes that most people are asymmetric in their beliefs about the effects of the media. They believe that others are influenced by the media, whereas they have a rational and neutral take on the information served to them.

After this epoch, research began to focus on the role that negative communication plays in worldwide events: 'Google is making us stooped', 'the radio is taking away our privacy', etc. (p. 34). Neuman cites four areas that researchers have always focused on:

1. Norm violations – particularly violence and sexuality
2. Stereotyping – particularly racial and gender stereotypes
3. Political bias – usually contradictory critiques from the political left and right
4. Health communication – usually contrasting the effects of unhealthy and health-oriented behaviours in media content.

He suggests that we develop thinking about 'valenced communication' (pp. 44–46). This is the view that virtually all human communication is at least in part self-interested behaviour. By this he means that we seek reinforcement of our identities and ideals in the news and entertainment in the public sphere. We interpret complex and polysemic messages in ways that make sense to us and reinforce our identities. We also all tend to believe that the public sphere is biased against us.

Remember that most audience members are far from gullible and isolated pawns. They discuss what they see and read with others – this is called the two-step. Some values are so well established in their identities that they will never be subject to media manipulation.

The Prospect of Precision [A Chapter on Methodology] (pp. 52–97)

Human communication is resistant to reliable measurement because of the following factors:

1. Profusion – the incredible abundance of words and images in the individual's daily environment, increasing even more in quantity and diversity in the digital age.
2. Polysemy – the fact that each of these words and images is subject to dramatically variant interpretation by different individuals.

The Paradox of Profusion (pp. 98–140)

There is a lot of literature about 'information overload' that has no conceptual clarity. Neuman (p. 107) identifies four areas that are discussed:

1. Time sensitivity: a key element of the perception of 'overload' concerns the time constraints on reviewing available information.
2. Decision requirement: this is related to time sensitivity and is the time-constrained need to make decisions, especially critical decisions.
3. Structure of information: the 'amount' of information may be less critical than the extent to which the information is structured, permitting the observer to retrieve what is judged to be relevant.
4. Quality of information: many grievances about 'information overload' turn out to actually concern the quality of information to the information variate of the engineering concept of signal-to-noise ratio.

But Neuman points out that typical web browsing and information seeking are rarely time constrained and rarely require critical decision making. Instead, most people report that they value choice and are not overwhelmed by the quantities of information involved. Also, humans should not be worried about the health implication – our brain has always dealt with information overload. There are many different data points as we look out over a horizon – our brain is able to process them to only see what we want to see. This is selective attention, so we are not 'overloaded' in a biological sense.

Pondering Polysemy (pp. 141–182)

Polysemy is the coexistence of many possible meanings for a word or phrase. There are many amusing cases where researchers and missionaries have tried to go into different cultures to teach a population a new skill (such as boiling contaminated water) and have simply failed to get their message across. A Wharton study from the mid 1990s showed that only 17% of advertising led to a sales increase of more than 0. The lesson learned from this is that *successful propagandizing is harder than it looks*. Propaganda is designed to create a singular worldview. The fundamentally polysemic character of most human communication is powerfully antithetical to such singularity. We do not routinely interpret a message in the way the sender intended. But this has been ignored by many communication scholars.

Neuman (p. 181) states that we should do the following:

1. Treat polysemy as a central analytic variable in the study of human communication.
2. Treat the social, cultural, economic, and political structures that influence the distribution of polysemy as central analytic variables in the study of human communication.
3. Treat the polysemic text and the polysemic response as equally important constitutive elements of human communication.

Predisposed to Polarization (pp. 183–208)

We need to think about the highly variable and complex role of interpersonal and mass communication via 'social identification'. This is central to whether the communication was received as it was intended.

We have to move beyond condemning bias and polarization and instead look at how we can strengthen or diminish the effects of social identification.

There are five psychological dynamics of particular relevance when looking at polarization:

1. Humans seek familiarity.
2. Humans seek identity reinforcement – they want to feel confident about the choices they have made and who they are.
3. Humans rely heavily on categorical heuristics.
4. Human categorical heuristics tend to be unjust.
5. Humans seek communication for intrinsic enjoyment.

So how can we reduce animosity towards the out-group? Neuman states that we cannot avoid the out-group, nor can we prohibit prejudice through law or censor people. This is for practical reasons – we are more connected than ever before in a digital world. Banning prejudice is unlikely to have positive consequences and censorship is also too simple for such a complex phenomenon. Instead we should learn to cooperate. We have to structure the character of conflict and moderate it through rules. Everyone must abide by those rules and ‘play fair’. We also have to make the out-group more familiar.

The Politics of Pluralism (pp. 209–242)

There are six structural theories about how communication is structured at a collective level. The idea is that we need to sustain an open and vibrant pluralism in a diverse, industrialized nation-state immersed in a global network of communication and interaction.

Media agenda setting: Although media coverage of public issues may not always persuade audience members, the close association between amounts of media coverage and public perceptions of issue salience indicates a dominant media agenda-setting function.

The iron law of oligarchy: Established elites develop ideological and organizational mechanisms to protect their incumbent status and constrain critical communication and challenge. This isn’t a conspiracy between various elites, but rather should be thought of through a ‘free market’ analysis. Also note that the poor do not object to inequality per se, but rather they have ended up at the wrong end of the unequal income distribution curve.

