

Grounding a Critique of ICTs in Heidegger's Philosophy of Technology: Time to Start Thinking



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Abstract

This thesis offers an account of information and communication technologies (ICTs) that draws on the philosophy of Martin Heidegger. It argues that Heidegger's ontological approach presents a welcome antidote to reductionist accounts of the 'revolutionary' nature of these technologies that pervade much mainstream commentary. It considers Heidegger's inquiry into technology within the context of his wider inquiry into the 'meaning of Being', resulting in a range of valuable insights into the realities of our technological environment, how we engage with it, and ultimately into what consequences this engagement might have for our Being-in-the-world. Drawing on the conceptual framework developed by Heidegger it offers a critical theoretical account outside the bounds of Critical Theory approaches to ICTs that seeks dialogue with these positions. It seeks to encourage the opening up of a field that has closed itself off, for reasons that are explored in this thesis, to engaging with the valuable insights Heidegger can offer for understanding phenomena such as the ubiquity of contemporary surveillance and the exploitation of labour in the global digital economy.

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Chapter 1

Introduction

1.1 Living in Times of Crisis and the Role of ICTs

My advice would be, because I don't have simple answers, precisely to start thinking. Don't get caught into this pseudo-activist pressure. Do something. Let's do it, and so on. So, no, the time is to think. I even provoked some of the leftist friends when I told them that if the famous Marxist formula was, "Philosophers have only interpreted the world; the time is to change it?" [thesis 11 on Feuerbach], that maybe today we should say, "In the twentieth century, we maybe tried to change the world too quickly". The time is to interpret it again, to start thinking.

Žižek, 2012

In the short period of time that has passed since the beginning of the new millennium, we have already witnessed a number of significant challenges to the existing economic, political and social order. In 2008, the highly speculative behaviour of banking corporations on the financial markets plunged the Western world into an economic crisis, with devastating consequences for the economies of poorer countries and job markets everywhere. In the climate of economic and political uncertainty that followed, a number of protest movements emerged around

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the world: from New York the Occupy Movement spread in 2011 across other major cities around the globe in protest against economic and social inequality. In Spain the Indignados organised large-scale protests against a corrupt government and the lack of opportunity for the young generation. In 2010 students took to the streets in their thousands in cities around the UK to demonstrate against the marketization of higher education. Parallel to these movements in the West, a wave of political protests began to shake the Arab world, tearing down dictatorial regimes in countries like Tunisia, Egypt and Libya and destabilizing governments elsewhere. The conflict in Gaza is the most recent in a series of developments that have lead academics and media commentators to agree that we are living ‘in times of crisis’.

The movements listed above have very complex causes, and they are as culturally diverse as the various forms of power abuse that they have been targeting, but there is a narrative that has proven very powerful in subsuming these differences: it has widely been argued that the internet, and social media in particular, have been pivotal in the planning and realisation of these protests. The idea is that sites like Twitter and Facebook have provided users with a platform outside the limiting confines of traditional media, where they can engage in free debate and promote and organise democratic action. The prediction made by the blogger Andrew Sullivan that the political upheavals in Iran will turn out to be a ‘Twitter Revolution’, is emblematic of the widespread optimism placed in these technologies that is also pervasive in academic commentary. Though emphasising that the protests in the Arab world weren’t dependent on technology alone, the Spanish sociologist Manuel Castells for instance sees them as a clear sign of

how changes to communication technologies create new possibilities for the self-organisation and self-mobilisation of society, by-passing the barriers of censorship and repression imposed by the state. (Media Ecologies and Digital Activism (blog), 2011)

New media, it seems, have placed in our hands the capacity to act with speed, collectively, and more decisively, than before. Placed alongside these arguments

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about the new possibilities for social mobilisation opened up by the internet, Žižek's appeal "Don't Act. Just think", quoted at the beginning of this Introduction, smacks of disillusionment and cynicism. It is a call that is directly antithetical to the kind of quick response urged by the 140 character Tweet.

Yet Žižek's call not to get caught up in "pseudo-activist pressure", and to instead dedicate more time to thought, is timely. The internet does indeed offer a range of seductive possibilities for seemingly instant mobilisation, but this virtual democratic potential does not always find its equivalent in the offline world. A poignant reminder of this was the widely hyped campaign Kony 2012, a viral video campaign designed to raise awareness of the Ugandan war criminal Joseph Kony with the hope that this would lead to his capture. The video has been viewed nearly 100 million times on YouTube and attracted attention worldwide, eventually also in academic circles, where the notions of 'clicktivism' and 'slacktivism' have since gained currency to denote activism via social media. They raise questions about the effectiveness of online activism, where 'support for a cause' can be expressed at the click of a mouse, but where this rarely leads to change in the real world, Kony 2012 being a case in point.

The argument this thesis is premised upon is that amidst the hype that has existed around the internet since its early days, which has been fuelled by talk of 'new media revolutions', there remains a lack of understanding of the true significance of digital technologies for society and culture. As Vincent Mosco points out, media, policy and academic debates are

filled with variations on the theme that society and culture are in the process of a great transformation brought about by the introduction of computers and communication technology. (Mosco, 2004, p. 18)

However, as Mosco argues, it is hard not to notice that the exact same promises were made concerning the introduction of Cable TV in the 1980s. It too was seen as ushering in a new era of communication that would bring human beings closer together, create communities, revolutionize education and gradually eliminate poverty (ibid.). If we go back further, we can find that Walter Benjamin expressed

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similar hopes for the invention of the medium of film in his 1936 essay *The Work of Art in the Age of Technological Reproduction* (2008 [1936]).

Yet these hopes for the democratising potential of technology that pervade much new media commentary stand in stark contrast to the recent exposure of the extent to which these technologies also enable the surveillance of our everyday lives by governments and corporations. Details of the US surveillance programme PRISM were leaked to the media by Edward Snowden in 2013, unveiling the full scale of cooperation between telecommunication providers and US law enforcement agencies that enabled the US government to spy on its citizens at home and abroad. The majority of the data came from Microsoft, Google and Yahoo - the world's leading ICT companies (Gellman & Poitras, 2013), other companies that shared their customers' data include Apple, Facebook, YouTube and Skype. It is clear that the technologies that have been lauded for their potential to help overthrow dictatorships and democratise societies, are the same technologies that facilitate the curtailing of individual freedoms by governments through surveillance. Article 12 of the United Nations Universal Declaration of Human Rights states that

[n]o one shall be subjected to arbitrary interference with his privacy, family, home or correspondence, nor to attacks upon his honour and reputation. Everyone has the right to the protection of the law against such interference or attacks. (United Nations, 2014, emphasis added)

In trying to gain an understanding of information and communication technologies there is clearly a need to reconcile these two perspectives: those that emphasise the capacity of Web 2.0 for fostering creativity (Gauntlett, 2011), community (Shirky, 2009) and democratic debate (Coleman, 1999), with those that are keen to highlight how our activities on the internet and social media are consistently tracked, commercially exploited and monitored by corporate and political entities with potentially very serious consequences for our life chances (Lyon, 2013). My argument is that philosophy, the branch of knowledge accused by Marx of thinking too much and acting too little, can make a valuable contribution to our understanding of ICTs precisely because of this tendency. As

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John Durham Peters put it, “in philosophy the job is to get as basic as possible” (Peters, 2008, p. 1), and I argue that it is precisely the basic questions addressed by philosophy of technology, such as ‘what is a technological object?’ that we need to ask of ICTs in order to avoid assessments that are either simplistic in their determinism, overly optimistic, or overly pessimistic about their impact on social life.

