

Viva la Resistance:

How to Conceptualise Resistance in a Technologically Mediated World?

Mees A. Hellinga

**First Reader:** Peter-Paul Verbeek

**Second Reader:** Michael Nagenborg

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## **Summary**

'Resistance' as a philosophical concept is paid little heed in philosophy of technology. This thesis focusses on the concept of resistance in critical constructivism and mediation theory. This in order to lay a basis for the discussion surrounding resistance in philosophy of technology. It will then take the concept of resistance as presented in Michel De Certeau's work and try to apply it to a mediation framework. From all of these points of view a conceptualization of the concept of resistance will be drawn up. The conclusion will unify these different concepts and conceptualise resistance not as opposition, but rather as engagement with technology.

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## 1. Introduction

“Resistance is Futile” is a phrase from Star Trek’s Borg to illustrate their dominance over the galaxy. This utterance is used often in popular culture to illustrate the bad guy’s dominance over which the good guys will eventually triumph against all odds. These three words illustrate a classic struggle between a greater power and a smaller counter movement. Yet, ‘resistance’ remains a little examined concept within philosophy of technology. While the theme of being opposed to technological developments and the accompanying societal shifts in some form or another are most certainly discussed (Feenberg 2005) (De Certeau, 1970) (De Certeau 1980) , the concept of ‘resistance’ itself remains underexamined (Verbeek 2013) (Feenberg 2005) (Feenberg 2020).

For me, what drew attention to the concept of resistance, is how resistance is usually framed as a position opposed to something. This while some people appear to resist by doing the exact opposite; by aligning themselves with the thing they are resisting and using this thing to their own advantage. One person doing this who stuck out to me is James Veitch. He is approached through an online platform, say email or Twitter, by a scammer in a classic way; they pretend to be a long-lost friend in dire need for money, have an extremely lucrative business proposal or they are a potential romantic interest. He replies by feigning interest and keeps the scammer busy with fake memories of the old days, business proposals of his own and clumsy romantic advances. These are examples of how he appropriates the tactics of scammers in order to engage them in what is essentially their own scheme.

Veitch’s sketches made me wonder if it was possible to perform resistance by performing precisely that action that you are trying to resist? The account below springs forth from that question, even though the main question is altered slightly to make it more academically viable.

## 1.1 Background

Today's world is one where power and counter movements increasingly collide with one another. With the outbreak of the Covid-19 pandemic, those who oppose traditional authority are becoming more vocal and their impact is slowly becoming problematic. Opposed authorities include governments, but also medical authorities such as scientists and doctors. Those who oppose them have sowed enough doubt<sup>1</sup> that group immunity for Covid-19 appears to be out of reach in some countries (Nu.nl 2021). Other forms of resistance also slowly take a more prominent position in society; protests against racism and other forms of discrimination often clash with authorities or those with different ideas.

Technology plays a role in such opposition movements. The doubts around Covid-19 have a technological taint as they centre around technological developments. A few examples of what those who oppose traditional authority believe are that 5G allegedly spreads the virus, Bill Gates would be seeking to increase his power through the pandemic or Covid-19 supposedly was deliberately spread as a bioweapon, as is revealed by a poll conducted among the Dutch population (IPSOS and Nieuwsuur 2020). Following such beliefs surrounding covid-19, there also exists a strong anti-vaccination movement strengthened by the doubt already surrounding the virus. Similarly, while nearly no one will argue in favour of climate change, technologies that may provide a partial solution can encounter resistance when executed in certain areas of population. Not only is technology present in resistance movements, but there also exists a form of resistance against technology. Looking at philosophy of technology, the concept of 'resistance' is taken as a single concept. Yet, as illustrated above, two different concepts already emerge; one where technology has a role in resistance and one where

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<sup>1</sup> In a poll among the Dutch population 15% believed Covid-19 to be a bioweapon, 4% attributed the outbreak to the building of a 5G phone network and 5% said Bill Gates probably was behind the virus. In all cases, nearly double the percentage of people had their doubts, but did not want to say the above was definitely not the case (IPSOS and Nieuwsuur 2020).

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technology is the very thing being resisted. This ambiguity of what ‘resistance’ as a concept entails is illustrative of how the concept requires a better, more wholesome examination.

In a 2013 paper, aptly titled “Resistance is Futile”, philosopher of technology Peter-Paul Verbeek directly pays attention to the concept. In this paper he responds to another philosopher of technology, Andrew Feenberg. Feenberg seeks a more democratic way of developing technology. For him, struggle and resistance are a necessary part how he thinks technology should become more democratic. Only by including these elements can the feedback of technology, both positive and negative, be more equally distributed among stakeholders. This model of in which two opposing sides on either side of a technology can only together produce a better form of that technology, is what forms the basis for Feenberg’s critical constructivism. Verbeek responds that this model of opposition does not offer a sufficient analysis of the ethical workings of technology. Rather than a focus on the struggle and resistance against technology, he wants to focus on the relationship between technology and human subjects as well as how to develop a critical understanding of this relationship. While I will touch on both these positions in more detail later on, for now I wonder if resistance not part of the ethical reflection Verbeek seeks to offer? Is it not what follows that reflection after finding we do not like what we have reflected upon – in this case technology?

From this thought I will develop my research question: as much as Verbeek would like to do away with a model of struggle, it is undeniable that some people struggle with the adaptation of new technologies, or struggle in some other way with accepting technological reality. Here again, one can see a ambiguity emerge; two meanings of the word struggle, a concept . While not an ambiguity I will resolve here, this related ambiguity again shows the need to better define concepts used in the discussion that surrounds resistance. I think that to do away with the concept of ‘resistance’ would fundamentally undermine Verbeek’s mediation theory – a theory that states that human-world interactions are mediated through technology –



further touched upon in chapter 3. Yet, Verbeek's philosophy also considers resistance to be futile. And so follows my research question: *how should the concept of 'resistance' be defined to remain meaningful in a philosophy that considers the world imbued with inevitable technological influences?*

## **1.2 Methodology**

To better answer this main research question, an in-depth theoretical analysis will be applied. What I mean by this is that rather than taking a broad selection of authors, I will instead focus on two authors – Verbeek and Feenberg – and examine their work in-depth which will allow me to define the concept of resistance as such that it is meaningful for both theories. To properly define the concept as such, it will turn out that a third other is needed, Michel De Certeau. The choice for the first two authors stems from their discussion on the matter of resistance. Contrasting Feenberg's critical constructivism with Verbeek's mediation theory will not only show their differences, but will also form a basic concept of resistance from which I can build in the rest of this thesis. The second chapter will open the discussion by examining Feenberg's position, explaining his critical constructivism and how it relates to resistance thinking. In this chapter I will try to answer the underlying sub-question of *what does resistance entail in critical constructivism?*

Verbeek criticises Feenberg's as for seeing technological influence as a basis for resistance, rather than viewing this influence as constitutional to human subjects. Instead, Verbeek offers an alternative; mediation theory. This theory considers human beings and technologies to be intertwined and inherently inseparable in the contemporary age. As they are inseparable, resistance – as presented by Feenberg – is futile, as one can never be rid of the other. Rather than a model of opposition, Verbeek pleads for a model of accompaniment. Having a better look at his broader work will not only provide more insight in what prompts

him to state that resistance is futile, but will also show that resistance most certainly has a place within his Mediation Theory. I will try to discern the reasons of Verbeek for considering resistance to be futile. More importantly, I will argue that Verbeek's work contains an implicit notion of resistance. This third chapter will work from the following sub-question: *How does Verbeek argue that "Resistance is Futile" and what kind of more subversive resistance elements can be found in Verbeek's broader work?*

As I will argue in chapter 3, resistance is an inherent part of mediation theory, even though its conception remains largely implicit. The fourth chapter will be an attempt at formulating a more explicit notion of the concept, laying the basis for a more wholistic concept of resistance, one that can add both to Verbeek and Feenberg's ideas. I look for this through the thinking of Michel De Certeau. His works are chosen for two reasons. First of all, he is one of the primary sources of Feenberg and it is therefore interesting to see if this notion of resistance can help us. Second, the concept that De Certeau has of authority shows many similarities to how Verbeek considers technology to work. De Certeau also draws many connections to Foucault, an inspiration for Verbeek in considering resistance to be futile. This makes what De Certeau writes on resistance, or "oppositional practices" as he calls it, particularly interesting for the question at hand. This should answer the following sub-question: *if one's always influenced by technology, then how can one form a position of reflection that enables a critical attitude from which to invoke change through resistance?*

These three chapters will allow me not only to analyse resistance in two major positions within the current field of philosophy of technology, but they will also provide me the necessary ingredients to answer the main research question and redefine resistance in my conclusion: *how should the concept of 'resistance' be defined to remain meaningful in a philosophy that considers the world imbued with inevitable technological influences?*

## 2. Struggle & Resistance: Feenberg's Critical Constructivism

In a 2005 paper titled "A Critical Theory of Technology: An Overview" Andrew Feenberg makes a call for opening up technology to a wider range of interests, amongst which the interests of nature and those humans who suffer from technological development. According to him, technology has come to represent a narrow range of interests of those that develop and operate it. Seldomly is it used in favour of those that are objects to it; when technology takes its place between two humans who have an unequal relationship of power, technology often becomes the means through which that power is projected. For Feenberg, instead, it is time to shorten the feedback loops in order to radically reform the technical sphere; "every one of our interventions returns to us in some form as feedback from our objects" (Feenberg 2005, 48) Whether this feedback is positive or negative for the actor behind technological use, this "return" is the feedback loop Feenberg talks about and it should bestow its effects, both positive and negative, to the technological actor.

In a 2013 paper called "Resistance is Futile: Toward a non-Modern Democratization of Technology", Peter-Paul Verbeek criticizes the analysis of power that Feenberg makes in his 2005 paper. Verbeek tries to show "that democratization does not need to take the shape of external critique but can also be a form of accompanying technology" (Verbeek 2013, 80). For Verbeek, resistance as used by Feenberg, is an external position that would require an impossible relationship towards technology in order to enable ethical reflection. Instead, Verbeek argues in favour of a position that give ethical reflection on technology from the inside. For this, he proposes that the subject needs to develop a so-called Foucauldian "limit-attitude", a self-reflective relationship at the fringes of our understanding, to achieve an ethical relationship to technological development and as such is not an external position, but rather a position from within the relationship between the human subject and technology.

I will compare Feenberg's critical constructivism to Verbeek's mediation theory in order to get a strong grip of how both frame resistance. This in turn will allow me to build and eventually reinforce the concept to a more wholistic interpretation. In this chapter I will focus on Feenberg's critical constructivism, his concept of resistance and Verbeek's critique of these two. The next chapter will follow up on this with an analysis of Verbeek's alternative – the limit-attitude – and his concept of resistance. By the end of the current chapter Feenberg's standpoint should be fully explained and an answer to the following sub-question should be clear: *what does resistance entail in critical constructivism?*

### **2.1 Feenberg's Critical Theory of Technology**

As Verbeek's "Resistance is Futile" is a response to Feenberg, the natural starting point for my examination is with the latter's work. Feenberg presents an overview of his critical theory of technology and thus his paper is called "A Critical Theory of Technology: an Overview" (2005). This paper is a presentation of his own instrumentalization theory, the basis for his larger Critical Constructivism. With his theory in hand, he presents us with the call to increase what he calls the democratisation of technology, which will later be the main point for Verbeek to criticise. This paragraph will present Feenberg's theory, while the next will explain his democratisation and its relationship to resistance.