The Matthew effect: A set of mechanisms of cumulative advantage: the rich get richer, the famous get more famous, positive feedback, first mover advantage, preferential attachment, and network effects. This effect is compounded by Chris Anderson’s notion of the ‘long tail’ of media organizations. There are only a few media organizations that attract a lot of attention, and the rest have very small audiences.

Attention space: The law of small numbers: the limited size of the public agenda, the mechanism by which new issues supplant and reframe old ones, and a natural limit to the number of ‘schools of thought’. There needs to be more research on whether there is a corresponding law of small numbers at work in the digital public sphere.

The issue attention cycle: A dynamic model of how issues or issue frames coalesce, peak, and decline; a limited attention span at the macro level. We do not yet have an established theory regarding what makes an issue gain attention.

The spiral of silence: An additional dynamic of public opinion whereby public perceptions of dominant politically correct views reduce the willingness of those with minority views to speak out. This needs more work and research. It is important to

note that the media at large are bipolar – that is, they are very conservative, and because of their commercial marketing orientation are careful not to offend any significant group by violating conventional norms; they are also drawn to highlighting deviant behaviour because it attracts audience attention.

Moore, M. (2018). *Democracy Hacked: Political Turmoil and Information Warfare in the Digital Age*

Central Argument

The new information environment created by powerful internet platforms has made it easier for hostile actors to manipulate our democracies. In some cases, actors try to sway public agendas and opinions, and in others, power is transferred from a democratically elected government to commercial organizations or more power is given to governments at the expense of the people.

The Details

Hackers (pp. 1–103)

Moore shows how the information environment has been influenced by three separate entities: 4chan and the 'lulz' culture, Robert Mercer and the plutocrats, and finally the Russian state.

4chan comprises (broadly) disenfranchised technology-literate Western men. Its culture developed from an extreme understanding of 'free speech', 'free information', and 'sovereignty'. Groups within 4chan believe that they should be able to say what they want, when they want to. They practise a form of nihilism, where anything can be poked fun at and where other people's misery is funny. They have found that they can overwhelm opponents with oppressive messages, hack their identities and publish them on the Internet (called doxing), or DDoS the infrastructure of targeted institutions.

Steve Bannon and Breitbart identified that this group had a collective power which could destroy businesses. They began to cultivate the members of 4chan (and Reddit) so that they adopted the political views of the alt-right and Trump. 4chan began a meme culture that produced toxic racist, misogynist, and homophobic posts in the name of the notion that 'information is free'. This created 'hyper-partisan, distorted or false narratives, that distracted and obscured substantive debate, that sought to demoralise constituencies and depress voter turnout, and that trashed candidates and critics' (Moore, 2018, p. 25).

The aim of this was to attract mainstream attention and capture and manipulate the campaign agenda. Robert Mercer funded Breitbart to become the Huffington Post of the right. By the second half of 2014, it had got into its 'provocative stride', e.g., supported male games through #gamergate, defended the police after they shot Michael Brown, and published a steady stream of anti-migrant stories. It belittled 'liberal and mainstream media', claiming that they did not truly represent the people. This meant that Breitbart legitimized the beliefs of the far-right while also linking to stories of the mainstream centre and centre-left.

Mercer also set up a media watchdog:

There are two very contrasting ways in which you can run a media watchdog. The first is to give people the tools and information so they can make up their own minds about different news stories or outlets. The second is to start from the premise that all existing media is inherently biased and corrupt, and spend all your time collecting evidence to prove it.

Cambridge Analytica and Mercer: Mercer wanted to get as much data as possible about voters and conduct experiments on the voting population to see what was influential. The problem is that Mercer was able to set agendas and manipulate political outcomes without ever seeking election. He used journalism to seek power, and not to seek truth. Whereas Mercer might believe he was acting to create a better world, he did not do it openly or accountably.

In Russia, the Internet Research Agency is charged with undermining confidence in democratic systems by spreading untruths on social media platforms. 'To be successful ... disinformation had to have some basis in fact, or correspond to a widely accepted belief. It should fit with prevailing narratives in the target population, play to people's prejudices and nurture innate suspicions' (p. 80). The idea is to weaken/demoralize enemies and 'sow division in their populations' (p. 80). The Internet Research Agency uses bots to make it look like the majority supports the false opinion. Using social media, it can push alternative news stories in foreign countries.

The Facebook Elections (pp. 107–135)

A series of studies in the mid 20th century showed that people were influenced politically by their social network, and particularly by vocal and knowledgeable people in that network, way more than by the mass media. No one could control these networks until Facebook came along. It has found ways to make it look as if others have endorsed specific products.

Obama's campaign was the first to access social networks – supporters could log in through Facebook. This meant that the campaign could encourage the sharing of political messages. This has been discontinued. Now you can target people based on their interests as well as according to demographic data. 'Facebook gave campaigns the power to reach precise sets of people individually, to infiltrate their social news at a moment of the campaign's choosing, and to apply peer pressure' (p. 128). Is it not good that more people are engaging with politics? The answer: 'Facebook pushed political engagement on its platform without considering whether it supported or undermined democratic processes' (p. 130).

Dark posts: These give companies the ability to A/B test specific messages. The idea is that one person wouldn't see multiple ads, as this could cause embarrassment to the company. An ad is visible only to those who are being

targeted. Trump tested 50,000 versions of campaign ads. It was revealed that he used this feature to suppress voting for Clinton.