The thinker that I want to draw particular attention to is Martin Heidegger (1889-1976), a German philosopher whose work on technology has significantly shaped the small sub-branch of philosophy dedicated explicitly to the study of technology, but who has made very little impact on the study of media and communication technologies. This lack of interest is partly due to a more general “aversion to theory” that characterises large parts of Media & Communication Studies as a field (Hammer & Kellner, 2009), and as Winner notes, the reputation of philosophy for being “vacuous and armchair-bound” seems to render it particularly useless in questions of technology in contrast to the rich detail of historical and social science approaches (Winner, 2003). However, engagement with Heidegger’s ideas has been hampered by another reason: in the words of the American philosopher John Searle, Heidegger is largely perceived as ‘an obscurant muddlehead at best or an unregenerate Nazi at worst’ (2000, p. 73). Though Heidegger is notoriously difficult to read, it is the latter that has traditionally posed the greater barrier, especially for Critical Theory (I capitalise Critical Theory to emphasise that I am referring to work in the tradition of the Frankfurt School and to distinguish it from approaches that call themselves ‘critical’ in a less specific sense).

It is true that Heidegger was a member of the German Nazi party from 1933, and that he never accounted publicly for this affiliation. Some also accuse him of having propagated the ideologies of the party through his work, especially in the early part of his career when he wrote his main work, *Being and Time*. I deal with these accusations in more detail in chapter eight, as despite much having already been written on the question of Heidegger’s politics, it has been claimed that ‘how one deals with Heidegger’s politics is in itself political’ (Fried, 2012). Briefly, my position is that the so-called ‘Heidegger controversy’ is muddled with untruths

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and that Heidegger's profound intellectual influence on his Jewish students (with Hannah Arendt he also entertained a romantic relationship) is frequently overlooked. This influence highlights the simple fact that whoever thinks he is ignoring Heidegger himself, will still be within the realm of his thought; why then not engage with the source directly? Most importantly, however, I argue that the profoundness of his insights into technology is such that they should not be passed over - and even his severest critics acknowledge the radically new footing on which he placed all philosophical conceptions of technology (Ihde, 2003).

As Don Ihde has argued, Heidegger was the first philosopher to see technology as a "central concern for philosophy", to see it as a "genuine ontological issue" (Ihde, 2003, p. 277). Previously, the dominant understanding of technology was that it constituted a means to an end, something we humans use in our pursuit of a certain outcome, like using a hammer to drive a nail into a plank of wood. Technology is thus understood from the perspective of the human, as something we do, a human activity. Heidegger set out to challenge this "subjectivistic" understanding of technology, where technology is "merely the invention of a 'subject'", a mere "neutral instrument" (ibid., p. 278) that can be deployed for both positive and negative ends.

His essay "The Question Concerning Technology", originally published in German in 1954 as *Die Frage nach der Technik*, begins with the simple question of what we generally perceive technology to be. The most common conceptions of technology, which is that it constitutes a 'means to an end' and a 'human activity' is an understanding that we can easily justify by looking at the uses of technology in everyday life. Nevertheless, Heidegger argues that these 'instrumental' or 'anthropological' definitions do not tell us what we really need to know about the subject of technology - rather, they obscure what he calls technology's *essence*:

the essence of technology is by no means anything technological?. We shall never experience our relationship to the essence of technology so long as we merely conceive and push forward the technological, put up with it, or evade it. Everywhere we remain unfree and chained to technology, whether we passionately affirm or deny it. But we

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are delivered over to it in the worst possible way when we regard it as something neutral; for this conception of it, to which today we particularly like to do homage, makes us utterly blind to the essence of technology. (Heidegger, 1977, p. 4)

Heidegger's insistence that the 'essence of technology is by no means anything technological?' might sound like a play on words, but in fact signifies Heidegger's most profound insight into technology. It is at the same time the most compelling one for the aim pursued by the present thesis, which is to show how Heidegger's thinking can help illuminate some of the features of the current information-technological landscape. Substantial parts of subsequent chapters will be dedicated to unravelling this apparently peculiar claim, and exploring its significance for ICTs, but in simple terms we could say that the technological objects and processes that we usually think of as technology are merely a superficial symptom of a deeper underlying technicality that is increasingly shaping the way we think and engage with the world around us. Taking this insight it becomes apparent that most mainstream accounts of technology concern themselves with symptoms rather than causes, as their concept of technology prevents them from conceiving the underlying technicality, or instrumentality that, for Heidegger, constitutes the real essence of technology.

Where Heidegger's concept of the 'essence of technology' has frequently been criticised, even in philosophical circles, for being overly abstract, I argue that these abstract tendencies are in fact uniquely suited to a theoretical framework in which to think about ICTs. They allow us to draw attention to the existence of an immaterial matrix of data flows beneath the material manifestations of these technologies. I argued earlier that current accounts of the social significance of ICTs can broadly be split into two categories: either they emphasise the benefits to individuals, such as increased mobility and flexibility (e.g. through the introduction of smart card systems for travel such as "Oyster") or the ability to connect and share information across great geographical distances (through social networks), and society as a whole (e.g. through e-voting systems), or they emphasise how this progressive computerisation of all aspects of our lives enables

1.2 Developing a Heideggerian Framework for Thinking about ICTs

corporations and governments to tap our activities for commercial gains or law enforcement purposes. What Heidegger's concept of the essence of technology allows us to grasp conceptually is the logic of technicality that is inscribed into the digital matrix, and which manifests itself in all information-technological artefacts and practices. For instance, the social networking site Facebook claims to allow us to 'connect with friends and the world around us', but the easy growth of these networks of "mass self-communication", to use Castells' (2013 [2009]) phrase, belies the frailty of these connections. After all, every person 'friended' can be 'unfriended' at the click of a mouse.

1.2 Developing a Heideggerian Framework for Thinking about ICTs

The conceptual framework developed by Heidegger for thinking about technology is ontological, which facilitates its application to a broad range of technological applications, although its suitability for thinking about ICTs is arguably unique: no other technological paradigm can claim a similar pervasiveness that calls for an investigation of how technology interacts with human experience. However, it is important to note that Heidegger's approach is not intended, neither by himself nor in this thesis, to black out or eclipse other modes of thinking, rather, it gains its sharpness and validity through engaging in dialogue with other concepts and approaches.

1.2.1 Technē as Poiēsis: Revealing and Bringing Forth

Heidegger's thinking takes place in conversation with past philosophers, and it is the thinking of the Ancients that, ironically perhaps, is uniquely suited to shedding light on modern phenomena. Thus thinking about the Greek origins of the concept of technology helps us understand in which sense digital ICTs are fundamentally different from earlier media technologies. For Heidegger, every

1.2 Developing a Heideggerian Framework for Thinking about ICTs

technology also constitutes what he calls a mode of ‘revealing’, a bringing forth into Being of something so that it may show its true nature. This is because technology’s origins lie in the Ancient Greek concept of *technē*, which, as Heidegger reminds us, is a name

not only for the activities and skills of the craftsman, but also for the arts of the mind and the fine arts. *Technē* belongs to bringing-forth, to *poiēsis*; it is something *poiētic*. (Heidegger, 1977, p. 13)

Poiēsis in its purest form we find in nature, where things are ‘brought forth’ out of their own accord, without the need for human intervention. *Technē*, by contrast, requires a human being in this process of bringing-forth, but what is most important, Heidegger argues, is not that the human being is ‘making’ or ‘manipulating’ something, and even less that he is using a ‘means’ to do it, but that he is involved in a process of ‘revealing’ (ibid.) For instance, the achievement of the Italian Renaissance artist Michelangelo in carving his statue of David from the marble, was not so much that he was particularly adept at using his chisel, rather, in that he was able to reveal a form that was already slumbering in the material.