Feenberg begins his paper by explaining how and why he pleads for a more democratic approach to technology. He considers the technical system to be too one-sided in its projection of power; those who reap the benefits from the implementation of technology often don't suffer the consequences. He therefore argues for "[o]pening up technology to a wider range of interests and concerns" (Feenberg 2005, 49). He considers a democratic transformation of technology necessary to shorten feedback loops. What this means is that technology is designed

in such a way that those who reap the benefits of technology, also bear the costs of its use. This forms the essence of Feenberg's argument.

Feenberg begins his argument with his instrumentalization theory. This theory holds that any philosophy of technology should analyse technology at both a primary and a secondary level. This means accounting for both an abstract analysis of technology as well as an analysis of technology in a user-context respectively. At the primary level, one decontextualizes the technology and in doing so exposes it to abstract analysis and distanced manipulation. This makes the technology available for analysis and new implementations. The secondary level focuses on the technology in a user-context, often in conjunction with already implemented technologies. It looks at the role a technology has in society.

Examples of both primary and secondary instrumentalization are given in a later 2010 paper, in which Feenberg also states that "An adequate philosophy of technology must provide an account of both the primary and the secondary instrumentalization" (Feenberg 2010, 75). An example of primary instrumentalization can be found in picking up a rock and using it to crack open a shell; by picking it up we first decontextualize it and can then recontextualize it by attaching it to a stick, creating a hammer. Secondary instrumentalization can be found in cutting down a tree, stripping it of its bark and creating it into lumber, which makes it ready for use in construction. How it is used within construction still differs from country to country; we can give a fairly objective account of how the tree is cut down and made ready for use, yet its final use will always be context-dependant. This is the social context secondary instrumentalization is all about. In a philosophical analysis, it is important to attempt the separation of both levels of instrumentalization, while being aware of how they intermingle. Not doing so leads to a view of technology that has insufficient evidence to support that same view, according to Feenberg.

Aside from instrumentalization, Feenberg provides us with a further analytical tool; the technical code, "(...) a criterion that selects between alternative feasible technical designs in

terms of a social goal" (Feenberg 2005, 52). The technical code enhances the secondary instrumentalization as it analyses what would work on a technical level. This reveals to us social goals, be they aesthetics, ethics, or desirability. These latter goals are not a universal good, but rather refer to the hegemonic values of the day and are thus relative to their secondary instrumentalization context. These two analytical tools, instrumentalization and the technical code, form the basis for Feenberg's critical theory of technology. An understanding of which is required to conceptualise how he thinks of resistance.

With these two tools in hand Feenberg analyses technology as following what he calls a Marxist tendency in which technology is increasingly considered to be developing in favour of facilitating management rather than facilitating skilled labour. "In Marx the capitalist is ultimately distinguished not so much by ownership of wealth as by control of the conditions of labor. (...) This leads over time to the invention of a specific type of machinery which deskills workers and requires management" (Feenberg 2005, 53). To Feenberg, a major example of this is the imperative requirement to deskill labour through industrialization. Thus, technology reinforces the status quo, those who implement technologies, while ignoring in large part the interests of those subjected to the technological effects. It is this problem that Feenberg desires a solution for as for him a different power structure would lead to technology developing in a different direction as well as lessen the struggle of those resisting the technological development in its current form.

Feenberg further explains his instrumentalization theory in a 2008 paper titled "From Critical Theory of Technology to the Rational Critique of Rationality". Here he not only contextualizes instrumentalization in his larger constructivism, but he also explains the analogy it shows with neo-Marxist critical theory. Feenberg argues that a more radical version of constructivism would argue that no distinction between the technical and social exists, yet, he himself thinks that "modern technology is a particular expression of the social in artefacts and

systems, mediated by the labour of differentiated technical disciplines” (Feenberg 2008, 18). Here, Feenberg sees social artefacts and systems embody market principles Marx warned about. Marx's market analysis states that the capitalist detaches himself from social context – similar to primary instrumentalization – but then in turn is confronted with objects that determine his identity – secondary instrumentalization (Feenberg 2008, 20).

The analogy between technologies and politics go much further. As for the technical code, it is those standards that have become institutionalised that determine the code, not vice versa. Likewise, Feenberg sees the law in a democratic state follow a similar pattern, where it is those interactions that have become institutionalised that encode the law. The technical code is similar in the sense that it is “[t]hese social standards impose the technical code” (Feenberg 2008, 23) This makes it so that technical codes remain stable, which can become undesirable if a technology heavily favours a small group in its benefits, while imposing the costs on another group. The group carrying the costs of technology is thus unfairly burdened without benefit and this requires a solution. From here I would like to explain and investigate Feenberg's democratisation and how resistance plays a role in his theory.

## **2.2 Feenberg's Proposal: the Democratisation of Technology**

Feenberg sees technological development as not being driven by rational principles and scientific know-how, but rather by whatever is deemed desirable by those who determine its implementation. Because technology is determined by what is desirable by those who dictate it, other paths technology could take are blocked off. Feenberg wonders: “What can be done to reverse the tide? Only the democratization of technology can help” (Feenberg 2005, 55). This means rearranging technical codes while keeping in mind other previously excluded values and interests. This would lead to the inclusion of the interests of groups that previously had no say in the design process. This can be considered the democratisation Feenberg is talking about and

would be the result of successful struggle – the linchpin of resistance in Feenberg's conception – by previously underrepresented groups in the process of technological development.

Yet the implementation of a technology is not a straightforward process. Through the concept of underdetermination Feenberg explains that the historical context shapes technology as much as its technological feasibility does. The selection process of a particular technological solution is as much attributable to its societal context as to its technological workings. Yet even this societal context is not straightforward as “[a]pproximately the same technology, with a slightly different design, can serve the interests and needs of very different social groups” (Feenberg 2009, 80). This is what Critical Constructivists call interpretive flexibility (Pinch and Bijker 1984); very different stakeholders can use a technology in different ways at different times and places. As such, depending on which group holds the most sway in the most places, a technology will be turned to their advantage.

What democratisation should achieve there is to shorten feedback loops; experiencing both the positive and negative effects of technology to the operator. In the process of democratisation, feedback loops are essential, as “(...) shattering the illusion of transcendence by revealing the feedback loops to the technical actor” (Feenberg 2005, 55) is the first step to democratisation and can be achieved by shortening the time it takes for feedback to arrive at the user of technology. The latter would be a reciprocal feedback loop.

The example shown in *figure 1* (see page 17) shows a literal example of a shortened feedback loop, in order to give the user full and complete feedback; (s)he might travel faster, but (s)he will also have to breathe in the emissions (s)he burns in order to travel at a higher speed. Of course, the example is not technologically feasible, as no one would use this scooter, but that might be the point of closing feedback loops; if everyone got the full blowback from their technical actions, a lot of those actions would not go through.



In order to establish properly reciprocating feedback loops, Feenberg utilizes the work of Michel De Certeau on micro-political resistances. These micro-political resistances contain resistance on an individual level, rather than resistance forming the basis for a large scale political movement against established power. Taking power and resistance as such, Feenberg sees power and resistance translate remarkably well to technically mediated organizations (Feenberg 2005, 55-56). Feenberg zooms in on resistance on a tactical level, rather than on a strategic level.<sup>2</sup> In summary, this difference comes down to small scale individuals versus large scale political order. Resistance takes place on the level of individuals – the tactical level – while the political orders operate on a large – strategic – scale. Feenberg cites the successful turnaround of the climate debate after the spread of problems (feedback) and protests by the



Figure 1 Shortening feedback loops: Mileudefensie: Friends of the Earth Netherlands, (2018, 05 June), Kamerleden op de Eerlijke Scooter [Members of Parliament on the Honest Scooter], retrieved from <https://milieudefensie.nl/actueel/eerlijke-scooter>

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<sup>2</sup> This distinction stems from military theory, first described in *On War* (1832) by Carl von Clausewitz, where the strategic level concerns itself with the movement of armies and supply lines and the tactical level is more concerned with individual small-scale units. Chapter 4 will go deeper into the philosophical – rather than military - differentiation of these terms.

victims (democratisation) and the democratic system was turned around. Protesters – individuals – made their problems known to the political order and in doing so, forced implementation of more environmentally friendly policies. Thus, resistance on the tactical level can bring about change on the strategic level.

It is not hard to draw the comparison between the tactical and strategic level and, between the secondary and primary levels of instrumentalization. Whereas the previously discussed tactical level can be seen to be on the level of secondary instrumentalization, strategies are performed on the level of primary instrumentalization. From this comparison I derive that in Feenberg's view resistance – a tactical movement – is performed in context, or in other words at the level of secondary instrumentalization. Moreover it moves against those political orders that operate on a larger scale or the strategic level, which is a lot more abstract. Resistance is thus concrete and situationally dependent. To isolate it and analyse it out of context makes little sense in Feenberg's framework. Likewise, Feenberg notes it is impossible to fully decontextualize a technology. The societal implementation of a technology will always colour one's view when trying to apply primary instrumentalization. It is impossible to fully step back and observe technology from a distance. This is a problem for Feenberg's theory that Verbeek will later latch onto.

For Feenberg, it is clear that democratisation is the only answer to the development of technology in favour of those already in control – what he described as technology developing in favour of management, rather than skilled labour. In doing so it reinforces those in power – the management – to impose their will on others with little to no control. From this arises a struggle of those suffering the negative consequences of technological development, for which Feenberg desires a solution through his democratisation. Democratisation means that previously excluded groups are included in to the design process. The hope is that in doing so shortens feedback loops; that both the benefits and drawbacks are distributed proportionally to

each other, those that benefit should bear the cost. Democratisation should open technology to a collective perception, a perception provided by the inclusion of more different groups of those involved in the technological effects. In doing so it would lessen the struggle – and in extension the resistance – of those who suffer the negative consequences of technology.

The concept of 'underdetermination' plays a central role in his argument for democratisation as the solution to the struggle of those suffering the negative consequences of technology. The term refers to the fact that a technological device can have several technologically feasible solutions, but that their social consequences differ, based on the solution chosen. Currently, the chosen solution is often based on technical feasibility. This solution considers expert opinion to be more valuable as it is what designed a technology in the first place. The opinion of laymen only comes in later in the process, only when these laymen start suffering the consequences. Even though they suffer the consequences equally to the experts, they had no say in the technological development (Feenberg 2020, 33-37). Thus, "[t]he feedback relation involves communication between lay actors and technical experts who alone can transform designs in accordance with public demands" (Feenberg 2020, 33). Experts are often the only ones in a position to bring about change. Thus communication between them and laymen is essential to democratising technology. This should enable a previously underdetermined technological solution to lessen the burden carried by the laymen. This in turn would lessen their struggle – and by extension, their resistance.

### **2.3 Verbeek's Critique of Feenberg**

Feenberg's Critical Constructivism is criticised by Peter-Paul Verbeek. In a paper titled "Resistance is Futile: Towards a Non-Modern Democratization of technology" he criticises Feenberg's analysis of the democratisation process and by extension the latter's Critical Constructivism. In this paper Verbeek attempts an alternative framework to the one provided

by Feenberg. This alternative framework should offer not an examination of the development of technology, but rather a way for the individual to retain a critical attitude towards technological development.

Verbeek goes in search of an alternative, because according to Verbeek Feenberg indicates that technology is never problematic in itself, but only in its practical application, “(...), the task of a political philosophy of technology is not to criticize technology as such, but to find an alternative technological rationality and materiality” (Verbeek 2013, 73). Hence, the search for an alternative is indicated, an alternative that needs to be found both in the thought process behind technology and in the physical space technology has in society.