Anarchy in the Googlesphere (pp. 136–165)

Google developed the tools which have led to widespread and targeted advertising online. It started with banner ads on Google and then developed a mechanism so that advertisers could line up their ads alongside specific keywords. The turning point came when Google began to charge for clicks on adverts as opposed to advert impressions. Advertisers could also choose the keywords and construct the ads and make bids themselves. This meant that Google had to track consumption – and this led to increased surveillance regarding what you do on the web. In 2003, it started to use contextual ads. If you were viewing a webpage about skiing which used Google's ad software, you could deliver an advert about skiing. Publishers began to jump in. In 2009, Google launched a 'real-time ad exchange'. This meant that advertisers could choose to send an advert to you, with your specific profile, to a specific page, in milliseconds. However, this was democratizing. Reputable content pages like the *New York Times* were just as valuable as sites that pushed disinformation. The user was the target – the content came second.

Facebook jumped into this model later and 'almost all commercial companies producing content online were complicit in tracking users, building profiles and selling access' (p. 163).

The Unbearable Lightness of Twitter (pp. 166–191)

We used to get our local news from local reporters and newspapers. However, although local newspapers haven't closed, they have drastically reduced the number of journalists working on them. This means that the quality of their output is low. Initially, this wasn't thought to be a problem because it was believed that Twitter had taken on the role of local newspapers. Everyone was a witness. As a result, national journalists could review social media to see what was happening worldwide.

However, Twitter is fickle and tends to only surface sensationalist news. This means that mundane news which only affects local residents is being forgotten. The example of the safety of Grenfell Tower is used in the book, as well as a long closure of an exit on a motorway. This means that residents don't trust the system any more and do not feel listened to. It also means that very few stories have the real foundation of the work done by local reporters. All stories become shallow and ephemeral.

Platform Democracy (pp. 195–221)

Platforms (defined as 'digital space[s] in which people can produce and exchange goods and services', p. 200) are increasingly involving themselves in healthcare, public transport, and education. These are domains previously owned by the government. These platforms will gain 'functional sovereignty' and will not be able to

be replaced by citizens. What's more, citizens will encounter great cost if they tried to change their platform provider or remove themselves from platforms entirely.

Tech platforms' approach to all of these social projects is to use a lot of data. This means they code 'good' and 'bad' outcomes and remove the messiness of politics from decision making. This is wrong because there are rarely objectively 'good' and 'bad' outcomes. A citizen would lose their ability to choose what works for them.

Surveillance Democracy (pp. 222–245)

Governments are looking to use data-driven identification initiatives to help them make public services more efficient and to reduce bureaucracy. Examples include Aadhaar in India, a smart-city initiative in Singapore, and the social credit system in China. However, these actually reduce the privacy of citizens and therefore give governments more control over them. Citizens always have to prove their eligibility for benefits and rights, and if the system fails, the burden of proof lies with the individual, not with the government.

2.2 Surveillance and Privacy

Zuboff, S. (2019). *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power*

Central Argument

Surveillance capitalists are after our identities, our personalities, and our emotions. Once surveillance capitalists are able to understand who we are, they try to modify our behaviour. This means that we are no longer free. The easier our behaviour is to predict, the more valuable our data is to them.

The Details

Behavioural Surplus

Surveillance capitalists want to gather behavioural surplus. Some of the data generated by our actions on a platform is used to improve the platform for our benefit, but the surplus is sold to other companies. Behavioural surplus can be called 'surveillance assets'; this can be turned into 'surveillance revenues' and translates into 'surveillance capital'. This means that serving the user themselves is less valuable to a platform than others' bets on our future. Users are the objects from which raw materials are extracted and expropriated for Google's prediction factories.

Monopolies

Google has built fortifications around its supply chains in order to protect surplus flows from challenge. For example, it built extensive relationships with Obama's government to help with his re-election. This meant that regulation was delayed. More companies saw Google's precedent and foraged into surveillance capitalism. Verizon is used as an example.

Surveillance capitalism is making its way into physical spaces, too, via 'smart cities'. Google has invested in smart-city companies like Sidewalk Labs. Cities are also required to invest in these technologies by ensuring their infrastructure aligns with the software. This diverts funds from other causes, like low-cost public bus services.

We shouldn't be asking, 'who owns the data?' but rather 'why is our experience rendered as behavioural data in the first place?' Also – it is so difficult to avoid. If we turn off behavioural surplus, we often lose functionality. And it is becoming harder to avoid IoT (Internet of things) products, especially given that many of us have mobile phones.

Freedom and Surveillance

Surveillance capitalists are after our identities, our personalities, and our emotions. Once surveillance capitalists are able to understand who we are, they can try to modify our behaviour. This means that we are no longer free.

Freedom is defined as follows: 'I live in an expansive landscape that already includes a future that only I can imagine and intend. In my world, this book I write already exists. In fulfilling my promise, I make it manifest. This act of will is my claim to the future tense' (p. 330). When we make promises, we are trying to bridge the gap between the known and the unknown. It is an important part of human interaction. But now, in an era of surveillance capitalism, this will has been usurped by surveillance capital's exclusive claims on our futures.