1.2.2 Departing from *Poiēsis*: The *Gestell*

For Heidegger, the reason modern technology is different to these older kinds of craft technology is not because modern technology is more complex (though this is undeniably the case), it is because the mode of ‘revealing’ has changed. A farmer ploughing a field in a traditional way, with a horse and a hand plough, is bringing forth into Being the abundance that is slumbering in the soil. Modern means of technological extraction however follow a different logic in that they ‘set upon’ the earth to extract from it its maximum yield. Approached through modern technology, the earth becomes mere raw material, or what Heidegger refers to as ‘standing reserve’. This exploitative essence of modern technology is what Heidegger calls the *Gestell*, to underline that even though all technologies are forms

1.2 Developing a Heideggerian Framework for Thinking about ICTs

of revealing, the way in which modern technology reveals is fundamentally different. So unlike earlier and less heavily mediated forms of communication, digital technologies reduce human relationships to a form of commodity: quantification and standardisation are a defining feature of mass-produced commodities, a feature that is augmented by digital technology. Here human relationships become quantified and exploited for commercial gain - the advertising which companies like Google and Facebook present their customers with is carefully targeted to their likes and interests, based on the mining, filtering and algorithmic processing of the data these customers create through their online activities.

1.2.3 Encountering Marx

It might be argued that the Marxist critique of capitalism, as it continues to be utilised by current Critical Theory approaches to ICTs, already offers a framework for critiquing the surveillance and commercial exploitation of our internet usage as undertaken within the frameworks of large-scale surveillance programmes like PRISM. Recent years have seen a resurgence of interest in Karl Marx and a proliferation of critical literature on the digital economy that grounds itself in concepts like commodification, exploitation and alienation. Christian Fuchs (2013) for instance refers to the increasing collaboration between private corporations and state-led security measures as a ‘surveillance-industrial complex’, within which users’ activities are commodified and commercially exploited. There are also arguments that Marxist political economy offers a suitable framework for critiquing surveillance, which has previously been theorised by drawing mainly on the concept of the Panopticon, developed by Bentham and taken up by Foucault (Foucault, 1991). My suggestion is not that these approaches can be replaced by the kind of philosophical approach offered by Martin Heidegger, but that the simple process of questioning technology and the common understanding we have of it, can usefully supplement such critiques. Where Heidegger is accused of being overly abstract and removed from everyday life, I would argue that any abstraction in fact results from the very proximity of his questioning to everyday life, for

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instance when he explores how we encounter technological objects in the world around us.

1.2.4 Summary: Heidegger's Ontology of Technology and ICTs

The questions that Heidegger asks of technology, such as what technology actually is, are ontological questions. Ontology is the fundamental discipline of philosophy that enquires into the fundamentals of existence, asking questions such as 'what is there?'. However, Heidegger's ontological investigation into technology forms part of a much larger project, which is an inquiry into the meaning of Being. As he argues at the beginning of his main work *Being and Time*:

It is said that 'Being' is the most universal and the emptiest of concepts. As such it resists every attempt at definition. Nor does this most universal and hence indefinable concept require any definition, for everyone uses it constantly and already understands what he means by it. In this way, that which the ancient philosophers found continually disturbing as something obscure and hidden has taken on a clarity and self-evidence such that if anyone continues to ask about it he is charged with an error of method. (Heidegger, 2008, p. 2)

Western philosophy, Heidegger argues, has investigated beings, rather than Being itself, which Heidegger spells with a capital 'B' to emphasise the difference. He also refers to the former as the realm of the 'ontic', whereas 'ontological', containing the word 'logos' (idea, concept) refers to questions about the meaning of Being. An ontological inquiry, for Heidegger, doesn't limit itself to the question of 'what exists' but aims at investigating in what relationships these entities stand to each other as well as their relationships to time and space. To emphasise this important difference, Being in the Heideggerian sense is spelt with a capital 'B' throughout the present work. I perceive the above questions to be of great significance for understanding technology, and how we ourselves relate to it. This

is why this thesis will go beyond Heidegger’s essay “The Question Concerning Technology”, to which most accounts of Heidegger’s philosophy of technology are limited, and also draw on the work undertaken by Heidegger in *Being and Time* and a number of other essays where Heidegger develops his own ontological framework. His concept of ‘readiness-to-hand’, for instance, which denotes how we encounter things not as self-contained objects but in terms of what we do with them (we encounter language for instance, not a system of words and grammar rules but as a means for communicating), is crucial to understanding how we engage with technology in everyday life ? namely as instrumental, in terms of what it allows us to do. I will show how this instrumental understanding of technology is what facilitates the effectiveness of the rhetoric around surveillance technologies as seen in CCTV camera warning signs that justify surveillance for the purposes of ‘safety, security, and crime prevention’.

1.3 Thesis Structure

This thesis will be structured as follows: **Chapter 2** clarifies the research question, research aims and the methodological approach taken, which given that this thesis is concerned with the relevance of Heidegger’s philosophy of technology for ICTs is theoretical: it seeks to establish a framework for thinking about ICTs that draws on Heidegger’s philosophy of technology. As such the work undertaken in this thesis constitutes an in-depth engagement with Heidegger’s ideas, contrasting and comparing them with the ideas of other thinkers where such dialogue helps clarify Heidegger’s position and its explanatory power for understanding contemporary issues in the field of ICTs, themes such as surveillance and the commercial exploitation of users’ online activities.

Chapter 3 looks at how Heidegger’s warning that an overemphasis on the merely ‘technological’ obscures technology’s underlying essence could be directed towards mainstream academic discourses around the societal impact of ICTs. Utilizing Heidegger’s distinction between truth and correctness, I argue that ‘correct determinations’ (Heidegger, 1977, p. 26) frequently stand in the way of deeper

questions about the more fundamental, true dimensions of these technologies. This is evident, for instance, in approaches that present social media as a tool for democracy whilst ignoring the profoundly anti-democratic ways in which freedom of speech in the online realm is managed. This chapter argues that Heidegger's conception of technology avoids both the pitfalls of excessive optimism, as well as reductive technological determinism.

Chapter 4 explores the ideology of technological neutrality in the context of digital surveillance, thus illustrating the implications of our limited perspective on technology problematised in the previous chapter. It looks at how this ideology is utilised by state and private entities to justify the use of ICTs for surveillance purposes, looking at the rhetoric of CCTV camera warning signs as an example. It then addresses the problem of critiquing ideological language (how do we critique ideological language if critique must also rely on language). Although there is no outside to language, Heidegger's approach is useful in helping us reflect on how we are put into ideology by language, that is, how ideological language actually works in the case of the surveillance ideology.

In **Chapter 5** we explore the ontological framework that Heidegger develops in response to his critique of Western philosophy's 'forgottenness of Being'. This 'network ontology' embraces the mutual imbrications between human and non-human beings, and provides a basis from which we can understand how the ideology of technological neutrality is grounded in the ontological structure of equipment. The chapter begins by briefly summarising Heidegger's critique of the original contributions made by Plato and Aristotle to the question of Being and then introduces his concept of readiness-to-hand as the Being of technological structures. Part two of this investigation examines the nature of the privileged position that Heidegger grants to human Being, which he refers to as *Dasein*, in his ontology. By means of a comparison between Heidegger's network ontology with Bruno Latour's actor-network-theory, I will seek to show why a truly critical analysis of ICTs depends on retaining the ontological difference between the Being of humans and non-human entities, which Latour negates.

Obscured by the readiness-to-hand of modern technology lies its essence: a

deeper technological rationality, which **Chapter 6** traces back to its origins in the Western philosophical tradition. It engages with Heidegger's essay 'The Age of the World Picture' where he argues that Western metaphysics, the philosophical inquiry into the first causes of things, developed in such a way as to posit the world as something knowable, and hence objectifiable, for the human subject. From this perspective, modern technology emerges as a manifestation of, rather than a cause of, technological rationality, with ICTs being the most recent symptom of our tendency to reduce the world to something that can be calculated, manipulated, stored and called upon to yield productivity at our convenience.