According to Verbeek, Feenberg does not sufficiently account for how politics requires the recognition of the mutual shaping of technology and human existence. For the latter, it is either democracy or technocracy, there is no other alternative. However, Verbeek thinks in a different direction: “A phenomenological approach to power shows that non-technocratic forms of engagement with technologies involve much more than the tactics of resistance” (Verbeek 2013, 83). Verbeek sees this in Feenberg's description of secondary instrumentalization where humans can take creative reinterpretations in order to shape technological development.

Because of the Marxist origins of Feenberg's work, Verbeek perceives a strong tendency in Feenberg's work towards a dialectic model – one of opposition and with an emphasis on struggle. This struggle I have just explained while examining Feenberg's paper and Verbeek too highlights the disempowerment of the working masses, while empowering those managing the production process. The only answer to this can be, according to Feenberg, the democratisation of technology, achieved through resistance. This thinking in terms of opposition and struggle is the dialectic thinking that Verbeek disagrees with. I will discuss his alternative, a hermeneutic approach, in the next chapter.

Verbeek sees Feenberg's analysis as separating the realms of technology and society: "Technology and society are conceptualized as two separate realms, and the role of democracy is to make sure that the power is with the people, not with technology. If technology invades too deeply into the human sphere, practices of resistance and subversion are needed to push it back into its own realm" (Verbeek 2013, 73). According to Verbeek, this separation of the human sphere from the technological sphere is unfeasible as he understands both spheres as intertwined and thus inseparable (Verbeek 2013, 80). Following Latour, Verbeek sees human subjects and nonhuman objects as intertwined. One cannot understand either in separation. "Conceptualizing this relation in terms of struggle and oppression is like seeking resistance against gravity, or language" (Verbeek 2013, 77). Rather than conceptualizing the human-technology relation as two separate parties involved in a struggle – like Feenberg does –, the only struggle that Verbeek sees is one where there's a struggle of mutual shaping and interaction, rather than that of liberation and oppression.

While Verbeek's own conception is the subject of the next chapter, for now Feenberg presents a model of struggle and opposition. For him there exists an asymmetrical relationship between those who operate technology to a certain end and those who receive the feedback – one might even say blowback – from that same use. Feenberg would much rather see a more equal distribution of the drawbacks and benefits of technology. This closing of feedback loops is what can be considered resistance in his theory. It requires the separation of technology and its societal context in primary and secondary instrumentalization. From Verbeek's point of view this analysis that separates by Feenberg is the most problematic; both human subjects and the technologies in their surroundings are shaped by one another. This forms the core of Verbeek's critique and a prevalent thought throughout his mediation theory. It is also one of the leading causes for him to exclaim that "resistance is futile".

## 2.4 Feenberg's Concept of Resistance and its Shortcomings

In this chapter I dove into the work of Feenberg. In general I discussed his broader ideas, but more specifically with regards to the current research I am interested in his conception of 'resistance'. For Feenberg, resistance is a process that is to keep in check an ever-encroaching technological sphere that is slowly tightening its grip on human society. Resistance in this sense can be seen as a *struggle* by humans *against* technology, one that safeguards the interests of humans in technological development. In his interpretation, resistance appears as part of a *conflict* between two opposing sides, in this case, the human or societal side and the technological side.

This dichotomy is illustrated best by his separation of a philosophical analysis of primary and secondary instrumentalization. Primary instrumentalization looked at the abstract side of technology, while only secondary instrumentalization accounted for the societal context technology will always find itself in. This is at the core of the critique discussed by Peter-Paul Verbeek; that to analyse a technology without its context is an incomplete analysis. To him, technology and human society are always intertwined, mutually constituted. Thus, to conceptualize it as two opposites is unfeasible. A similar conception of resistance – one of struggle and opposition – would be similarly unfeasible. Thus, the next chapter will go into the alternative theory of technology that Verbeek offers and see what the conception of resistance is in that theory.

### 3. Verbeek's Concept of Resistance (is Futile)

In the previous chapter I discussed Feenberg's critical constructivism and Verbeek's critique of that theory. One of Feenberg's examples, the Minitel information-retrieval system in France clearly illustrates Feenberg's and Verbeek's differing standpoints. The system was adopted by users as a communication system. For Feenberg, this was an act of successful resistance, while for Verbeek it is not the information-retrieval system that requires ethical reflection, but rather the adaptation as a communication-system that does. The system at first was one where it provided a top-down information distribution system, one where those in control could send information to those listening. Instead it was adopted as a decentralised communication system over which little control could be exercised. For Verbeek, this example shows how an ethos should concern itself not merely with breaking the power of the elite, but on how such an adoption can improve the quality of life, which is inherently symbiotic with technology and how society adopts it. In this chapter I will focus on Verbeek and that inherently symbiotic relationship.

For this purpose I will provide an overview of mediation theory with regards to resistance. I will look at the explicit "Resistance is Futile" that Verbeek gives in a paper criticising Feenberg, but also at more implicit notions of resistance in a broader body of work concerning mediation theory. Specifically, in this chapter I will look at the broader work of Verbeek and his predecessor, Don Ihde. This should provide an answer to the twofold sub question: *What is meant by "Resistance is Futile" and what kind of more subversive resistance elements can be found in Verbeek's broader work?*

In short, and further explained throughout this chapter, mediation theory considers the technological embeddedness of the subject as a condition of the subject; technology is the platform on which humans experience their surroundings. As such, to resist against it is non-sensical and thus futile. On the other hand, just because the subject is embedded in a condition,

does not mean the subject cannot and will not work to change that condition from within. In this chapter I will thus look at the moment at which technology is still open to change brought about by the subjects it influences.

### **3.1 Mediation Theory: Why is Resistance Futile?**

In order to understand Verbeek's "Resistance is Futile" one must first understand his broader mediation theory. Bluntly summarised, mediation theory states that all human-world interaction is mediated by technology. Mediation theory follows a post-phenomenological tradition, which means that it investigates the co-constitutive relationship between humans and phenomenon as we appear to encounter them (Introna 2017). Phenomenology does not just limit itself to phenomena as such, but also in the way we engage with them. Post-phenomenology more specifically focusses on moving away from the transcendentalism claimed in critical theory (Introna 2017) as I explained in chapter 2. Mediation theory considers our world so technologically imbued, that phenomena in the world are always encountered through technology. Technology thus becomes the platform for the formation of subjects.

This makes technology the platform for human existence; all human-world interaction is considered to be influenced by technology. For different authors, the explanation of the post-phenomenological method starts with the work of Don Ihde, the one of the predecessors of Verbeek (Introna 2017) (Zwier, Blok and Lemmens 2016, 314-315). Post-phenomenology there is explained as investigating what makes the things in the world appear as such (Introna 2017) or as an account that questions the perceived objective qualities of objects (Zwier, Blok and Lemmens 2016, 315). Ihde himself takes the basis for his philosophy in 20<sup>th</sup> century phenomenologists, foremost from Heidegger. In Ihde's book 'Heidegger's Technologies' he zooms in on Heidegger's philosophy of technology by analysing 'Die Frage Nach der Technik' and 'Sein und Zeit'. From these works Ihde derives two human-world relations where



technology has a role to play, the embodied and hermeneutic relationship. The first are those technologies operated through the hand, called “ready-at-hand” by Heidegger. The second are those that disclose the world called “present-at-hand” (Ihde 2010, 78-79).

Verbeek builds on the work of Ihde and notices two more relations. These are the alterity relation, in which the technology becomes the object of fascination (Ihde 2010, 79), and the background relation, in which technologies just run on the background of our lives without requiring prolonged interaction (Verbeek 2005, 127-128). What these different relations illustrate, is that the lifeworld of human subjects has become technologically saturated. Every human-world interaction has a technological component in the contemporary age. Even a walk in the forest is mediated by technology through the shoes on our feet, the glasses through which we perceive the forest and the paths we walk upon in the forest.

These four relations form the basis for mediation theory as presented by Verbeek, though the list of possible relations goes on (and many are probably still left to be discovered). Indeed, Verbeek notices many more human-technology-world relations in later works. For example, in ‘On Icarus’ Wings’<sup>3</sup> he introduces the hybrid relation<sup>4</sup> and the combined relation<sup>5</sup> (Verbeek 2014, 149-151). What is important about all these relationships, is that there exists no pure human-world relationship. All human-world relationships include technology and thus there is no breaking with technology, only the ability of individual users to differently relate themselves to technologies. This is what the title of Verbeek’s 2013 paper tries to get at: “Resistance is Futile” in so far as there is no resisting technological influence in essence. For Verbeek, technology is part of the human condition and thus there exists no escape from it. Therefore, “Resistance is Futile”.

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<sup>3</sup> Translation by author, original Dutch title: *Op de Vleugels van Icarus*.

<sup>4</sup> In which technology and its user fuse into a single entity.

<sup>5</sup> In which the given representation of reality through technology has become the only available image of reality.

### 3.2 Verbeek's Alternative: The Limit Attitude

Aside from the criticism discussed in the previous chapter, "Resistance is Futile: Towards a Non-Modern Democratization of technology" (2013) also offers an alternative to Feenberg's critical constructivism. In that paper, Verbeek criticised Feenberg for separating the realms of technology and society, in which democracy has the role to protect the latter from the former when it comes to power. Verbeek does not see humans and their surroundings as separate, following a line of Latourian-inspired argumentation. Rather than perceiving technology and society as separate in struggle, he wishes to see them as mutually shaping. Verbeek acknowledges that a struggle can bring about this mutual shaping but would rather do away with the concept entirely.<sup>6</sup>

Verbeek rather argues in favour of a different model, one of accompaniment. Because Feenberg latches back to a Foucauldian interpretation of De Certeau, Verbeek takes the later work of Foucault<sup>7</sup> to establish the accompaniment model. By focusing on the later works one can see a different notion of ethical activity developing, one where one does not have to liberate themselves from oppressive relations of power, but one where it is about developing a free relation to such powers. "(...), by understanding their workings and getting involved in the ways they have an impact on one's subjectivity. Between 'yes' and 'no' it was looking for a 'how'" (Verbeek 2013, 80). By understanding how relations of power work, we can involve ourselves in their workings and thus develop a free relation to them. In its beginning this free relation is not about affirmation or rejection of power relations, but instead this relation enables us to ask how one wants to go about a world imbued with such relations.

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<sup>6</sup> Here one can see Verbeek's aversion to the dialectical model again.

<sup>7</sup> *The History of Sexuality vol. 1* (1976) and onwards.

To account for this “looking for a how” in technological development, Verbeek has developed the Guidance Ethics Approach in 2020, together with Daniël Tijink. In this approach they search for how people can develop technology in a valuable way, connecting near seamlessly to what Verbeek seeks to achieve with the limit attitude, as will be explained in the next paragraph. This approach accounts for some issues regarding my plea for resistance, but not all. In the ethical guidance approach technologies always need to be assessed in context, which had the consequence that only specific technologies can be assessed. In this sense, it connects to the Collingridge dilemma<sup>8</sup> that will be discussed in paragraph 3.5. What the guidance ethics approach offers in enhancement to mediation theory is that “[t]he guidance ethics approach looks for concrete options for action in order to achieve a more valuable interaction between people, society and technology” (Verbeek and Tijink 2020, 28). One would expect resistance or at least counter movements to emerge as one of these options for action. Instead, Verbeek and Tijink offer three domains in which action can take place; ethics by design (designing a tech to better match certain values), ethics in context (the adjustment of social norms/laws to a new technology)<sup>9</sup>, and ethics by user (educating the user on ‘proper’ use).