The purpose of surveillance capitalism is to fabricate predictions, which become more valuable as they approach certainty. This is a new type of market power. Zuboff calls it instrumentarianism – 'defined as the instrumentation and instrumentalization of behaviour for the purposes of modification, prediction, monetisation and control' (p. 357). It is contrasted with totalitarianism.

The Big Other and Instrumentarianism

This power imposes its will through digital apparatus that Zuboff calls the 'Big Other'. This digital apparatus reduces human experiences to measurable, observable behaviour while remaining steadfastly indifferent to the meaning of that experience. These methods reduce individuals to the lowest common denominator of sameness, an organism among organisms, despite all the vital ways in which we are not the same. We are just reduced to organisms that behave.

'Surveillance capitalism departs from the history of market capitalism in three startling ways. First, it insists on the privilege of unfettered freedom and knowledge. Second, it abandons long-standing organic reciprocities with people. Third, the spectre of life in the hive betrays a collectivist societal vision sustained by radical indifference and its material expression in Big Other' (p. 495).

Frischmann, B., & Selinger, E. (2018). *Re-Engineering Humanity*

Central Argument

Frischmann and Selinger argue that humanity should not be numerized or machinized. Instead, we should embrace critical parts of our personhood, like our creativity, relationships, and free will, and ensure that these parts of us are not eliminated in a digital world.

The Details

Part I (pp. 17–42)

We are either sold into surveillance by those who can *only* see the benefits of new technologies – like the ability to become healthier or the freeing up of our attention – or we sell ourselves into the re-engineering capabilities of these technologies because it is more efficient to do so. However, this leads to us becoming passive, decreasing our agency, decreasing our responsibility for our actions, increasing our ignorance, detaching ourselves from our participation in activities, and decreasing our independence. The authors argue that all of these elements affect what it means to be human.

Part II (pp. 45–172)

Frederick Taylor developed a theory of scientific management in the late 19th century. The aim was to reduce inefficiency in factories. Workers were given tools and timed to ensure that their production was maximized. Management of workers meant that they needed ‘less brains, less muscle, less independence’ to do their job. The authors state that humans are naturally inefficient, so Taylorism ‘minimises the various costs associated with humans being human’ (p. 59).

Contract law and Taylorism: Given the length and inaccessibility of legal contracts online, most of us hit ‘I accept’ on terms and conditions without reading them. This is because we want the benefit of the service without the speed bump of reading the contract. Contracts have been designed to lead us to do this. Most humans do this automatically now, and so act like simple machines. The authors do not say whether this is specifically ‘good’ or ‘bad’, but rather that it is a contributing factor to our lack of autonomy. A comparison is made to the ‘tragedy of the commons’.

Mind-extending technologies are defined as those which extend our minds beyond our physical brains and bodies by using technologies as aids for performing cognitive processes. These could be basic, like an abacus, or complex, like a GPS. The authors state that ‘mind-extending technologies run the risk of turning humans into simple machines under the control or influence of those in control of the technologies, at least in contexts where the technologies are networked, owned and controlled by others’ (p. 82).

Facebook, the iPhone, etc. are designed to grant access-and-control privileges to others. A notebook does not have this feature. We also know that Facebook has previously tried to techno-socially engineer our emotions.

The authors suggest two rules for the Internet of things: 'First, don't connect, communicate or interoperate. Second, only engineer intelligence as needed' (p. 131). The principles of network neutrality should be applied to the physical traffic on our roads.

#RelationshipOptimisation: Do we really want machines to help us make our relationships with our loved ones more efficient? Wouldn't we rather connect with each other, rather than be told by machines how to communicate?

Part III (pp. 175–266)

'What meaningfully distinguishes *homo sapiens* from all other species is our capability to imagine, conceptualise and engineer ourselves and our environment; and *what matters about being human* is how we exercise such power over generations to collectively produce, cultivate and sustain shared normative conceptions of humanity' (emphasis in original, p. 247).

The authors argue that humans have free will. However, this free will can also be manipulated by others. Technologies can create situations which mean we choose to go along with them for convenience while also damaging that normative conception of humanity. We individually contribute to the dilemma and are partially responsible for it, but we're not alone and we're not fully responsible.

Part IV (pp. 269–295)

Frischmann and Selinger (p. 270) state that the technologies that respect human freedoms obey the following rules:

1. Freedom from programming, conditioning, and control engineered by others. In our modern techno-social world, we call this the *freedom to be off*.
2. Freedom of will and practical agency. In our modern techno-social world, we call this the *freedom from engineered determinism*.

Regarding approaches towards disinformation, the authors ask: What would it take to create a new, trusted social networking platform?

1. The network should be trusted.
2. The network should incorporate media expertise to manage gatekeeping.
3. The funding model should shield the network from corrosive economic and political pressure.

We need to ensure that network neutrality laws exist in physical networks like roads and infrastructure. We should engineer air gaps between smart subsystems on the IoT. Finally, we should adopt a philosophy that 'human flourishing' as a long-term goal matters more than small conveniences. We can do this by creating transaction costs with each decision we make for a convenient end.

Information Commissioner's Office. (2018). *Democracy Disrupted? Personal Information and Political Influence*

Central Argument

Privacy is a good in and of itself. It is an 'enabling right' for individuals' dignity, personality, and community, and has the same function in the community for creativity, innovation, and trust. The ICO does not have a consequentialist ethical argument, but rather adopts a deontological one. Therefore, it argues that it does not matter whether the use of data changes the result of elections or not; regardless this use has violated citizens' privacy.