Chapter 7 draws attention to the ways in which the logic of technicality characterising the essence of modern technology manifests itself explicitly in our information-technological environment. In order to do clarify the links between the Gestell, which we have so far characterised as 'technical' or 'instrumental' thinking, and concrete technological objects, I introduce Heideggerian concepts such as revealing and withdrawal to focus our sights on what gets lost through the growing instances of mediation. Heidegger thus becomes a relevant thinker for analysing concrete examples of WEB 2.0 technologies like the dating app 'Tinder'. In a second stage, this chapter explores how Heidegger's concept of the Gestell can be used to highlight how the online social activities that are at the heart of much enthusiastic commentary on new media are always already co-opted by powerful actors such as governments and corporations, who take advantage of the data produced for political and economic gain. I thus show how Heidegger's thinking can usefully supplement existing critiques brought forward by Critical Theory approaches by providing an ontological understanding of processes like surveillance and the exploitation of digital labour.

Chapter 8 addresses what O'Brien (2010) refers to as the "Heidegger controversy". It has been argued that not dealing with Heidegger's politics might in itself be construed as a political statement, and that by not raising the issue one runs the risk of ceding the ground to those who dismiss Heidegger on the grounds of his politics. This chapter argues that such dismissiveness is based on a failure to engage with the complexity of Heidegger's thinking, and a failure in particular

to recognise the profound nature of his insights into what happens when technological rationality is taken to the extreme. By engaging in a dialogue with other thinkers like Zygmunt Bauman, this chapter distils from Heidegger's thinking a more radical politics than those advanced by his critics. This politics shed light on a variety of phenomena, from the Nazi genocide to our own hyper-rational, information-technological environment.

Chapter 9 presents the conclusions to this thesis, presenting again the case for why Heidegger constitutes a key thinker for critical studies of information and communications technology. I summarise the ways in which Heidegger's approach avoids the pitfalls of technological determinism, as well as the excessive optimism that characterises much current thinking on ICTs. Importantly, however, I also show that Heidegger's thinking contains no grounds for the doomed thinking that many accuse him of. While Heidegger's understanding of technology does not allow for the hopes harboured by orthodox Marxism that technologies could be freed from the grasp of oppressors and turned back upon them, there are grounds for hope. These emerge from profound and critical reflection upon our 'technological condition', to which this thesis seeks to make a contribution. In the words of Slavoj Žižek (2012): it's time to start thinking.

Chapter 2

Methodology

2.1 Research Question

The research question this thesis addresses is this: how can Martin Heidegger's philosophy of technology help us better understand current developments in Information and Communication Technology (ICTs)? Within the context of this wider question it asks two more specific questions: firstly, how Heidegger's critique of the dominant position on technology, which is that it constitutes a neutral means to a beneficial end (the ideology of technological neutrality), can help us understand the largely uncritical acceptance of citizen surveillance by the state and corporations. Secondly, it asks how Heidegger's more general inquiry into the meaning of Being can be applied to technology in a way that allows for an understanding of technological objects that is non-neutral but at the same time avoids the pitfalls of simple technological determinism.

2.2 Research Aims

As stated in the main research question, this thesis is concerned with the work of the German philosopher Martin Heidegger (1889-1976). Specifically, it asks

how Heidegger's approach to technology can shed light on some of the realities we are faced with due to the dominance and pervasiveness of digital information and communication technologies in close to every area of public and private life. These include, for instance, the growing levels of citizen surveillance that states are engaging in in the name of security. The 2013 exposure of the large-scale governmental surveillance programmes PRISM (in the US) and TEMPORA (in the UK) by the whistle-blower Edward Snowden has revealed a highly disconcerting picture of the kind of comprehensive surveillance facilitated by our use of everyday information and communications technology. Smartphones and social networking sites have become part of a global informational system that is ubiquitous and pervasive, a system that has material entry points (e.g. through our devices) but that is essentially immaterial as it consists of digital data flows. It is this combination of pervasiveness and immateriality that constitutes the "revolutionary" nature of this technological system - yet it is one that is ignored by most mainstream accounts of new media. It is a characteristic that is increasingly exploited for commercial gain: for instance, where companies like Facebook sell the data created by their users in order to generate advertising revenue. This immateriality also means, however, that commercial and governmental interests are becoming increasingly entangled, with state and private entities cooperating to form what Fuchs (Fuchs, 2013) refers to as a "surveillance-industrial complex".

These questions have already been highlighted from a number of different angles, amongst them Surveillance Studies, and more recently, Critical Theory approaches to ICTs and social media. Indeed, the complexity of these issues, involving both technological and social dimensions, requires a multidisciplinary approach. Beyond questions regarding the ethical usage of ICTs however philosophy has so far been largely absent in the debate around the rise of our information-technological landscape. The present thesis seeks to redress this imbalance and seeks to show that philosophy of technology, and specifically the work of Martin Heidegger, can make an important contribution to these perspectives: a Heideggerian approach places questions about how ICTs are applied and how these applications affect greater society in the context of questions about the nature of technology as such. It asks questions such as 'How can we define technology

2.3 The Place of Philosophy in Interdisciplinary Debates about ICTs

in general?', and 'What is the place of technology in the relationship between humans and their surroundings and in the relationship human beings have with other human beings?'. From these fundamental questions it then becomes possible to move on to more specific questions such as whether any technology can be said to be intrinsically good or bad, and moreover to apply these frameworks to thinking about digital technologies to see whether and to what extent digital technology is in fact fundamentally different from earlier analogue technologies as claims about a 'digital revolution' or a 'new media revolution' seem to suggest. This thesis is concerned with the ways in which Heidegger's work allows us to ask these questions and find answers that help us better understand some of the critical issues we are facing today as a result of our everywhere reliance on ICTs.

2.3 The Place of Philosophy in Interdisciplinary Debates about ICTs

The research aim of the present thesis, which is the investigation of the relevance of Heidegger's work for a better understanding of ICTs, demands a theoretical or philosophical approach. However, given the widely perceived remoteness of philosophy from such pressing real-life questions such as citizen surveillance it I would like to further justify this approach by quoting Andrew Feenberg who writes that

in the midst of technology ... technical knowledge itself cannot help us. Philosophy of technology belongs to the self-awareness of a society like ours. It teaches us to reflect on what we take for granted, specifically, rational modernity. The importance of this perspective cannot be overestimated. (Feenberg, 2003).

Feenberg is of course speaking as a philosopher himself but even such technically oriented fields such as Information Systems are increasingly calling for a more philosophically grounded understanding of information and communication technologies. Willcocks & Whitely for instance argue that

social theory and philosophy should not be marginalized as they so often are ... but need to be placed at the core of trying to understand information and communication technologies. (Willcocks cited in Latour, et al., 2011, p. 21)

Mainstream accounts, and especially those that expound the revolutionary nature of digital technologies, continue to be antagonistic towards philosophy as a viable approach to questions of technology, and continue to approach these questions through the lens of social scientific methods. Even the debate around the need to “upgrade” the discipline of Media Studies to “Media Studies 2.0” some years ago brought no significant changes in how to study socio-technological transformations. In this sense this thesis is pushing boundaries as it is taking the arguably radical step of using philosophy to question whereof the purported “revolutionary” nature of digital technologies consists. I wish to emphasise, however, that the point is not that philosophy should replace other approaches in understanding contemporary ICTs. Rather, the perspectives of Feenberg, Willcocks and Whitely should be seen as arguments in favour of an interdisciplinary debate around these problems where philosophers are given a place at the same table as sociologists, information scientists etc. It is the aim of this thesis to contribute to this interdisciplinary debate with an analysis of Heidegger’s relevance for understanding both information-technological objects and our interactions with them.