What I find notable here, is that there is little mention of user resistance. Instead, it appears to me that where intended technological use is put before user desires. This is shown by the way they speak of user interaction, as they emphasise the user’s “awareness” and “training” in the use of technology; “People can handle technology with care or recklessly, can be well trained or poorly trained. The first step is awareness. What does a technology do, what can it do and what can I do as a user? (...) The second step is actual behavioural change. Often that means training and exercise” (Verbeek and Tijink 2020, 42). While some “reckless” use –

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<sup>8</sup> This dilemma with regards to technology states that when technology is still malleable and can be directed in a different direction, its impact cannot yet be known. Yet, when that impact is known, it is often too late to still steer the technological development in another direction.

<sup>9</sup> One can think of the introduction of sidewalks after cars became more mainstream.

such as drinking and driving – is undesirable by a majority of standards, the things that are considered “reckless” with a new technology are often much less clear (Poel 2020, 386). Verbeek and Tijnk do not account for how “proper” values – those that the user requires training and exercise for – come into being. They try to account for this shortcoming in the design domain of action, but they do admit that there exist many cases in which end users have little influence on the use of technology, such as in health care. This to me is an indication of ignorance on how users influence technological development, at least here in the guidance ethics approach.

I think this is partly the case because Verbeek seeks to overcome the opposition model in “Resistance is Futile”. Using the example of Facebook, he explains why:

“For mediation theorists, Facebook is simply one of the many media through which friendship can take shape, just like real-life conversations. (...) Facebook mediates their relations, offering new ways of interaction. (...) the central idea is that, (...), technologies like Facebook do not function as technological invasions alien to human existence, but as the very *media* of human existence” (Verbeek 2013, 78).

Technologies function as the platform on which human-world interactions take place. It is through technology that humans interact, not opposed to them. This makes the opposition model nonsensical to Verbeek; to say that technology opposes human interaction is to say the world moves opposed to human actions. This would inscribe a false intentionality to objects that are incapable of such things. Rather, human intentionality and interaction are translated (mediated) by such media as technology.

Instead of Feenberg's dialectical approach, Verbeek would rather argue in favour of a hermeneutic approach and so he presents his Mediation Theory in which he focusses on how

technology mediates the relations between humans and the world, rather than struggle and opposition as the determining factors of technology. This forms the core of Verbeek's alternative to Feenberg's alternative modernity. It is not about looking at which technologies are acceptable and which are not, because technology is present. The question now is how we relate ourselves to it:

“Instead of focussing on which technologies are acceptable and which are not, the main task is to ask ourselves how we want to shape our relations with technologies. And instead of developing the tactics of resistance, we need tactics of “subjectivation”” (Verbeek 2013, 80).

‘Subjectivation’ in this citation is intended in a Foucauldian manner; resistance is futile in that sense that there will always exist a power or human-technology relation. The question is not how to resist it, but rather how to live responsibly with it and not in opposition to it. For this, Verbeek calls on the Foucauldian ‘limit-attitude’.

### **3.3 The Limit-Attitude**

So what is this attitude and how do we develop it? Foucault explains this in ‘What is Enlightenment?’. Here, he responds to a similarly titled essay by Kant. Taking the Kantian interpretation of Enlightenment it can be defined as developing a rationality through the method of critique. This means that the individual should be able to develop a position of understanding without the need for rational input from someone else; the individual is capable of thinking for themselves (Bristow 2017). However, this transcendentalism of the self bothers Foucault. For him, Enlightenment is attitude, by which he means a way of relating ourselves to our “contemporary reality” (Foucault 2000a, 309). This latter term does not merely include our historical context, but also a relationship to oneself. In extension, awareness of such an attitude is a confrontation with the self much more than anything else.

In the modern age, this attitude takes shape in the form of the limit-attitude. With this attitude Foucault attempts to move beyond the inside-outside dualism so prevalent in the Enlightenment. “[T]o transform the critique conducted in the form of necessary limitation into a practical critique that takes the form of a possible crossing-over” (Foucault 2000a, 315). As a consequence, the limit-attitude does not search for a universal good or value, but rather is a self-exploration of the subject as a product of its own thinking and doing; it is a self-reflective process from the fringes of what can be known, but never from the outside.

Here one can see a similarity to what Verbeek tries to accomplish, developing a self-critical attitude to technology without claiming independence (transcendence) from the self. The idea of the limit-attitude provides the basis for the alternative critical theory of technology which Verbeek presents is. This should enable us to be aware of how our theories of technology are themselves technologically mediated, while still reflecting on these same mediations. This is in opposition to critical theory of technology, which would rather focus on how technology is mediated by human intent.

The limit-attitude allows us to accompany technological development, which in turn should enable governance, rather than resistance. “Governing technological developments implies a recognition of their own, distinctive dynamics, and of the relatively limited autonomy human beings have in their relations to technology” (Verbeek 2013, 83). In order to fully realise our own, albeit limited autonomy, we need to recognise how technology and human beings are not two separate realms. Instead, governance implies recognition of how technological development and human existence imply each other and influence each other. Here again Verbeek draws heavily on the ideas of Foucault

There exists a similarity between relations of power and technologically mediated human-world relations. When discussing ‘power’ Foucault states that he always means ‘relations of power’ (Foucault et al. 2000b, 291). Thus, central to Foucault’s philosophy are relations of

power, rather than power itself, similar to Mediation Theory, where technological relations are central, rather than technology itself. Although power relations are everywhere, Foucault explicitly states that this does not mean that there are relations of domination everywhere. (Foucault et al. 2000b, 294).

For Foucault freedom is a necessary condition for relations of power; power relations are unstable, often governed by factors that are easily turned around and depending on the situation the relation of power shifts; an elder person may have more wisdom and life experience than a younger person and thus the younger may be intimidated at first. Yet, the younger person often has physical vitality and strength over the elder one. Even in situations where the power relations are highly asymmetrical, where one might speak of domination, there still exists a limited degree of freedom. Take the age-long structure of marital relations between men and women, a woman could still deceive, syphon money away from or refuse to have sex with the husband. Such measures never succeeded in reversing the situation, yet that only further underlines the point that there still exists a degree of freedom in a situation of domination.

Yet, while Foucault claims freedom as a necessary condition for power relations, he equally deems complete liberation impossible. A form of liberation exists; an occupied country can most certainly be liberated or an oppressed population can be liberated. But, this kind of liberation does not cover the entire spectrum of freedom; “[b]ut we know very well, (...), that this practice of liberation is not in itself sufficient to define the practices of freedom that will still be needed if this people, this society and these individuals are to be able to define admissible and acceptable forms of existence or political society” (Foucault et al. 2000b, 282-283). How a liberated group will define itself will always be in relation to the familiar, the old. In that sense, complete liberation is impossible.

For Foucault this is the case because a subject will always keep playing in the same game of truth. A game of truth is “(...) a set of rules by which truth is produced” (Foucault et al. 2000b, 297). A subject can only work to change the game currently being played, but it cannot play a different game entirely. If one desires change, it's up to them to show how it can be done differently. This is not meant as an actual display towards those in power, but rather as a practice of self-formation. Thus escaping a relation of power is futile, yet a degree of freedom is required for power to be exercised in the first place.

Verbeek argues in a similar manner; to try and play a different game is futile. Even if one takes a position in opposition to a technology, that position is still defined by the existence of technology to begin with. Thus rather than resistance, Verbeek thinks confidence<sup>10</sup> is key to maintain that necessary degree of freedom. “And rather than tactics they involve “technologies of the self,” which aim at *governing* technological developments rather than steering or resisting them” (Verbeek 2013, 84). Mediation Theory does not perceive the realms of technology and human existence as separate, and thus Verbeek is able to apply the Foucauldian term “Technologies of the Self” to the discussion. While the term deserves a thesis of its own, in short, it is about self-governance; shaping the self amidst the influences from the relations of power that surround us. Likewise, in Mediation Theory one should be aware of the technologically mediated human-world relations. For Verbeek, key to this is trusting oneself in taking responsibility for one's own technologically mediated resistance.

### **3.4 Passive Subversive Elements of Resistance in Mediation Theory**

I am left wondering that if resistance is futile because we are always mediated by technology, then how can the concept retain usefulness? To say resistance to technology is futile just

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<sup>10</sup> The terms ‘Trust’ and ‘Confidence’ are discussed in an article by Kiran & Verbeek. More attention will be given to these terms and their specific meaning according to this article in paragraph 3.6.



because technology is part of our condition as technological subjects is too short-minded. I think so, precisely because of Verbeek's alternative; the Foucauldian limit-attitude. As explained, this attitude allowed for a position of reflection from within, albeit at the fringes of our understanding. If I wish to unite different visions on resistance I would thus have to account for the fact that it cannot resist from outside the influence of technology.

In order to fully grasp what this entails, I think it important to examine what elements of resistance are present in mediation theory. In the current paragraph I will focus on the more subversive resistance elements present in mediation theory. By "subversive" I mean those elements present in mediation theory, yet not explicitly discussed as being resistance. These include the technological other, the structural ambiguity of technology, and the mediation of morals. In paragraph 3.5 I will discuss those elements that can be more directly reframed to a resistance discourse. The three subversive elements discussed now are those present in the broader works of Verbeek and Ihde, authors considered by several others to form the basis for post-phenomenology. In paragraph 3.5, elements that are more specific to the subject will be discussed.

The first resistance element I consider to be subversively present in mediation theory comes up when Ihde discusses embodiment relations. He discusses how technology sometimes appears to be resisting us. This provides an anthropomorphic projection on technology. When we consider the role technologies fulfil in our lives, the role was previously often fulfilled by an animal. An animal, say a horse drawing a cart, is able to resist us like a human with agency; "To ride a spirited horse is to encounter a lively animal other. (...) the horse can be "used" as an "instrument" of human praxis – but only to a degree and in a way different from counterpart technologies" (Ihde 1990, 99). As such, an other is encountered in technology, yet not as strong an other as it may appear; "Technological otherness is a quasi-otherness, stronger than mere objectness but weaker than the otherness found withing the animal kingdom" (Ihde 1990, 100).

An engine not starting may appear to us as a car unwilling to get going, similar to a horse not willing to move. Yet, we do not encounter a full other with its own agency in technology. Still, it appears as if there is something there that is able to resist us, the user, or is at least pushing back.

The reason I am pointing at this quasi-otherness, is that there exists a large body of work that concerns the encounter with the Other and struggle.<sup>11</sup> Thus, calling upon a quasi-other<sup>12</sup> does invoke some thought of struggle. Indeed taking a look at Ihde's examination of the horse, there appears to be a struggle of reducing the animal other to an instrument. Although Verbeek seeks to do away with the model of struggle, this model does not appear to be wholly absent in mediation theory either. Struggle may not provide the nexus through which Verbeek reaches his conclusions, but it is not a topic to be discarded either. I think struggle with technology is important to discuss, even if it is not the method by which I reach my conclusion, as was the case with Feenberg.