The Details

We need to keep citizens engaged in a democracy. Voter surveillance may lead to dissatisfaction with democracy. Therefore, we should create compliance with regard to the use of data in political campaigns.

The Data Protection Act (DPA) 1998 and the General Data Protection Regulation (GDPR) 2018 state as follows:

An owner of information must give consent to their data being used by the processor and the way the processor will use their information.

Democratic principles:

1. Political campaigning must be open and transparent.
2. The receiver of the message must know who is communicating with them.
3. The message receiver must receive a wide variety of points of view and campaign messages.
4. Political parties and campaigns must operate from a level playing field.

Political parties have to communicate with the electorate. Therefore, they have a privileged position regarding accessing and processing electorate data. The issue today is that political parties can target individual voters with highly personalized messages which are free from competing messages. Particular concerns are raised:

1. Data which attempts to predict a person's age and ethnicity is likely to be categorized as special category data or sensitive personal data under the GDPR. As a result, political parties must notify the person if this data is being used by them to send targeted messages or perhaps should not be used at all.
2. Political parties are not adequately gaining consent from citizens with regard to their use of data. There should be a centralized webpage where citizens can learn how parties have used their data.

What Can the Platforms Do?

Facebook: The ICO found that despite a number of tools being made available to users to control their privacy settings and how advertisers could communicate with them, they are unsatisfactory. They are too complex and are hidden beneath many layers on the application and webpage. There is also a risk that advertisers can make assumptions using Facebook's platform to target people based on their sensitive information, for example their sexuality.

Hankey, S., Morrison, J. K., & Naik, R. (2018). *Data and Democracy in the Digital Age*

Central Argument

The article argues in favour of the theory of dataism – which means that once big-data systems know me better than I know myself, authority will shift from humans to algorithms. This poses a threat to democracy. We can now start to think about how data can be used for influence.

The Details

The authors make the following distinctions when referring to data (p. 12). This is helpful conceptual analysis.

Data as a political asset: This is data that is known about a person and is acquired from national depositories or bought from various data brokers.

Data as political intelligence: This is data which is inferred about a voter from their political preferences collected via their interaction with social media. This is then used to test and adapt political messaging, and digital listening tools are used to make new assumptions.

Data as political influence: This refers to how individual data is analysed and used to micro-target different voters with specific messaging.

There is a problem of transparency in the data brokerage supply chain. When political parties spend money on different data agencies and communication firms, it is unclear who owns the parent company (if there is one). More and more money is being spent on digital campaigning and it is easy to hide how voters are being targeted.

Electoral law in its current form was designed and developed to create a level playing field for the various actors while simultaneously allowing for accountability for campaigning practices. The key focus areas of electoral law, for these purposes, are (a) imposing spending limits (and at least some transparency and reporting obligations); and (b) controlling the use of television for political campaigning (p. 27).

2.3 Algorithms and Bias

Noble, S. U. (2018). *Algorithms of Oppression: How Search Engines Reinforce Racism*

Central Argument

Search results stigmatize minorities and produce incorrect and harmful content in response to queries. They autocorrect to racist and misogynistic tropes, which can reinforce discrimination in society.

The Details

A Society, Searching (pp. 15–63)

Search engines produce biased results. Searching using the word ‘beautiful’ shows only images of white women; ‘Black girls’ leads to porn sites; and ‘jew’ sends you to Nazi and anti-Semitic websites. Noble argues that this is coded into the algorithms of the search engines.

Google seeks to rank web pages and their relevance to search terms according to many factors. These factors can be gamed by actors. They are also biased in favour of commercial interests because Google makes most of its money from advertising. Search results contribute to a socially constructed idea of groups and identities. Google currently has a monopoly on search in the US. What’s more, less funding is being given to public institutions like libraries and educational systems, which means the power in information environments is in private hands.

Searching for Black Girls (pp. 64–109)

There are already many competent Black people who can code and who should be invested in. There is not a pipeline problem in technology, so teaching Black girls to code in the future is not the only answer. Instead it must be acknowledged that Black people are excluded from tech under the guise of colour blindness and meritocracy.

Google image searches in 2016 for ‘black teenagers’ and ‘white teenagers’ portrayed the white teenagers as wholesome and the Black teenagers as criminals. This exemplifies the idea that being ‘white’ is the norm and being ‘Black’ is the other. This is important, because few people look beyond the first page of their search results. The algorithm is reinforcing stereotypes in society. Google repeatedly refuses to take responsibility for the racism built into its algorithm, yet is able to do quick fixes for certain search terms.

Historically, Black women have been viewed as a deviant sexual commodity. This has led to a rape culture and lowers Black women’s potential with regard to their income. This is now amplified in search results. Google profits from this exploitation as it runs ads next to these key words. For example, ‘Black girls’ drew many pornographic organic results, but also many paid ads too.

Searching for People and Communities (pp. 110–118)

An example used is the search term 'black on white crimes', which leads to many non-expert opinions from white supremacist and fascist organizations which claim that there is a lot of Black-on-white crime. This is false. Homicides across racial lines rarely happen. Noble argues that search results lay the groundwork for implicit bias – bias which is buttressed by advertising profit. They serve as a record of communities, they mask history, they signal what advertisers think we want, and they galvanize attention.