2.4 Methodology

Given the theoretical nature of the research question the approach taken to answering it is also theoretical: the principle methodological approach is a revisiting of Martin Heidegger’s work and a distilling of those aspects that are relevant to the question of technology and more specifically of those that are useful for an understanding of contemporary information and communication technologies. In order to bridge what might appear as an unbridgeable gap between philosophy and the state-of-the-art in information and communications technology, I will be illustrating Heidegger’s conceptual points with topical examples from the world

2.5 Heidegger's Texts and their Translations

of ICTs, thereby rendering his thinking a valuable critical framework for thinking about the most pressing socio-technological questions.

Martin Heidegger's oeuvre is substantial and this thesis does not claim to have exhausted the depth of his work in its investigations. However, it goes much further than past discussions of Heidegger's thinking on technology, which largely limit themselves to his well-known essay "The Question Concerning Technology". It takes this essay as a focal point but also draws on those works where key themes from the essay are either prepared or elaborated on further - importantly, Heidegger's main work *Being and Time*, which is rarely cited in the context of Heidegger's philosophy of technology. However, everywhere the themes that are drawn out and elaborated on are made relevant to the main question, which is how they can further an understanding of the ubiquity of ICTS and its implication for social life. In this context the thesis understands itself to be an 'updating' of Heidegger's question concerning technology for information and communication technology at the beginning of the 21st century. The thesis does not contain any empirical research as such but draws on empirical, that is real-life examples throughout to illustrate the relevance of the theoretical point being made.

2.5 Heidegger's Texts and their Translations

Of the texts from Heidegger's oeuvre that I draw upon in this thesis, two are of major importance: they are the essay on "The Question concerning Technology", and his major work *Being and Time*. Both of these have been studied in the original German and in their English translation, where the translation for the former is William Lovitt's translation, published in a collection of essays under the same title, by Harper Perennial in 1977. There are two translations of *Being and Time*, the first, by John Macquarrie and Edward Robinson was published in 1962 by Wiley-Blackwell, and the more recent by Joan Stambaugh, published in 1996 by the State University of New York Press. This thesis relies on the translation by Macquarrie and Robinson on the basis that it is felt that the meaning of a number of Heideggerian concepts in Stambaugh's translation has not been rendered accurately. These include key concepts in Heidegger's ontology of technology

2.5 Heidegger's Texts and their Translations

which are of great significance in the present context. For instance, Heidegger's differentiation between *Vorhandenheit* and *Zuhandenheit*, the difference between a thing being 'simply present' as an object in some way and its approaching us through its purpose, is translated by Stambaugh as "objective presence" and "handiness" (Heidegger, 2010 [1953], pp. 7 and 69 respectively). Now, aside from the word 'objective' introducing connotations that are simply not present in the German original, and the word "handy" placing too great an emphasis on *usefulness*, Stambaugh's translation passes over the common etymological root of these terms: in German both contain the word "hand" [hand]. This is crucial, as the common root denotes the fact that both express ways of Being, and the fact that objects can switch between the two. For instance, the usual mode of Being of a tool is *zuhanden*, as it approaches us through how we might use it: we engage with a hammer for instance as an implement for driving nails into a plank of wood. Only when the tool becomes broken and can no longer fulfil its purpose does it become a mere object or *vorhanden*. Our everyday engagement with ICTs follows the same principle, with significant consequences as we will see. Hence it is important to use an adequate translation for the ontological pairing of *Vorhandenheit* and *Zuhandenheit* even if this ends up being somewhat unwieldy. This is arguably the case in Macquarrie and Robinson, who translate *Vorhandenheit* and *Zuhandenheit* as "presence-at-hand" and "readiness-to-hand". Here the common root of the terms is retained, and the fact that they constitute two modes of Being emphasised.

Amongst scholars there is widespread agreement that Heidegger is notoriously difficult to translate. As the above example shows, Heidegger has a tendency to imbue words from our everyday vocabulary with seemingly strange meanings, and to create apparent neologisms where a suitable concept does not already exist. However, where some see Heidegger as wilfully confusing us he is in fact doing the very opposite: he is in fact taking us back to the original etymological meaning of concepts, in order to show us how through centuries of rumination and translation, these meanings have become obscured. For Heidegger, thinking is not merely a means to an end but a process of questioning that unfolds along paths of language. For this reason it is vitally important to pay attention to the nuances of his language, and I will be commenting upon instances where

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the translation of specific terms is problematic or misses out some of the meanings present in the German original, thus hopefully bringing something new to the reading of Heidegger, which Lovitt has rightly described as “an adventure” (1977, p. xiii). Finally, references from *Being and Time* are provided based on Heidegger's original pagination, rather than that of the translators', to facilitate comparisons with the original German text and references to Heidegger's work in other writings.

Chapter 3

Privileging the Correct over the True: A Heideggerian Critique of Mainstream Accounts of ICTs

3.1 Introduction

For that reason the merely correct is not yet the true. Only the true brings us into a free relationship with that which concerns us from out of its essence. Accordingly, the correct instrumental definition of technology still does not show us technology's essence. In order that we may arrive at this, or at least come close to it, we must seek the true by way of the correct.

Heidegger, 1977, p. 6

This chapter employs some of the fundamental tenets of Heidegger's thinking to highlight some of the pitfalls in mainstream academic discourses around ICTs and their societal impact. In particular, it will focus on Heidegger's distinction between truth and correctness, which exposes how in current discourses about media and information technologies, "correct determinations" (Heidegger, 1977, p. 26) frequently stand in the way of deeper questions about the implications of these ubiquitous technologies for human being-in-the-world. It argues that both

overly optimistic accounts such as those celebrating the internet as a the new public sphere, fostering democratic debate and engagement, and negative views that emphasise how users' online activities are subject to commercial exploitation and governmental control, miss some of the more fundamentally calculative and systemic properties ICTs exhibit. These properties are what Heidegger calls the essence of modern technology: an essence that in itself is “by no means anything technological”, yet it is precisely because of this immaterial quality that it is all the more pervasive.

This paradox brought to the fore by Heidegger is uniquely applicable to ICTs, given the immaterial and systemic nature of our global informational network of which these technologies are merely a material manifestation. In the following pages I will show how various tendencies in mainstream debates about the significance of ICTs regularly get in the way of grasping the essence of these technologies by fetishising the realm of the “merely technological”, as Heidegger calls it: our digital devices and applications, before in the following chapter delving deeper into the nature of this essence so obscured. For, as Heidegger insists in the above quotation, to arrive at technology's essence “we must seek the true by way of the correct” (Heidegger, 1977, p. 6). The essence of technology and the distinction between truth and correctness are key ideas that allow us to see how Heidegger's understanding of technology illuminates critical features of our modern information-technological landscape commonly ignored by mainstream accounts.

3.2 Truth and Correctness

To be sure. The correct always fixes upon something pertinent in whatever is under consideration. However, in order to be correct, this fixing by no means needs to uncover the thing in question in its essence. Only at the point where such an uncovering happens does the true come to pass. For that reason the merely correct is not yet the true.

Heidegger, 1977, p. 6

3.2 Truth and Correctness

The distinction between truth and correctness runs through substantial parts of Heidegger's thinking and holds a great deal of value for understanding the limitations of contemporary approaches to technology and specifically ICTs. In everyday language we use these terms interchangeably, so it is important to understand why and how Heidegger draws his distinction, how he arrives at his conclusion that the "merely correct", as he states in the above quotation, "is not yet the true" and "does not uncover the thing in question in its essence" (ibid., emphasis added). In his essay on technology Heidegger does not go into the distinction in any detail, but we can look to *Being and Time* for an explanation - I will summarise the main points of his discussion and then move on to how correctness emerges as the demonstrable, but rather banal determinations characterising ICT discourse that detract from far more significant underlying concerns.