The second element that shows that resistance has a place in mediation theory is what Ihde calls the "structural ambiguity of technology" (Ihde 1990, 139). When he discusses cultural hermeneutics he points to the fact that when a technology is introduced into a new culture, that its use is based on to pre-existent praxes, not on to intended use. When no such praxes exist a fitting praxis first has to be introduced before the technology can be adapted into a culture. He discusses the example of introducing the rifle to the New Guineans, who were familiar with the practice of warfare, "(..) but the form and function of the rifle were not familiar as such. Only when it became apparent that this new weapon could be used at a distance (...)

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<sup>11</sup> I think of Hegel's Phenomenology of the Spirit, most likely present in some form in the minds of those with a philosophical education.

<sup>12</sup> The encounter with the technological other is discussed in some length by Agamben, who advances his argument through Levinas. Although explaining these authors in this thesis would derive too much from the current goals I have set for myself, both Levinas and Agamben can be recommended for anyone seeking to expand on the philosophy of the other and technology.

could its value be seen" (Ihde 1990, 127) Only after its function was demonstrated did it become possible for the rifle to be used in its function in a new cultural context. No fixed use can be clearly embedded for the user in the appearance of a technology; it relies on existing praxes. This is the structural ambiguity of technology, as it is always ambiguous in its meaning.

This technological ambiguity can be seen by "(a) any technological artefact being placeable in a multi-use context (...) (b) any technological intention being fulfillable by a range of possible technologies" (Ihde 1990, 139). Technologies can be used in a variety of ways. Similarly, the intended use of a technology can often be fulfilled by a variety of other technologies. To stick to the rifle example, it may be a very complicated club (multi-use), though one can wonder whether a stick does not serve the same purpose. What I see emerge here is not only a struggle to what meaning a technology takes in the lifeworld of different subjects, but also a much more subtle concept of 'struggle' and in its extension 'resistance'.

While Verbeek and Ihde appear to turn away from struggle in a more classical sense of a sort of battle against technology, it would appear it is present as a process by which technology takes the place it does in different contexts; its meaning only becomes clear through the context a technology is in and this becoming is at times a struggle. This process is one of moves and countermoves, the latter of which I consider to be a form of resistance. In this sense, Verbeek's "Resistance is Futile" is directed at a very particular form of resistance. I think this is well shown by his explanation of the mediation of morals.

A third and final moment where Verbeek discusses resistance implicitly is in 'On Icarus' Wings'<sup>13</sup> (2014) where he shows that technologies are capable of mediating morals through the work of Bruno Latour. In an article called 'Where are the Missing Masses' (1992) Latour discusses several examples of mediated morals, such as a hydraulic pressure system to close

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<sup>13</sup> Translation by author.

doors (Latour 1992, 155-159) or attaching heavy weights to hotel room keys in order for guests to leave those at the counter when they leave the hotel (Latour 1992, 174-175). What is mediated by installing these technological additions<sup>14</sup> is the desire by hotel owner to keep the door closed or for keys not to be lost out on the street. Yet again visualised here is a struggle between a programme – a moral desired by the hotel owner – and those moving against it, the anti-programme in the lingo of Latour and what I would call resistance.

Latour is not a mediation theorist, however, and there exists differences with Verbeek's point of view. Verbeek denies a complete symmetry between human and non-human actors (Verbeek 2014, 52-54). What Latour's examples do show for Verbeek is that objects are capable of mediating morals and social norms (Verbeek 2014, 65-66). For Verbeek, it matters little which norm becomes embodied and as such he does not pick a side in technological development.<sup>15</sup> What matters for him is that it is possible for a norm to be embodied.

While it may not be possible to resist technological influence itself, I do not think that has to mean one cannot resist the embedded norms in that influence. As Latour shows with his example of attaching heavy weights to room keys. A hotel owner does not want keys to leave the premises for fears of losing them, yet guests are often careless and may just slip them into their pockets and bags forgetting to return them later. A number of solutions is proposed to make people aware of the issue, yet careful readers will note that whatever program proposed by Latour, the antiprogram will never fully disappear. In the final stage a dog is even added to the antiprogram to illustrate cultural ambiguity; a dog, having little notion of human norms, may perceive the added weight to the key as a toy, thus causing it to be lost due to the program. I think this successful turnaround of the programme to the anti-programme is a great example of how resistance works; as shown by the structural ambiguity of technology, technology is

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<sup>14</sup> The pressure system and weight respectively.

<sup>15</sup> Unlike what I explained with Feenberg, who blatantly picked the side of those on the less favorable end of technology.

never singular in its meaning, likewise, the norm embedded is never singular and thus a different norm can be mediated than intended. Yet, there are also more explicit resistance elements in the discussion surrounding the mediation of morals.

### **3.5 Active Elements of Resistance in Mediation Theory**

In a 2019 paper titled 'Ethics from Within: Google Glass, the Collingridge Dilemma, and the Mediated Value of Privacy' Verbeek, together with Olya Kudina, analyses the effects of google glass on what privacy means. They try to uncover this by analysing the public discussion of the ongoing development of the Google Glass. Their focus in particular is on how ethical values change as development moved further along. For Kudina and Verbeek, the starting point of their paper is the Collingridge Dilemma. They present a value dynamism variant of the dilemma, in which states that: "when technologies influence value frameworks, the ethics of technology always seems to be either "too early" – (...) – or "too late" – (...)" (Kudina and Verbeek 2019, 293). Ethical evaluation is either too early or too late because it either does not know how change will impact the values on which evaluation is based or the change itself is at such a stage that is can no longer be meaningfully steered.

Crucial to the analysis of Kudina and Verbeek are the interactions between values and technology over time. According to them, these leave room for their mediation approach to help tackle the Collingridge Dilemma as "it studies the dynamics of technomoral change itself" (Kudina and Verbeek 2019, 297). This critical reflection is most warranted when new technological situations create friction and conflict: "Such new, problematic situations create frictions and destabilizations: conflicts emerge, values and norms are contested and compete with each other, because they are no longer able to respond adequately to new problems" (Kudina and Verbeek 2019, 295). Here again we see the theme of struggle arise, this time in the form of conflict and contested norms and values.

In their study of the dynamics of techno-moral change they present a study of YouTube comments, allowing them to see movements in favour and against the shift in values accompanying the introduction of Google Glass. These sketch a narrative allowing “an understanding of how people appropriate new technologies such as Glass” (Kudina and Verbeek 2019, 301). Throughout these YouTube comments it becomes clear that the opinions on Glass and the accompanying values widely differ. One individual recalls how the introduction of the cell phone made it more common to have a private conversation in public despite its intrusiveness (p. 304). Some see no redemption for the use of Glass during or in social interactions (p. 303), while others point to an already degrading expectancy of privacy in public (p. 306). This discussion shows how values move with the introduction of a new technology; “The mediation analysis of the YouTube comments above demonstrates how value dynamism accompanies the introduction of Glass” (Kudina and Verbeek 2019, 307).

Throughout their analysis they pay attention to four different conceptions of the value of privacy and combine these conceptions with a mediation analysis. During their analysis they focus on how Google Glass mediates the way in which users and bystanders appropriate the value of privacy differently. In fact, they consider the value dynamism surrounding the introduction of this (then) new technology “(...) as a complex interplay between technological mediation and human appropriation” (Kudina and Verbeek 2019, 309). “Appropriation” here is considered the way in which users define notions of the value in anticipation of the technology. While Verbeek offers plenty of insight into the mediation side of things, as discussed above, I think the appropriation by potential users remains underdeveloped. If one considers technology's influence to be so omnipresent that it is considered inescapable, then what room remains for users to truly anticipate and appropriate? If one is to take Verbeek at his most extreme (“Resistance is Futile”), then no room remains. Yet, the paper by Kudina and

Verbeek implies this anticipation and appropriation is possible. Thus, even in mediation theory, a form of anticipation and appropriation is possible.

As the study by Kudina and Verbeek shows, their concept of 'appropriation' goes some way in accounting for resistance as different individuals appropriate a new technology and its value mediations differently. But I think there can be more to appropriation than merely that. The concept perfectly grasps that resistance is a dynamic in which different parties are able to differently deploy a technology for different ends. In this sense, the structural ambiguity of Ihde described in paragraph 3.2 is not far off from this concept, as different cultures will adapt a technology differently based on their preconceptions of the world. This shows that in a sense mediation theory itself is not void from resistance, albeit in a different way than I would first expect it. Resistance appears not in opposition to technology, but rather in the dynamic that comes into being when new technologies are introduced or old technologies go through change.

### **3.6 Verbeek's conception of Resistance and the Final Cornerstone; Trust**

In this chapter I discussed Verbeek's concept of Resistance. At first it would appear his notion is merely that resistance is futile. As the world around us becomes more and more imbued with technology, it takes an increasingly constitutive role for human subjects and their society. This makes it so that technology is constitutive for human subjects and, as humans are the creators of technology, the constitutive relationship works the other way around. To separate the two is thus futile and thus to perceive resistance in opposition to technology is futile. Yet, I have found more nuance in the broader work of Verbeek. Here, Verbeek went looking for a 'how' instead of the outright affirmation or rejection of technology. In order to provide a proper answer to this how-question, one more building block is needed; trust.

Resistance from outside – in opposition to – technology may be impossible, but topics such as the structural ambiguity and the quasi-otherness that we encountered in technology

show that resistance is most certainly a topic present in mediation theory. Anti-programmes, as discussed by Latour, show that those values embedded in technology can be resisted, even if the existence of the technology itself cannot be resisted. As such resistance is present in the discussion surrounding values embedded in technologies when looking at mediation theory. This is further illustrated by the discussion of the Collingridge Dilemma by Kudina and Verbeek, where they discuss how the value of privacy changes with the introduction of a new technology.

Among other things, their study shows how a technology and a mediated value can be appropriated by users in new and innovating ways. To me, the concept of appropriation illustrates how in the dynamic surrounding the introduction of a new technology there exists room for changing how a technology impacts our life. In this dynamic trust in oneself plays a key role, but only if we follow along with an argument Verbeek makes elsewhere. In a 2010 paper titled "Trusting Our Selves to Technology" Verbeek together with Asle Kiran discusses how trust is usually seen in relation to technology and a different way of interpreting the concept. They try to reframe the question of trust and confidence with regards to technology; whereas they largely note that 'trust' in relation to technology comes down to a question of reliability<sup>16</sup> when others discuss technology and trust, they wonder what it means to trust ourselves in using technology responsibly (Kiran and Verbeek 2010, 411). In order to reframe trust as such, they interpret trust as a form of self-care – much like the limit-attitude presented in "Resistance is Futile. In doing so, trust provides an attitude that consists of saying both "yes" and "no" to technology. By this they mean one accepts technology, but also doesn't get too taken up by it: "By elaborating the concept of care in terms of caring for one's mediated existence, (...). In this reinterpretation, "saying both yes and no to technology" does not imply a minimization of one's involvement with technology, but rather the development of explicit

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<sup>16</sup> Is the technology reliable; will the technology perform as expected and cause no harm?



engagement with it" (Kiran and Verbeek 2010, 424). This engagement comes in the form of confidence. Confidence to relate oneself to technology as both fundamental to our existence and as a force that mediates that existence, both in desirable and undesirable ways.

Their idea of confidence as responding with both "yes" and "no" to technology in a sense connects nicely to the limit-attitude, which "[b]etween 'yes' and 'no' it was looking for a 'how' (Verbeek 2013, 80). The limit-attitude together with trust requires resistance in order to be fully realised; the limit-attitude is a reflective position from within and confidence enables us to be critical in this reflection. What is important here, as emphasised by the trust paper, is that confidence is a position of engagement with technology, one that requires an active stance of not just saying "yes" to technology, but also critically reflecting on when to say "no". This second half – though inseparable from the first half – is where resistance plays a crucial role. The next chapter will expand on how resistance plays this role in order further conceptualize the concept itself.