Searching for Protections from Search Engines (pp. 119–133)

Many people (mainly women) have been fired from their jobs as a result of being found to have previously worked in the adult industry.

Why does Google have the right to index every piece of information, no matter how personal it is? We cannot control how we are represented online. Therefore, we need to protect the right to be forgotten online. This means that we have the right to 'be who we want to be' and a right to our futures (p. 126).

Future of Knowledge in the Public (pp. 134–152)

Classifying groups is a social construct and creates power structures. Bias is also present in library classification systems, as well as in Google; 'the digital interface is a material reality structuring a discourse' (p. 148). Information also needs a context. We cannot take it at face value – we need to understand why we are seeing it. We need to understand the frame of reference.

The Future of Information Culture (pp. 153–169)

Information is moving from the public sphere to being in private hands. Access to high-quality information, from journalism to research, is essential to a healthy and viable democracy. It is hard for media to monetize in a digital age, and so the quality of journalism and content is going down.

It is harder to find alternative information when gatekeeping has been monopolized. As a result, the search engines have to fight media stereotypes. Google has digitized many books, making it the gatekeeper to past culture. France and Germany rejected the ownership of these materials by a foreign agent. Noble suggests that other countries should follow suit.

Should Google be regulated regarding the values it assigns to racial, gendered, and sexual identities, as evidenced by the search results it produces? The digital divide should also refer to the historical and cultural development of science and technology and representations prioritized through digital technologies. Access to hardware and training in software do not correct the landscape of power relations that is organized according to race and gender. Good reinforces hegemonic

narratives and exploits its users. African American identities are often a commodity, exploited as titillating fodder in a network that traffics racism, sexism, and homophobia for profit.

Inequality will not be solved by an app. We need to take a longer look at our wider culture.

O'Neil, C. (2017). *Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy*

Central Argument

O'Neil argues that a weapon of math destruction (WMD) is a particular type of algorithm/model which has adverse effects. These algorithms define their own reality and use this new reality to justify their results. 'This type of model is self-perpetuating, highly destructive and very common' (p. 7). The issue is that there is no feedback loop which pushes back into the algorithm to tell it whether it was right or not. WMDs tend to penalize the poor. The privileged and wealthy get processed by humans, and the masses by machines. They are opaque and tend to be easy to scale.

The Details

Rankings that Sort the 'Good' from the 'Bad' (pp. 50–67)

Mathematical rankings for sorting colleges and universities started in the 1980s. Whereas before, a choice of college might be down to taste and preference, it has become a systematized process and prospective students want to choose the objective 'best'. This has meant that colleges that performed badly have got steadily worse, that talent (both students and professors) is concentrated at the 'best' colleges, and that everyone tries to game the system. O'Neil argues that there is no benefit here. Tuition fees have soared as colleges have competed to have better facilities and students cheat to get into the 'best' schools.

O'Neil states that a better option is for students to have all the data and construct their own models showing what might be best for them. This would mean that not everyone is flocking to the same school. There is no objective best college.

Predatory Advertising (pp. 68–83)

Advertisers find people who are ignorant about their products and services. Then they find people who are vulnerable and 'use their private information against them' (p. 72). This means that they find 'where they suffer the most, which is known as the "pain point"' (p. 72). The advertisers then hone this segment on Google and Facebook and create A/B tests to understand what messaging works best to exploit these people's prejudices.

Policing (pp. 84–104)

PredPol is software which predicts where crimes are most likely to occur. This means that police forces can concentrate their resources on those geographical areas. The founder claims it is not racist, since it only deals with geographical data. However, O'Neil points out that in highly segregated areas this omission does not make a difference. You are still targeting people based on race. This has caused

police to zero in on poor, blue-collar crime, as white-collar crime is never caught by a police officer on the beat. We may have a more efficient police force, but it isn't fair, it doesn't treat people equally, and our privacy is at risk.

Job Screening for Low-Paid Workers (pp. 105–122)

Lots of people get screened out by WMDs for scoring low on a personality test or because of characteristics relating to race and gender. There is no feedback loop because it doesn't test to see whether rejected candidates have done well elsewhere. As a result, it's simply discriminatory. There is little science to say that these technologies work.

Scheduling work for low-paid workers uses software to ensure that there are just enough workers to fit the demand. This means that scheduling is erratic, so workers cannot plan their time or make life better for themselves, but also they can't work enough hours to get certain benefits. What's more, the way the work is distributed to workers is via an opaque algorithm.

E-Scores vs Credit Scores (pp. 141–160)

Credit scores are regulated and depend on an individual's behaviour. You can get reports on what information has been used to compile your score, and clear advice is given to increase your score. However, e-scores depend on putting you into a bucket and determining whether people like you have defaulted before. This makes it very difficult to do anything about the judgements made about you and the outcomes derived from them.

Insurance (pp. 161–178)

A similar injustice occurs if we are put into groups for calculating insurance premiums instead of individual data being considered. One person could get a 50% decrease in their monthly payments, while another could be asked to pay 800% more. This penalizes the vulnerable.

Facebook and News (pp. 179–197)

Facebook and other social media sites own opaque algorithms. Each of us sees different news and it is impossible to protest against it. Also, we know that Facebook and Google have been doing experiments to see how they could improve turnout, change our emotions, and guide our choices. Politicians, campaigners, and lobbyists can also target opaque messaging at specific groups using micro-targeting. Although the effect size of these techniques is unknown, it is still vast and unaccountable. What's more, the swing voters are targeted more, and the rest are ignored. O'Neil believes this will lead to disenchantment with the political system.