The question of what *truth* is is a crucial one for Heidegger, since the concept is intimately connected with the question of being. What is true, we might say, is understood as what a thing '*really*' is. It stands to reason then that in trying to get to grips with what technology really is, how we can decide whether we have reached the true answer to this question is an important one. Heidegger argues that our traditional conception of truth goes back to the Ancient Greek philosopher Aristotle, the father of logic. It is here that it was originally decided that truth is essentially the truth of a statement or an assertion. For instance, if a person makes the simple claim that "it is raining", we will look to the window and, if we can see raindrops falling outside, we will deem this statement to be true. Heidegger uses the example of a person who claims that a picture is hanging askew on a wall without actually looking at it. The truth of this claim will have been established once this person turns around and his assertion *meets its object*, as it were - the picture on the wall actually hanging askew. Truth has become ingrained in our thinking as the correspondence of a judgement with its object.

However, for Heidegger the point is that the statement about the object is an act of Being in itself, that happens upon the being that is the object of the statement. What is actually happening when the person turns around to see the picture hanging askew on the wall is that the object *discloses* itself to the person

as hanging in this position, it *reveals* itself to him as being in this state. The real import of truth then, is not correspondence, but what Heidegger calls *unconcealment*. The reason being that before we can decide that the statement corresponds with its object, the object needs to reveal itself to us as what it is - only then can it be judged. Thus there is a prior dimension that the correspondence theory of truth already presupposes, and this is the dimension of unconcealment. This, Heidegger argues, is the proper understanding of the Greek word *alētheia*: openness, un-hiddenness, or unconcealment. Rather than being equivalent to correctness, truth in the sense of openness or unconcealment is the *condition* for all correctness.

By asking us to review our understanding of truth Heidegger is forcing us to review one of the most fundamental concepts in our thinking, a concept that is integral to the way we make sense of the world around us. Throughout this discussion we will encounter numerous instances where Heidegger forces us to do battle with our most basic and fundamental assumptions, but what does this reviewed notion of truth mean for the concept of correctness, and more importantly, how precisely does it help us critique mainstream notions about ICTs? After all, Heidegger has not got rid of the notion of correctness, nor has correctness been exposed as the opposite of truth, as falsehood. The key is in the complex relationship truth and correctness entertain which Heidegger explains in the quotation at the beginning of this section, so it is worth repeating here:

The correct always *fixes upon something pertinent* in whatever is under consideration. However, in order to be correct, this fixing by no means needs to uncover the thing in question in its essence. Only at the point where such an uncovering happens does the true come to pass. For that reason the merely correct is not yet the true. (1977, p. 6, emphasis added)

A correct statement will always stand as such, but as Heidegger says, it won't "uncover the thing in question in its essence". This is precisely the point in the present context: mainstream media commentary involves a range of "correct

determinations” (ibid., p.26), but these fall short of uncovering the “essence” of digital technologies. To give an example (and I will develop this further over the following pages), when Henry Jenkins speaks of a “participatory culture” emerging online, this might highlight the content-sharing activities of web users but fails to grasp the wider logic of calculation, commodification and control that governs the infrastructure where these sharing activities take place. Jenkins’ argument represents a “correct determination”, but doing so it misses the wider truth that the digital matrix underlying these sharing activities is precisely the same that enables their surveillance and exploitation, a point that I will keep returning to throughout this thesis. The problem is that in actual terms the correct often tends to obscure the true: where we don’t recognise the correct as being only “partially true”, this partial truth tends to be taken for the whole truth and those aspects of the truth that correctness does not cover are lost.

For Heidegger, one of the most problematic “correct determinations” about technology is the ideology of technological neutrality, the idea that technology constitutes a neutral means to an end outside itself. Langdon Winner aptly described this idea, and the “tool-use ethic”, as “truisms striving to become bromides” (Winner, 1977, p. 27) and as we saw in chapter two, they are incredibly successful when utilised to market personal electronics or to justify growing surveillance. The marketing slogan used by Nokia “It’s not technology, it’s what you do with it” (Youtube, 2010) is a prime example of the corporate promotion of the myth of technological neutrality. Such messaging is aimed at getting us to focus on the benefits these technologies bring to our lives - more fun, more freedom (in the case of smartphones), or, in the case of surveillance technologies, more “safety and security”, as we will see in examples of CCTV warning signs. As Heidegger argues in his essay,

Who would ever deny that it is correct? ... The instrumental definition of technology is indeed so uncannily correct that it even holds for modern technology, which, in other respects, we maintain with some justification that it is, in contrast to the older, handwork technology,

something completely different and therefore new. (Heidegger, 1977, p. 5)

As Heidegger says, even the most sophisticated technological innovations are means to ends, an idea that is regularly reinforced even by academic discourse around ICTs. For instance, we speak of computer-*mediated* communication (CMC), of social networking tools and so on.

A prime example of this discourse is the work of the Spanish sociologist Manuel Castells, whose *Information Age* trilogy *The Rise of the Network Society* (2009), *The Power of Identity* (2009) and *End of Millennium* (2010) constitutes some of the most influential and widely accepted commentary on the impact of digital information and communication technologies. Castells (2013 [2009]) explores what for him constitute the transformative capacities of the internet: the traditional, vertical flows of power and communication have been replaced by a horizontal network of digital communication technologies. By its very nature, he argues, the web is biased towards freedom of communication - entry barriers are lower than to traditional media industries, what counts is big ideas, rather than capital, which he argues is evidenced by the global success stories of ventures like Facebook and Twitter. Castells does not deny the continued influence of corporate capital on the communications infrastructure, but insists that the decentralised structure of the web and the rapid growth of user numbers is making it increasingly difficult for corporations and governments to control the free exchange of information between, as he argues, increasingly autonomous users. The Chinese government for instance has a history of ‘surveilling content, blocking unwanted messages, and punishing the messengers accordingly’. But, he argues,

how can the government exercise control over such a gigantic, decentralized network of communication, connected to global networks, in which Chinese users spend over two billion hours a week? (Castells, 2013 [2009], p. 282)

The internet, for Castells, is a “free public space” (Castells, 2012, p. 2) and in its very technological makeup opposed to monopolies of power: that the network

in itself favours neither one group nor the other, rather, its decentralised nature works against the concentration of power in the hands of one group. From his point of view, technology itself is neutral to the extent that “whoever has enough money, including political leaders, will have a better chance of operating the switch in its favor” (Castells, 2013 [2009], p. 52). Technology becomes an actor for positive or negative ends respectively only in combination with the interests of a particular social group.

The point is that precisely because we find the idea of technology as a means to an end confirmed everywhere, the deeper underlying essence of technology remains hidden from view. It is the immaterial qualities of ICTs that lend themselves uniquely to being perceived as neutral: after all, it isn’t the hardware that matters, our devices are only gateways into an immaterial, constantly changing and expanding network of global informational flows. ICTs thus are able to ‘withdraw’ into their uses and applications, a ‘withdrawal’ that prevents us from realising the full complexity of their ontological structure and masking their essence: a far more fundamental technicality or instrumentality than the superficial uses we put these technologies to might suggest. So as long as we concern ourselves with ICTs from the perspective of their uses and applications, we are closing ourselves off from a fuller understanding of these technologies in terms of their essence, which is “by no means anything technological” (Heidegger, 1977, p. 5).

A notion that encapsulates the preoccupation with the realm of what Heidegger calls the “merely technological” in mainstream accounts of ICTs is that of the *fetish*. Interactivity and convergence have been lauded as paving the way towards a more politically engaged and equal society, but I would argue that the hype surrounding ‘new media’ represents precisely the kind of fetishistic glorification of an in itself rather banal object and its imbuing with magical qualities that Heidegger’s distinction between the correct and the true seeks to warn against. Thus the fetish emerges as the precise opposite of Heidegger’s essence of technology.