#### **4. Resistance and Technological Influences**

In the previous chapter I've discussed resistance through the lens of Mediation Theory. The main problem appears to be that if one's always influenced by technology, then how can one form a position of reflection that enables a critical attitude from which to invoke change through resistance? This is revealed by Verbeek's choice for a hermeneutic approach, rather than the dialectical approach presented by Feenberg in chapter 2. Verbeek was looking at the relations between humans and technology, rather than at struggle and opposition as determining factors for technology. By exposing the relational nature of the human subject, he shows that human actions are always mediated by technologies and their existence. This left him with a problem however; when human experience is always mediated by technology, then how can one develop ethical reflection to such mediating factors?

In the previous chapter I have discussed several of Verbeek's answers to this problem. An attitude of confidence in our own handling of technology and the limit-attitude are two that offer space in which resistance has a place. What that place is and how it is taken is the subject of the current chapter. The limit-attitude connects marvellously to what Feenberg says about primary instrumentalization: "Of course no decontextualization can be absolute. The process [of primary instrumentalization] is always conditioned by secondary instrumentalizations which offers a partial recontextualization of the object in terms of various technical and social requirements" (Feenberg 2005, 57). There are limits to the decontextualization and in this, the proposed limit-attitude is a meticulous description of how we might still achieve some form of it, despite its boundaries.

By turning it around and reading Verbeek through a Feenbergian lens we can see where Verbeek offers an extensive enhancement of secondary instrumentalization, while criticising primary instrumentalization for being an impossible position. In my opinion, there is an opportunity to unify these differences partially in Verbeek's enhancement of secondary

instrumentalization. This chapter will attempt to deepen that unification through a primary source of Feenberg, the works of Michel De Certeau, which in turn will lead to a deeper understanding of the concept of resistance. His work is directly related to how resistance engages with the world, while also considering the Foucauldian subjectification similar to how Verbeek sees the constitution of the subject. This accounting for both sides of the argument makes him an excellent source to unify both the position of Feenberg and the position of Verbeek while also keeping the concept of resistance meaningful. This chapter should lay the basis on which Verbeek can be unified with a form of resistance in the conclusion. I will ask that *if one's always influenced by technology, then how can one form a position of reflection that enables a critical attitude from which to invoke change through resistance?*

#### **4.1 Why De Certeau; Authority and Technology**

In “Revolutions in the “believable”” (1970) De Certeau discusses the relation between authority and resistance. Authority is discussed both in the broadest and in the narrowest sense. This means that ‘authority’ is discussed both in a sense of power-institutions (narrow) as well as that which lends credibility to our social reality (broad), concepts such as our vocabulary and discourse. The tension between these two interpretations of authority – authority in a traditional sense and authority in an epistemological sense – is analogous with Verbeek’s interpretation of what technology embodies in our contemporary lives: “Technology mediates our behaviour and our perception, and thereby actively shapes subjectivity and objectivity: the ways in which we are present in our world and the world is present to us” (Verbeek 2005, 203). Likewise, authority in De Certeau’s paper embodies a spectrum between political institutions of power and that which makes reality believable or gives reality “frames of reference” (De Certeau 1970, 276). Technology may be seen as one such authority on this spectrum.

Technology perceived as such draws an analogy between the Verbeek's ideas and De Certeau's paper. This is why De Certeau's ideas are useful for the discussion at hand. In his paper, De Certeau asks what is required for authorities to retain credibility. He searches contemporary instances in which authority is under fire. De Certeau notes that people are losing trust in governing bodies. "In many other countries, people's trust is also crumbling. (...) "People" *no longer believe in that*. "People"- who's that? And why is it happening? It is practically impossible to find out" (De Certeau 1970, 277). The broader question expressed here is what – an ambiguous "people" – lends credibility – "trust" – to that which shapes our political and social reality. For De Certeau, the answer only becomes visible in hindsight; it cannot be found with those still holding on to the old authorities, because holding to that which has already lost its credibility affirms the opposite of what it seeks to affirm; "[i]t rests on a *need* when what is required is that *reality* should correspond to its need" (De Certeau 1970, 278). Those holding on often do so out of their own utility for the system, not because they still believe in it. Those who remain are those without utility for that same system and thus they go looking for a new order.

Those looking for a new order are not merely looking to tear down the orders of old, but instead are looking for one that represents their needs, as they no longer see their needs reflected in the old institutions. A few examples of institutions slowly losing their support can be seen in the Netherlands today. The country is faced with a reduction of membership of both unions and public broadcasting channels, as well as a continuing shortage of educational staff in schools. Likewise, in his day, De Certeau perceived members leaving the church and unions as signs of institutions that no longer represented the needs of their members: "Those who leave, (...), represent *individual commitment* – that of citizens, union members or the faithful of a Church." (De Certeau 1970, 280). Those who once lent credibility to institutions now seek that credibility elsewhere and in doing so they take with them and displace the credibility of the orders of old.

For me, De Certeau shows why it is necessary to perceive resistance as a means of engagement. Those who resist authority are not just looking for a rejection of what displeases them, but rather they are looking for an alternative. Here I once again see the by now many times quoted intention of the limit-attitude to look for a ‘how’, rather than an outright ‘yes’ or ‘no’. Those that go looking elsewhere, leaving old authorities behind, resist. Something similar happens with technology, where technology is abandoned if it no longer represents the social needs of its users, being replaced by new ones.<sup>17</sup> This abandonment and looking for alternatives can contain resistance, but does not have to. So, now that the relevance to technology in De Certeau is shown, the next paragraph will go into how he conceptualizes resistance.

#### **4.2 Tactics & Ripping-Off**

In “On the oppositional Practices of Everyday Life” (1980) De Certeau examines the practices that challenge authority. The subjects of authority and how resistance emerges are very much the same as in “Revolutions in the “believable””, discussing scientific discourse, management at factory floors and similar kinds of authority in both the broad and narrow sense. What makes the 1980 paper by De Certeau even more interesting is how it discusses those practices that oppose such authorities. The discussion of those practices focusses on the proper place and time of such practices. This is to establish when opposition has the greatest effect. The focus on proper place and time makes it an addition to what Verbeek already provided. While there is room for resistance in mediation theory, it remained unclear as to when a practice can be considered to be resistance. Making the distinction between when something can be considered resistance and when it is not considered so, is the subject of this paragraph.

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<sup>17</sup> The use of social media websites comes to mind. The Dutch social media website (founded in 2004) steadily gained users, but was gradually overtaken in Dutch users by the more internationally used Facebook. In 2013, enough users had left the platform that the site announced it would be discontinued.

De Certeau opposes tactics (1) to strategies (2). This comparison is usually made in military terms<sup>18</sup>; strategies move whole armies against each other trying to gain an advantage on opponents over a longer less determined period of time, while tactics (1) are performed on a smaller individual level with emphasis on the moment. In a more philosophical context, De Certeau explains tactics as taking their value from the moment in which they move. Speed and opportunity are key. When the right set of circumstances comes together, tactics can make their move and change the order of things. Likewise, if such conjuncture does not occur, they will fizzle out and fade into oblivion.

Strategies (2), on the other hand, are much more large-scale. They operate through the organisation of spaces, usually big ones, and have a single prescribed way of dealing with situations that arise, thought of long in advance. Strategies are able to do so by mobilising the systems in which they move for their own ends. This allows them to project theory on practical actions. “Strategies combine these three types of space – power, theory and praxis” (De Certeau 1980, 7). Strategy can be considered to be those actions that organise social space attempting to form a totalizing system which asserts control through the physical by standardising practices; at any time, the required action to be taken is the same. Strategies show themselves in the projection of theory on praxis through established power.

Where tactics found their success in the moment, in time, strategies seek success through spatial organisation. It is of course not unthinkable that tactics transition into strategies. Successful tactics can slowly expand their influence upon space, while strategies, in being a totalitarian system, slowly lose out to the more adaptable tactics. The later, in their expansion upon space, in turn become the new strategies that have replaced the old ones, themselves being wary of upcoming tactics that might overthrow them in a similar manner. Tactics are the domain

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<sup>18</sup> De Certeau refers directly to Carl von Clausewitz's *On War*.

of resistance. We see them move against totalising systems of control and – when successful – overthrow them. So when does this happen?

In looking for practices matching tactics of opposition, De Certeau focusses on what he perceives as a near-mythical creature, existing in popular culture, proverbs and folk wisdom; the ordinary man. An example of his existence can be found in the concept of ripping-off, where the worker more often rips off time rather than materials from the boss. “Accused of stealing, or retrieving material for their own profit, of using the machines for their own ends, workers who “rip off” subtract time from the factory (rather than goods, for only scraps are used) with a view to work that is free, creative and precisely without profit” (De Certeau 1980, 3). Using Facebook at work is not unacceptable because one uses the boss’ internet, computer or workspace, but rather because one is using the boss’ time. Time appears as a focal point for resistance practices.

The thoughts or products produced during this ripped-off time are viewed as non-profitable, as outside of the established order. However, “[f]ar from being a regression toward handicraft or individual units of production, ripping-off reintroduces into the industrial space (that is to say, into the present order) the “popular” tactics of other times or places” (De Certeau 1980, 4). While individual creations may seem like a step back from the refined process of carefully designed mass-production lines, ripping-off and creating something should be viewed on parallel with said process. It introduces popular *tactics* from other *times* into the *places* of the present order.

It is a move that naturally occurs at the fringes of that order; where they to move in the middle of it, such moves would be picked up and snuffed out before they could have gotten momentum. This move towards the periphery shows similarity with the limit-attitude Verbeek extracts from Foucault. With a jab at Foucault, De Certeau thinks that popular culture strikes exactly there where dominating power extracts from the effective order of things: “Where

dominating powers exploit the order of things, (...), tactics fool this order and make it the field of their art. (...) This is what “popular” culture really is, and not some alien corpus, (...)” (De Certeau 1980, 4). The earlier much more elusive ripping-off is here poured into the more broadly applicable concept of ‘tactics’. These tactics are a move from within and provide a way for subjects<sup>19</sup> to make moves in an otherwise totalising system. Tactics are the means through which to perform resistance against totalising system. Here, a link can be made to postphenomenology, as technology was put as one of those totalising systems in mediation theory. There technology was involved in every aspect of human existence and small-scale tactical movements are the means by which resistance is allowed to move through technological influence. In order to form a proper definition, as is the question of this thesis, one must also understand and explain how resistance is performed. This is examined in the next paragraphs.

### **4.3 The Components of Theory and Practice**

It is the process between tactics of resistance and totalising systems that De Certeau sees described in the works of Foucault. Here, De Certeau sees a problem in the relationship between discourse and practices without a similar fixed structure. The problem is that such practices have no verbal expression and thus cannot be articulated in theory and discourse. This relation between practice and theory, if only one of many, proves problematic for some work of Foucault. In *Discipline and Punish* this dichotomy translates in one of ideology and procedure. Foucault describes how the political technology of the body won over a system of doctrine. Through the panoptical division of space - a strategy -, Foucault sets procedure against the ideology of Enlightenment. In the latter self-education was the focal point, whereas in a panoptical system, control over bodies through classification is central.

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<sup>19</sup> Subjects of power in Foucault, technological subjects in Verbeek. As explained in chapter 3.