O'Neil's conclusion is that the poor are defenceless and carry the burden of the weight of WMDs. However, all of us suffer in one way or another. How do algorithms

differ from biased human decision making? They cannot evolve – they always base their decisions on past data sets. But humans can look forward to the future. WMDs should be audited to check the results that they are throwing up. Engineers should acknowledge the limits of mathematics and we should all understand how WMDs are not neutral arbitrators of justice.

2.4 Attention Economy

Williams, J. (2018). *Stand Out of Our Light: Freedom and Resistance in the Attention Economy*

Central Argument

The goals of technology platforms do not match our own long-term goals. Technologies want to engage us; they want us to spend more time scrolling on our phones. However, we want to spend more time with our children, or perhaps learn how to play the piano, or spend time outside. There is a misalignment with our goals and so our will is being manipulated.

The Details

Any offer, even a very good one, imposes an obligation on the person receiving it (p. 2). This includes, as a minimum, an obligation to perform one's gratefulness for having been offered anything at all, even if the offer is ultimately declined. We're now surrounded by technologies promising to make our lives better. But these platforms are taking away our light – they are taking away our attention. We are constantly distracted through the information space. It takes us ages to find the information we want because of adverts and constant redirection.

Humans have mostly lived in an age of information scarcity – so information was very valuable. However, nowadays we live in an age of information abundance, so it is attention which is valuable.

Given the comparative absence of societal boundaries, we now have the autonomy to create our own. Although this is a freedom, it brings an extra cognitive load and introduces stress into our decision making. New technologies have taken advantage of our lack of boundaries. They've encouraged us to distract ourselves from making big decisions and given us short-term rewards. Given information abundance, it is harder than ever to choose our own boundaries. We're gradually getting more and more overwhelmed.

One of Aesop's fables shows us the difference between persuasion and coercion. The sun and the north wind competed to remove a man's coat. The wind blew and blew, but the man wrapped it tighter round his body. The sun shone and the man took off his coat. This fable is intended to show that persuasion can be far more powerful than coercion. All design is persuasive – it seeks to direct our thoughts and actions. But some design is even more persuasive. It takes a specific set of behaviours that humans have and it wants to change those behaviours. This has always existed, but the scale and scientific nature of the persuasion industry now is colossal. Billions of dollars are being spent to make us look at one thing instead of another. This challenges our ability to create our own boundaries.

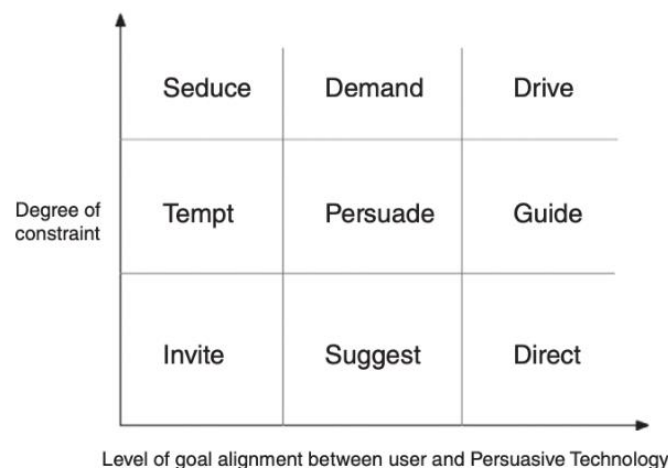
Conceptualizing Attention

We need to have a new language that we can use when we're thinking about attention. These are Williams' suggestions (p. 49):

- The 'Spotlight': our immediate capacities for navigating awareness of and action toward tasks. It enables us to do what we want to do.
- The 'Starlight': our broader capacities for navigating life 'by the stars' of our higher goals and values. It enables us to be who we want to be.
- The 'Daylight': our fundamental capacities – such as reflection, metacognition, reason, and intelligence – that enable us to define our goals and values to begin with. It enables us to 'want what we want to want'.

We also need a new language to understand persuasive technologies. What is shown in Figure 1 is a starting point (p. 113).

Figure 1. How to understand persuasive technologies



What can policy do in the near term that would be high leverage? It could develop and enforce regulations and/or standards about the transparency of persuasive design goals in digital media. It could also set standards for the measurement of certain sorts of attentional harms – that is, quantify their 'pollution' of the inner environment – and require that digital media companies measure their effects on these metrics and report on them periodically to the public. Perhaps companies could even be charged something like carbon offsets if they go over a certain limit – we could call them 'attention offsets'.

Do we need a designer's oath? This would be similar to a Hippocratic oath in terms of ethics but would be about ensuring that designers do not take away a person's time.

2.5 Historical Thought Concerning Information Environments

Bernays, E. (1928). *Propaganda*

Central Argument

In his 1928 manual, Edward Bernays advises on why propaganda is so important and how it should be instigated. His view is that the use of the word 'propaganda' is unnecessarily pejorative. Instead, we should see propaganda as the means to uncover truths in a democracy and create order from chaos. His manual was included to give a historical perspective on influence in elections.

The Details

Chapter 1 (pp. 37–45)

There are many different groups with many different causes and agendas. Therefore, we need people to direct the public conscience so they vote as a unit for specified causes. This will ensure there is no confusion.