3.3 The Fetishisation of ICTs

In common parlance the fetish refers to the imbuing of an inanimate object with special qualities that it does not have. Next to its adoption in psychoanalysis by Sigmund Freud, the term was made valuable as a critical concept by Karl Marx in his critique of capitalism. He spoke of commodity fetishism to argue that despite how goods produced as commodities in fact embody the social relations of their production, they are taken as things with *intrinsic* value:

instead of seeing a set of relationships between people, we see a set of relationships between things. One ton of iron and two ounces of gold appear to be “naturally” equal in value, just as one ton of each substance is equal in weight. The social relationship that creates their equal value [the amount of labour they embody] disappears from our consciousness. (Marx, 1990, p. 438)

More recently the notion of the fetish has been revisited and updated for the contemporary mediascape by Žižek, who argues that in fact today, we know very well that money, for instance, has no intrinsic value, the point is that we still behave as though it did.

The difference between the ways in which the notion of the fetish is utilised by Marx and Žižek lies in the distance held to the belief regarding the fetishised object. For Marx, the belief in the intrinsic value of the commodity is actually held. Žižek on the other hand argues that enlightened modern society will state that it is very well aware of the fact that the object has no magical qualities - it will claim a cynical distance towards the belief. Žižek however insists this distance is an illusion: if anything modern, rational societies are even more enthralled to ideology. To illustrate this, Žižek uses the example of so-called ‘primitive’ tribes, who have been labelled as such by Western, ‘enlightened’ society based on their supposedly nave belief in the powers of inanimate objects like totem poles. Anthropological studies showed, however, that these beliefs were acknowledged to be “held by some”, but that generally the tribes exhibited a healthy scepticism

towards them. The totem poles were treated as symbols, rather than magical objects in themselves. For Žižek the cynical distance of our own enlightened mindset on the other hand is a pretence: we only pretend to pretend to believe. The true relationship between the enlightened and the primitive is in fact the reverse.

The glorification of new media in the context of the recent uprisings in various countries around the world is an example of how Žižek’s theoretical point illustrates the ideologisation of ICTs. Arguments that summarise the uprisings in Arab countries, the Occupy movement or the 2010 student protests in the UK as “Social Media Revolutions” (Sullivan and Ghonim cited in Fuchs, 2012, p. 385) all concentrate our attention on the supposedly liberating, democratising and equalising powers of new media. They fetishise a *virtual space of protest* that distracts from the human struggle and resolve that concentrated people in overwhelming numbers on the *actual streets and squares* in Cairo, New York and London, and more recently in Kiev. However, even where mainstream commentary recognises the importance of the people in the streets, this can be seen as a mock-recognition that technologies alone cannot bring about a revolution, which is neutralized by the extent to which the global connectivity of ICTs is hyped. This Žižekian account of the fetish can be seen as a more recent and updated account of Heidegger’s notion of the correct: both the fetish and the correct articulate a situation where we are blinded to our own psychological investment in an idea. The distinction between correctness and truth is precisely not a distinction between a falsehood and the truth: as Heidegger reminds us, “the correct always fixes upon something pertinent in whatever is under consideration” (Heidegger, 1977, p. 6), but it is in the nature of the correct itself that it often blinds us to a deeper underlying truth. In the case of the alleged ‘Social Media Revolutions’, social media may indeed have facilitated the protest movements in all the above cases, but talk of a ‘Social Media Revolution’ and similar discourses lead to these technologies assuming these qualities in a quasi-natural way. As a result it becomes more difficult to recognise the ways in which the old structures of power and capital are remaining unchanged. As Andrejevic for instance puts it, we need to ask ourselves

what are we to make of the fact that the advent of ‘bottom-up’ media production amidst celebratory claims about the democratizing power of interactivity have coincided, arguably, with increasing economic and political *inequality*. (2009, p. 35, emphasis in the original)

Heidegger’s distinction between the correct and the true thus uncovers the ontological complexities of the fetish: it allows us to see that beyond the fetishisation of new media there lies a more complex reality that needs to be uncovered. It needs to be emphasised however that the glorification of new media in the examples given here represents only one possibility of their fetishisation. Assigning them a negative role in the creation of a ‘surveillance state’ equally suffers from a displacement of the truth by correctness, as it misses out the totalising, systemic nature of digital networked technologies and the calculating, rationalizing properties inherent in these technologies whether they are put to positive or negative ‘uses’. The need to reconcile the growing availability of information and communication technology - supposedly empowering individual and group action - with the growing social disbenefits such as state surveillance and the commercial exploitation of our online activities calls for a theorisation of ICTs that accounts for the inherently complex and contradictory role played by these in our capitalist societies. Where this need is recognised by some contemporary Critical Theory approaches (see for instance Fuchs, 2012), these approaches still fall short of capturing the ontological complexity of our informational system, a multi-layered digital matrix where our benign online activities form only one level, and the governmental and corporate use of this data another. An emphasis on the commodification of our online activities does not exhaust the complexity of this system because it is characterised by a much more fundamental rationality than the logic of commodification. Heidegger’s differentiation between the correct and the true is a first step in this direction as it alerts us to what is yet to be uncovered, and in the subsequent chapters we will delve deeper into his thinking to show how his ontological approach sheds light on the complexity and depth of our technological environment.

3.4 The Pitfalls of Techno-optimism, -pessimism, and Trying to get Technology under Control

The fetishisation of new media in mainstream accounts is predominantly of a positive kind, such as that of Castells who hails the internet as the powerhouse of global protest and social networks as “spaces of autonomy, largely beyond the control of governments and corporations” (Castells, 2012, p. 2). The growing body of literature on government surveillance and the corporate exploitation of user data however is frequently characterised by a similar privileging of correctness over truth. Both types of fetishisation ensue from the urge to judge the long-term impact of technological change and to attach to it a definitive label. The next section addresses some of the problems inherent in this binary response to technological change, and the reasons why those who label Heidegger a Luddite are fundamentally mistaken, as we see that his approach takes us far beyond the categories of optimism and pessimism.

3.4 The Pitfalls of Techno-optimism, -pessimism¹, and Trying to get Technology under Control

What is dangerous is not technology. There is no demonry of technology, but rather there is the mystery of its essence.

Heidegger, 1977, p. 28

Heidegger’s warning that we should not see technology as neutral is frequently confused with a pessimistic stance towards everything technological. This misunderstanding is exacerbated by Heidegger’s frequent reference to pastoral themes and his use of poetry to make an argument, as we saw in the previous chapter. Combined with his penchant for archaic examples like silver chalices in making points about technology, these tendencies have caused him to be construed by many as

¹Technophilia derives from Greek *technē* (art, skill, craft) and *philos* (beloved, dear, friend) and means optimism about the impact of technology on culture and society (equivalent expressions are techno-enthusiasm and techno-optimism); technophobia on the other hand (from Greek *technē* and *phobos* (fear) denotes a negative view about these impacts (also, Luddism or techno-pessimism).