Foucault reveals the relations between technologies and the projection of power. But at the same time ignores an important part of the movements of everyday life, the movements in which tactics and resistance take place. Foucault focusses on “that zone in which technological procedures have specific effects of power” (De Certeau 1980, 13). Thus he shows us the large projects at work. But he ignores smaller practices happening within such systems. Precisely those seemingly powerless techniques are the tactics De Certeau wants to discuss. Likewise, Verbeek through Foucault emphasises the larger scale outcomes of technological development for ethical reflection, while ignoring smaller movements that move under his ethical radar. By focussing on tactics instead, we can reveal the workings of change and resistance.

Large scale theory – the topic of interest for Foucault - is eventually confronted with actions outside of its own frameworks and here the ideas of Pierre Bourdieu come in. Unlike Foucault, Pierre Bourdieu does pay attention to smaller everyday movements of subjects: “Theory would then come into being whenever a science, (...), starts thinking its relationship to this inevitable exteriority. (...), it is in any case beyond disciplinary boundaries in the opaque reality of practices themselves that the theoretical question appears” (De Certeau 1980, 15). Practice is inevitably found outside of the theoretical framework. Because of this, it can be considered “opaque”, invisible to those working merely within the framework of a discipline.

Following the argument of social anthropologist Pièrre Bourdieu, De Certeau can identify four different properties of a theory of practice: practices are heterogenous operations (1), when employing strategies, one is limited by both explicit and implicit rules of the game being played (2), the recognition of authority is the opposite of its application (3), all practices are governed by the economy of the proper locus (4). The fourth point is the culmination of the first three, which in turn are an attempt to locate said locus. But where to look if this locus cannot be located in a spatial spectrum? For Bourdieu this takes the form of “genesis”. Where Foucault was interested in what practices produce, Bourdieu wants to know what produces

practices. Yet Bourdieu appears to seek it in hypotheticals and explanatory power, not in the everyday practices he at first names. De Certeau takes this to show that both something essential is at stake in the analysis of tactics and that this remains poorly explained in Bourdieu. Thus he goes looking for further explanation.

Both Foucault and Bourdieu work on the fringes of what a theoretical framework can bring into being. Although they discuss opposite elements, both Foucault and Bourdieu apply a sort of reverse engineering to the application of theory to practice: “(...) the theoretical operation can be resumed in two steps: extract, and then reverse – first the “ethnological” isolation of an object, then its logical inversion” (De Certeau 1980, 23). This isolation of a particular element in step one which then in turn sheds light on the theory as a whole in step two can itself be considered to be a tactic, a twin gesture which De Certeau examines in more detail. This shows the place in which tactics and thus resistance moves, just *outside* of the domain of theory and discourse. This movement outside of discourse makes defining resistance hard, as words are unable to grasp something that isn’t within discourse. Thus something that can mediate this outsideness is required.

#### **4.4 Between Theory and Practice; a Middle Term**

In an effort to further illustrate the dichotomy between theory and practice, De Certeau opposes the scientific disciplines developed during the Enlightenment to the arts of practice. This opposition between arts and sciences becomes a leading thread in the rest of his paper. The two sides represent different operations, an epistemic operation existing within discourse, and another lacking in discourse and existing outside of it; “Art is thus a form of knowledge which operates outside enlightened discourse and is absent from it. Indeed, such technical know-how can even outrun enlightened science by its very complexity” (De Certeau 1980, 26). Technical

or practical “know-how” is a term used to describe the progress outside the scientific discourse. Where science excels in epistemological discourse, arts excel in practical achievement.

To mediate between these two, De Certeau goes looking for a third party. He finds this mediator in the engineer. Yet this engineer in its contemporary form is not the mediated other Enlightenment thinking expected it to be: “The place ultimately assigned to him (...) was the result of progressive detachment, throughout the 19<sup>th</sup> century” (De Certeau 1980, 28). The engineer as a concept was adopted by science, their know-how poured into machines that performed his handicraft for them over a period of industrialisation. Throughout the 19<sup>th</sup> century the arts provided a model to draw on in order to optimise technique. The practical activities of arts find their descriptions in narratives, a form of literature with little legitimacy within scientific discourse. The novel, poetry or recipe are but some of the examples given here. What is meant by the know-how within these narratives not being grasped by discourse is best illustrated by the example of the recipe; no matter how well you follow the instructions, it never quite looks like the picture. That missing know-how to make it look picture perfect cannot quite be grasped in discourse and requires practice. “This *knowledge* cannot be *known*. Its relationship to practice gives it the status of myths or fables” (De Certeau 1980, 29). As is the case with photos of food, the looks presented by these images are largely myth, often being manipulated with inedible products (Chapin 2016). A tad of know-how remains hidden in both the photography of food in a cookbook as well as with its presentation on the dinner table.

The knowledge of know-how is considered to be so precise by De Certeau that it moves into the realm of the unconscious. De Certeau considers this to be an inversion in which reason is no longer able to put knowledge into words, while an improper language is given to a particular knowledge. A binary relationship exists, where on one side there exists uneducated knowledge and on the other side there is explanatory discourse. “This discourse is “theory.” It retains its ancient and classical meaning of “seeing/showing” or “contemplating” (*theorein*) and

is thus very precisely “en-lightened” or “en-lightening” (De Certeau 1980, 30) Like its meaning of old, theory or discourse reveals the previously undiscovered. Technical know-how becomes a form of common sense and like common sense it exists in the relationship between understanding and reason, (re-)arranging and (dis-)placing them rather than destroying them. This rearrangement is the main characteristic of “ripping-off”. Likewise, tactics can be considered to be re-arraigning strategic orders. Through the work of De Certeau, it is now possible to give a different definition of resistance; resistance not as a destruction of the old, but rather as a *rearrangement* of existing structures.

### 4.5 A Matrix for Resistance

The know-how of rearrangement is best told by narratives, because they distance themselves from reality. This allows these narratives to not merely tell of how the rearrangement of tactics works, but to perform this very rearrangement itself. Here above the example of photography in a cookbook was provided as part of the narrative, but the narrative performs the rearrangement in more traditional stories as well: ““once upon a time...” But this is precisely a tactic in the earlier sense. (...) “placing” a given utterance and displacing a pre-existing set of relations, all artfully combined” (De Certeau 1980, 34). By detaching itself from our current time, the narrative is able to take a step back and tell a story. Still, exactly because of its detachment, that story might offer reflection on the goings on of the contemporary.

Understanding the narrative in terms of how it tells its stories – its style – allows De Certeau to introduce a model that abstracts this to a broader practice. This move of creating a theory of practice is called a “metis”. De Certeau denotes three important relations between metis and (1) the occasion, (2) the disguise, and (3) with a paradoxical invisibility. “On the one hand, metis counts on the “right moment” – the *kairos* – in order to play upon it: (...). On the other hand, it seeks to perpetuate its own masks and metaphors, thus subverting the proper

locus. Finally it vanishes into its own act, as though lost in what it performs, without any mirror to represent it” (De Certeau 1980, 37). With metis one sees in narrativity a reversal which, at the opportune moment, can give a twist to its own plot.

The principle economy at stake here seems to be one of the right moment, the opportunity or *kairos*, and of build-up or memory. Around these two core concepts – *kairos* and memory – De Certeau develops a matrix for framing tactics and oppositional practices. The greatest effect of a tactic is achieved when it brings out maximum knowledge in minimum time. This movement can be visualised in Figure 2, where tactics – performed by a relatively powerless group and thus with little force – move from (I) to a stage in which it achieves something – has effect – in (IV). The matrix overall can thus be understood as an explanation of how a relatively powerless group can still evoke meaningful change, understood as having an effect.

In between there are two noticeable marks influencing the start and outcome. The movement can only be successful if enough memory is present (I→II). A sufficient build-up of know-how needs to be made in order to make up for the lack of power the resistance group has. Another factor is the amount of time required to mobilize this build-up, which is summed up by the *kairos*. The resistance movement can only be successful if all that memory can be brought out quickly enough at the right time (II→III). This will achieve maximum possible effect

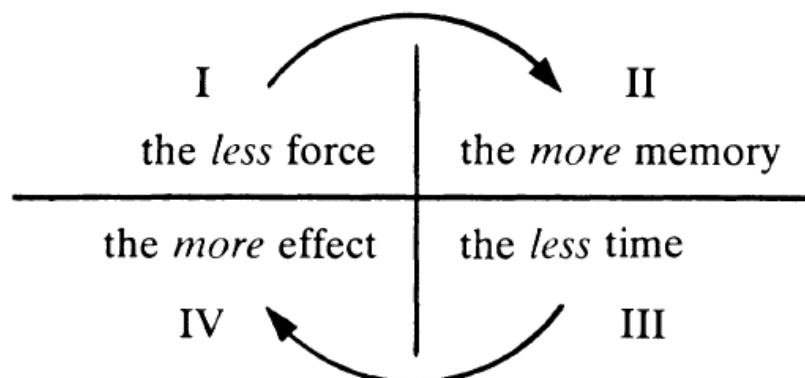


Figure 2 De Certeau's matrix. From: De Certeau, M. (1980). *On the Oppositional Practices of Everyday Life*. (F. Jameson, & C. Lovitt, Eds.) *Social Text*, pp. 38.

(III→IV). It follows that if more time is required for a movement to gain sufficient effect, that more knowledge or memory needs to be build-up.

The movement from (I) to (IV) (I→II→III→IV) can be interpreted as one that moves from mere existence into action. In (I) and (II), while most certainly present, memory will build up and not visibly come out until the opportunity (III) arises. There, in the opportunity (III) memory makes it move into existence, being translated into spatial effect (IV). This hits upon another aspect translated by this matrix where (I) and (IV) can only be represented in space, while (II) and (III) are only translated in time. “Memory mediates the spatial transformation. It produces, at the “opportune moment” (*kairos*), a break which also inaugurates something new” (De Certeau 1980, 39). Memory is the invisible agent that operates between power and opposition and this agent is only found in narratives, for it would otherwise be subject to that vocabulary and discourse that is so prevalent in post-modern power structures.

To me this matrix makes clear several things about resistance movements. (1) Those that will resist will be invisible until the moment they rise up; their struggles are not those of the status quo and therefore will not show themselves until it bursts out as resistance. (2) In order for resistance to be successful it requires an accumulation of memory. This accumulation at first glance can be achieved in either of two ways; either a small number of people that really knows what they are doing or an accumulation of experience over a large number of bodies. While the opportune moment will help to give momentum in order to give effect, a large build-up of memory can compensate for this lack of momentum.

For De Certeau a final question remains: “how is time articulated upon organized space?” (De Certeau 1980, 40). With the matrix in mind, it is possible to rephrase this question to: how can memory be implemented into a space which is an organized whole? Here, opportunity presents itself to draw the connection to philosophy of technology: how does memory enable an oppositional practice [resistance] to move through a technologically imbued

environment? The answer is threefold. Firstly, memory does not create the opportunity, but can only grasp it. “Memory is in any case by circumstances” (De Certeau 1980, 41). It registers, replies and in a single moment it alters, after which it can only repeat. This hits upon the second part of the threefold answer, namely that the response given is singular, it is but a single detail on the grand scheme of things. Lastly, memory is malleable, its details are never quite the same. The experience of each individual and how they remember it differs, albeit maybe slightly. These three factors enable minor alterations to the larger whole. Yet many such minor changes added together make for a larger change.