Chapter 2 (pp. 47–57)

'The mechanism by which ideas are disseminated on a large scale is propaganda' (p. 48). Propaganda is wrong only when the authors consciously disseminate what they know to be lies or when they aim to knowingly cause societal harm. Approval of the public is essential to any undertaking – so opinion must be sought and approval must be won. This is done by propaganda.

Chapter 3 (pp. 59–70)

The propagandist is the gatekeeper – they decide what can be disseminated and what cannot. They must have an ethical approach. They must only publicize ideas that are true and well intentioned.

Chapter 6 (pp. 109–128)

Do we expect our political leaders to merely reflect the will of the people or to lead the people instead? Their role is a mixture of both. In a democracy, we want our leaders to represent us, but also to create better versions of ourselves. Thus, political leaders have to engage in political propaganda to shape the views of the people. They also need to take part in propaganda to listen to the will of the people and to interpret this will through policy.

Chapter 11 (pp. 161–168)

Propaganda is simply the establishing of reciprocal understanding between an individual and a group. (p. 161)

If the public is better informed about the processes of its life, it will be so much the more receptive to reasonable appeals to its own interests. No matter how sophisticated, how cynical the public may become about publicity methods, it must respond to the basic appeals, because it will always need food, crave amusement, long for beauty and respond to leadership. (p. 168)

3 APPENDIX: WHAT IS DEMOCRACY?

Elklit, J., & Svensson, P. (1997). 'What Makes Elections Free and Fair?'

Freedom: the right and opportunity to choose one thing over another. You are free from coercion.

Fair: everyone has the same opportunities as everyone else.

Elections must be free before being fair, but it is hard to ensure that everyone has the same resources – people have different levels of political understanding, etc.

The preelection period is especially important: it is at the stage that observers must assess whether the election law and the constitution guarantee the freedom of the voters, and verify that relevant resources are not too unequally distributed among competing parties and candidates. (p. 36)

The phrase 'free and fair' cannot denote compliance with a fixed, universal standard of electoral competition: No such standard exists and the complexity of the electoral process makes the notion of any simple formula unrealistic. (p. 45)

Schmitter, P., & Karl, T. (1991). 'What Democracy Is... and Is Not'

What distinguishes democratic rulers from nondemocratic ones are the norms that condition how the former come to power and the practices that hold them accountable for their actions. (p. 5)

During the intervals between elections, citizens can seek to influence public policy through a wide variety of other intermediaries: interest associations, social movements, locality groupings, clientelist arrangements, and so forth. Modern democracy, in other words, offers a variety of competitive processes and channels for the expression of interests and values—associational as well as partisan, functional as well as territorial, collective as well as individual. All are integral to its practice. (p. 6)

Integral to the concept of democracy is that the majority rule. But there have to be some regulations in place if majorities continually look to discriminate against minority groups.

The most common and effective way of protecting minorities, however, lies in the everyday operation of interest associations and social movements. These reflect (some would say, amplify) the different intensities of preference that exist in the population and bring them to bear on democratically elected decision makers. Another way of putting this intrinsic tension between numbers and intensities would be to say that 'in modern democracies, votes may be counted, but influences alone are weighted'. (p. 7)

Cooperation has always been a central feature of democracy. Actors must voluntarily make collective decisions binding on the polity as a whole. They must cooperate in order to compete. They must be capable of acting collectively through parties, associations, and movements in order to select candidates, articulate preferences, petition authorities, and influence policies. (p. 7)

But this means we have to find our common needs.

In contemporary political discourse, this phenomenon of cooperation and deliberation via autonomous group activity goes under the rubric of “civil society.” The diverse units of social identity and interest, by remaining independent of the state (and perhaps even of parties), not only can restrain the arbitrary actions of rulers, but can also contribute to forming better citizens who are more aware of the preferences of others, more self-confident in their actions, and more civic-minded in their willingness to sacrifice for the common good. At its best, civil society provides an intermediate layer of governance between the individual and the state that is capable of resolving conflicts and controlling the behaviour of members without public coercion. Rather than overloading decision makers with increased demands and making the system ungovernable, a viable civil society can mitigate conflicts and improve the quality of citizenship—without relying exclusively on the privatism of the marketplace. (p. 7)

There are territorial constituents and interest groups that represent interests that have national membership.

1. Control over government decisions about policy is constitutionally vested in elected officials.
2. Elected officials are chosen in frequent and fairly conducted elections in which coercion is comparatively uncommon.
3. Practically all adults have the right to vote in the election of officials.
4. Practically all adults have the right to run for elective offices in the government.
5. Citizens have a right to express themselves without the danger of severe punishment on political matters broadly defined.
6. Citizens have a right to seek out alternative sources of information. Moreover, alternative sources of information exist and are protected by law.
7. Citizens also have the right to form relatively independent associations or organizations, including independent political parties and interest groups. (p. 9)

The challenge is not so much to find a set of goals that command widespread consensus as to find a set of rules that embody contingent consent. The precise shape of this 'democratic bargain', to use Dahl's expression, can vary a good deal from society to society. It depends on social cleavages and subjective factors such as mutual trust, the standard of fairness, and the willingness to compromise. It may even be compatible with a great deal of dissensus on substantive policy issues. (p. 10)

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