Here it becomes clear how resistance moves as a tactical movement against a larger strategic whole. In the case of the Feenberg-mediation theory debate this larger whole is how technology appears to influence every aspect of human life. The scheme presented in this chapter functions the same there; for resistance against technology a build-up in memory is required. The less build-up is present, the more force (either through numbers of people supporting the resistance movement or through societal impact) needs to be present in order to achieve effect. Resistance in philosophy of technology achieves effect in a similar way as resistance does in general, as is described by De Certeau.

#### **4.6 What is Resistance within Philosophy of Technology**

At the start of this chapter I asked the question “*if one’s always influenced by technology, then how can one form a position of reflection that enables a critical attitude from which to invoke change through resistance?*” De Certeau’s findings help in this matter for three reasons. (1) His concept of authority shows many similarities to the way Verbeek deals with technology and thus it is interesting to see how he deals with movements going against authority. (2) He also illustrates well why such oppositional movements are often not grasped in discourse and thus why so many are incline towards a position at the edges of discourse when examining

resistance. (3) Lastly he gives a clue as to where to look for oppositional practices and how to identify their strengths and weaknesses through his matrix and the story of narratives.

The first point is largely discussed in the first paper that came up in this chapter, “Revolutions in the “believable””. De Certeau shows how authority is much more than just ‘the president’ or ‘the police’. Instead, authorities are the rules of play, both the rules themselves as well that which shapes the movements that shape them. In this regard, De Certeau’s thinking shows great similarity to Verbeek’s work; no matter what you believe, it is inherently informed by not immediately clear influences. In Verbeek, these influences are technology, as we nowadays live in a technologically imbued world. Because technology has become so omnipresent in today’s society, it in many ways embodies the authorities De Certeau is talking about. The way both philosophers identify the influences of authority and technology, makes me feel like they are talking about the same thing in many ways. This makes the following points, on how De Certeau approaches resistance, or oppositional practices, so interesting and relevant to the discussion at hand.

But where Verbeek goes to the right, De Certeau moves left. Staying with the analogy of the rules, Verbeek moves towards the fringes of the game with the limit-attitude, whereas De Certeau instead asks why there is something outside of these limits that appears to be ungraspable. The answer can be found in how De Certeau views the work of Foucault, the theoretical basis for Verbeek’s “Resistance is Futile”. The strong reference to enlightenment thinking from De Certeau is not hard to view in connection to Verbeek basing himself on Foucault’s paper “What is Enlightenment?”. From here Verbeek takes the limit-attitude, an attitude that takes a stance of reflection at the fringes of human technology relations in order to reflect back on them. For me, De Certeau reveals why this limit-attitude is problematic for the hypothesis surrounding resistance; the limit-attitude remains within the discourse of the current authority, be it science, technology or anything else that’s currently all-influential. As resistance



seeks to move in opposition to such authorities, it naturally moves outside of discourse. It is still present at those fringes, yet just outside of it instead of inside. Thus, looking for resistance in known discourse is futile!

However, this brings about a new problem: how to talk about something that is inherently outside of discourse? De Certeau gives us with a matrix for identifying resistance practices. This matrix provides us with the necessary elements that are required for resistance to be successful and by naming these, we become able to identify them. These elements are centred around the proper moment. With momentum – the opportune moment – as a multiplier of force, an oppositional movement can have adequate force to bring about a rearrangement of an established order. Key here are both this *rearrangement*, rather than the destruction of an order of old, as the momentous strike at opportune moment. Here, De Certeau is able to identify those practices of opposition where Verbeek could not. De Certeau is able to identify how they move in a context that is already firmly organised according to certain standards. For him, they are the driving principle of change and a necessary component of how societal development.

## 5. Conclusion

In this thesis I touched upon a small part in a much larger debate in philosophy of technology. I opposed critical constructivism, represented here by Andrew Feenberg, to mediation theory, represented by Verbeek. More specifically, I focussed on that part of the discussion that spoke about resistance in relation to technology. While resistance and struggle play a central part in the dialectical approach of critical constructivism, for mediation theorists it is problematic to interpret the world as such. Instead, they would like to focus on the mutually constitutive relationship between technology and human subjects. This mutually constitutive relationship is what lead Verbeek to state that “Resistance is Futile”. By this he meant that because of the mutually constitutive relationship of technology and human subject it is impossible to try and separate the two. Instead of the rejection or affirmation of technology, Verbeek would much rather look for how to deal with technology.

### 5.1 Reframing Resistance to *Engagement*

I started out in this thesis by asking *how should the concept of ‘resistance’ be defined to remain meaningful in a philosophy that considers the world imbued with inevitable technological influences?* Whereas Feenberg conceptualized resistance as a process of *struggle* and *conflict against* technology, this conception proved unsatisfactory for Verbeek. For the latter technology is so *constitutive* to our human lifeworld that to perceive resistance in opposition to technology is “like seeking resistance against gravity, or language” (Verbeek 2013, 77). Following that line of argument, resistance – perceived as opposition – is futile. Yet, I argued that resistance is not absent from mediation theory, as would at first seem from that exclamation. Looking at the broader works of Verbeek and fellow mediation theorists, a conception of resistance would have to go looking for a *how* to coexist with technology instead of outright affirmation or rejection of technological development.

How this relationship of *how* to exists with technology takes form begins with the concept of ‘appropriation’. This concept illustrated how resistance can be a movement in opposition to embedded values in the design process of technology. In this design process, resistance is that indicator that requires a *rearrangement* of the current state of development. This *rearrangement* can take place both in the embedded values, but also in the practical design of technology. Interpreting resistance as such allows it to become a dynamic through which technological change can come about. The illustration I gave with Feenberg’s feedback loops on page 18 shows how this works; while such a scooter would not be technologically feasible, as no one would drive it, that in itself shows how a dynamic surrounds technological development. If something gives too much negative feedback to the user, the technological solution quickly becomes infeasible. Something similar happens if too much negative feedback is received by others, who will eventually resist, calling for a different technological option. Yet something remains unanswered by interpreting resistance as a dynamic, namely, how resistance differs from other practices that alter the workings and design (process) of a technology.

Here I can use De Certeau’s work not only to answer this question, but also to unite the visions of Feenberg and Verbeek. De Certeau interprets resistance as a form of tactics that move against the larger scale strategies of overarching systems. Here, resistance as tactics *rearranges* spatial orders of strategies, rather than destroying them. Resistance is the dynamic that puts this rearrangement into action and it does so by grasping *opportunity* at the exact right moment. As such, resistance takes its power from timing, not from its spatial significance – as strategy does. Here I see a new conception of resistance emerge.

The way in which De Certeau presents tactics and in extension resistance, enables me to weave in the concept of resistance in mediation theory by redefining the concept. Instead of viewing resistance as opposition to technology, tactics exemplified in “ripping-off” enable a

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different kind of resistance; resistance as *engagement*. Here resistance is not looking for a rejection of technology, but instead of how to employ the given structures of power and frames of reference in order to achieve a different goal than at first envisioned. And in this sense it answers to Verbeek's call of looking for a 'how' instead of a 'yes' or 'no'.

But this conception also accounts for how Feenberg conceptualizes resistance. Interpreting resistance as engagement with the values that are embedded in technology allows for struggle and the call for change. It may not be a struggle against technology itself, but one can most certainly work or resist the embedded values in a technology. De Certeau provides a movement that moves from the individual (tactics) to larger scale systems of dominance (strategies). Tactics, the means by which resistance moves, are a set of moves and counter moves, none significant by themselves, but together adding up to changing a whole. Both build up and the moment of delivery are key for achieving effect.

For me, this emphasises the need for engagement, as proper timing requires a constant watchfulness for the right moment. Without such watchfulness, finding exactly the right moment in which to act or move becomes much less likely. The need for engagement is further emphasised by De Certeau's emphasis on know-how. This implicit form of knowledge is a kind of experience only achieved by prolonged engagement with the object of operation, in this case technology. This engagement allows not only for knowledge on how to operate the technology, but also on the impact technology has on the user. The way De Certeau uses know-how allows for a bottom-up approach to technological development and engagement with the embedded values.

Looking at resistance as such, allows it to appear as (one of) the processes in which value shifts take shape. Even when we consider technology and its influences to be inevitable, resistance is a call for change rather than for the destruction of technological advances. With the arguments of De Certeau in mind, I would like to argue that interpreting resistance as a

dynamic by which values can change gives it a valuable position within the framework of mediation theory. The concept of ‘appropriation’ as provided by Kudina and Verbeek shows how this would work; by appropriating technological development in creative ways, one can change the way that is dealt with the development. Resistance exists in the particular way something develops, but should respect the fact that resisting development itself is futile. What De Certeau adds to this is that it gives resistance practices an explicit place within technological development, namely, as a dynamic through which technological change can be brought about, allows the concept to have a place within mediation theory. It is a dynamic that moves outside of discourse, but at the fringes of theory. This makes it a blend of practice and theory, expressed in know-how. Once it gains momentum at the opportune moment, it has the force to confront discourse and in consequence require discourse to be adapted to this new dynamic. This is the place resistance has in an all-encompassing philosophy of technology; present only in moments of change, but still with great impact on technological development, due to its high level of *engagement*.

## **5.2 Recommendations and Further Research**

What does the reframing of resistance as engagement mean for how we deal with resistance? Seeing resistance as engagement does not merely require a theoretical repositioning of research, but it also has practical implications. When we encounter resistance in the real-world it implies that those who resist are engaged with the subject of resistance. This implies that dismissing their resistance (and in extension their concerns) as futile, is to dismiss something that is important to them. Even if their goals are undesirable, the people who resist need to be engaged with in order to acknowledge their own engagement. Dismissing them (because it’s futile anyways) is not merely to dismiss their goals and resistance. It is dismissing what matters to them.

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Acknowledging that something is at stake when someone comes to resist in the first place is the first step in a mutual conversation. The dismissal of what matters to them, will only make things worse. No matter in which field one works, politics, mental health care, or education, it would appear important to keep the other in conversation and engaged even if it is merely to convince them of a different viewpoint – should that be desirable. To acknowledge what is at stake for them, is to acknowledge their validity as persons with autonomy, another topic I would briefly like to address.

The topic of autonomy is one that came up briefly while discussing Foucault's limit-attitude and how subjects always retain an albeit limited degree of freedom in power relations. Foucault named different acts of resistance in traditional marital relations to show that even in a relation of domination the subject retains a degree of autonomy. Such examples included , deception, the syphoning of money or refusal to have sex. This is of course a very limited account of the role autonomy plays in resistance. Future research might focus on how the notion of autonomy further affects resistance, both in how one is capable to resist, but also in how a lack of autonomy might give cause to resistance.

Power relations are inherently an interplay between two or more others. The philosophy of the Other is expansive and it would not have been feasible to discuss it at length here. However, future research might look into this topic as well, as it shares many connections with similar topics discussed here, such as struggle in Feenberg's conception of resistance or the quasi-other of Ihde. Such research could focus on the role of resistance in the interplay between two others, not only in a moment of clash or struggle, but also afterwards, when a relation of domination has been established. These are the topics I wish I had had more time to discuss here.

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### **Word of Thanks**

In December 2018 I was diagnosed with stage 4 Hodgkin's. By then I had been struggling for a year with a lack of energy and increasingly failing achievements, something that in hindsight can without much doubt be attributed to a growing cancer in my body. Well over two years later I feel incredibly lucky to be writing this and although the road to recovery is still long, I have made huge steps these last few months. But to say that I did all that alone would not be fair and I would like to take a short moment to thank those involved.

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