3.4 The Pitfalls of Techno-optimism, -pessimism, and Trying to get Technology under Control

a Luddite who would like to return from the exploitation of the earth, consumerism, and mass media to the world of the pre-Socratic Greeks or the good old Schwartzwald peasants. (Dreyfus, 2009, p. 26)

It is true that Heidegger often seems to be expressing a romantic longing for a simpler life more connected to nature. For instance when he laments that

[h]ourly and daily they are chained to radio and television ... All that with which modern techniques of communication stimulate, assail, and drive man - all that is already much closer to man today than his fields around his farmstead, closer than the sky over the earth, closer than the change from night to day, closer than the conventions and customs of his village, than the tradition of his native world. (Heidegger, 1966, p. 48)

The explicit mention of communication technologies here suggests that a Heideggerian critique of ICTs would be led by a profound pessimism, a rejection of all forms of mediated communication. In what might seem the most clear-cut example of Heidegger's apparent techno-dystopianism, he appears to be likening modern industrialised agriculture to the horrific extermination of Jews by the Nazis (Heidegger, 2012 [1994], pg.27). Where this argument has caused widespread outrage and anti-Heideggerian sentiment in academic circles and beyond, it is urgent for our purposes that we recognise it as an enumeration of some of the most extreme manifestations of the essence of modern technology.

It is in the nature of the *essence of modern technology* that it is systemic and totalising, and it is for these very reasons that "pessimism and optimism are positions that fall too short of the realm we are attempting to reflect upon" (Heidegger, 1993 [1966]). Heidegger made this final comment in his interview with the German weekly *Der Spiegel* in 1966, but what he is saying hits precisely upon the underlying technicality of our global information-technological network. For Heidegger, any attempt to deal with the impact of technology on our lives in terms of decline and loss, as a problem in need of a solution, is precisely the kind

3.4 The Pitfalls of Techno-optimism, -pessimism, and Trying to get Technology under Control

of instrumental thinking that is the very essence of technology itself, the thinking which Heidegger is trying to make visible.

Hence a key aim of this thesis is to prove why reading Heidegger's account of technology as pessimistic or Luddite² is premised on a fundamental misunderstanding. This is important because this misunderstanding runs through otherwise highly authoritative work on Heidegger, e.g. (Feenberg, 1999) seems to view technological thinking as emerging from the growing technologisation of human life. Heidegger's concept of the essence of technology is premised precisely on a prior logic of rationality that precedes all technological instruments or devices. Our technological devices and applications are the *result*, and not the origin, of this underlying logic of technicality, which is why both enthusiastic and pessimistic visions of our technological future that focus only on the realm of the technological are barking up the wrong metaphorical tree.

Here we encounter McLuhan's "watchdog of the mind", distracted by the media's overwhelming ubiquity as though it were a "juicy piece of meat" (2001). Mainstream accounts of the media occupy precisely the role of the distracted watchdog: they either laud new media as engines of democratisation, or see them as propelling us fast towards the surveillance state, but from Heidegger's perspective if we ask whether ICTs are an instrument of democracy or a tool for oppression we are posing the wrong "question concerning technology". We are still adhering to the instrumental dimension of technology, approaching it as a means to an end and only asking whether this end will be good or bad. In other words, we are privileging the correct over the true.

The reason is that from this perspective, our technological fate seems to hinge on our ability to get technology *under control*: "Everything depends on our ma-

²Iain Thompson points out that it is of political and not just hermeneutic importance not to misread Heidegger as advocating a return to pretechnological times. He refers to Don Ihde's argument that "Retreat to a pretechnological time, or a pristine form of technology, are essentially *regressive and conservative agendas* that are as pernicious as those that seek to eliminate the use of all technology" (Thompson, 2005, p. 73, emphasis added). Especially in view of the controversial issue of Heidegger's politics it is important not to charge him with technological conservatism. I address this issue in more detail in chapter 8.

3.4 The Pitfalls of Techno-optimism, -pessimism, and Trying to get Technology under Control

nipulating technology in the proper manner” Heidegger writes, and of course “the will to mastery becomes all the more urgent the more technology threatens to slip from human control” (Heidegger, 1977, p. 5). For example, in the debates about the increasing vulnerability of our privacy through our use of ICTs, maintaining a sufficient level of privacy appears to be a matter of being ‘in control’ of our data. The need to regain control is becoming ever more urgent in view of what is referred to as ‘big data’, the vast amounts of data that no longer have space on our own devices and are stored and processed in the ‘cloud’, huge data centres operated by Google and Amazon, amongst others.³ This is illustrated in an article written for CNN by journalist and campaigner Rebecca MacKinnon, entitled “Citizens are losing control of their digital privacy”:

People have good reason to be unhappy about losing control over who and what services know what about them. But that is far from the only way in which we are losing control. Under two successive [US] administrations, new laws, policies and corporate practices have made it much easier for government agencies to track and access citizens’ private digital communications from their storage “in the cloud” than it is for agents to search or monitor our physical homes, offices, vehicles, and mail.(MacKinnon, 2012, emphasis added)

When the mass surveillance programme PRISM was uncovered, one of the principle critiques raised was the fact that it had “circumvent[ed] our right to personal data control” (Rintel, 2013): it constituted a violation of our right to what is known as ‘informational self-determination’⁴. By phrasing the critique of government and corporate surveillance in these terms, it is implied that regaining control over our data would reinstate an ethical use of ICTs. But here Heidegger

³In his upcoming book *To the Cloud: Big Data in a Turbulent World* (2014 (in press)), the Canadian critical theorist Vincent Mosco traces the origins of the cloud and questions its meaning in the light of the current optimism.

⁴The ‘right to informational self-determination’ originates from a ruling by the German Federal Constitutional Court as a right that should be guaranteed as part of the protection of an individual granted to him/her by the Constitution. Germany is widely recognised to be leading in data protection legislation.

alerts us to another paradox that characterises modern technology, and ICTs in particular: our attempt to “get a grip” on technology is the very thing that that makes it slip through our grasp. It is our continued approach to technology as a means to an end - whether this end is positive or negative in itself is beside the point - that prevents us from acknowledging the deeper underlying truths about technology that relate to our being-in-the-world.

3.5 Summary

To conclude this chapter where we have explored some of the pitfalls in mainstream ways of thinking about technology, two important points stand out. Firstly, these accounts suffer from an overemphasis on what Heidegger calls the ‘merely technological’, a criticism that we owe to his distinction between truth and correctness. Secondly, the urge to attach to our information-technological condition a label, whether this is positive or negative in outlook, misses the for Heidegger fundamental point that our technologies are only a manifestation of a deeper underlying technicality - what he calls the ‘essence’ of technology. Heidegger’s questioning of technology offers an approach to ICTs that is more subtle, but at the same time runs much deeper than the examples of mainstream accounts mentioned here because it concerns the very simple question of the way human beings, and other beings in the world, ‘are’. For Heidegger, this is the most fundamental question of philosophy but one that Western philosophy has strangely ignored - arguably because of its efforts to gain a conceptual hold over the world around us: another case of something slipping through our grasp as a result of our attempt to do so. In the following chapter we will examine in more detail some of the implications of mainstream conceptualisations of technology, specifically the idea that technology constitutes a neutral means to an end, which Heidegger clearly states is the most dangerous. We will see how the ‘instrumental ideology of technology’ that pervades our general understanding of it can be harnessed by governments and corporations to argue that technologies are deployed for social benefits even where they have tangible negative effects on our civil liberties. I will

3.5 Summary

show how the ‘Surveillance Ideology’ for instance, defined as the promise of security through surveillance, utilises the neutrality thesis to justify the increasing infringement of our privacy.

Chapter 4

ICTs and the Ideology of Technological Neutrality⁵

4.1 Introduction

...everywhere we remain unfree and chained to technology, whether we passionately affirm or deny it. But we are delivered over to it in the worst possible way when we regard it as something neutral.

Heidegger, 1977, p. 4

Language is the house of Being.

Heidegger, 1978, p. 147

This chapter sheds light on the pervasiveness of the instrumental ideology of

⁵This chapter was published as an article in the open access journal Triple C: Communication, Crisis & Critique, edited by Christian Fuchs, in 2013 as “Ideology, Critique and Surveillance”. Some of the theoretical concepts discussed (e.g. the ideological packaging of ICTs) have been further developed for a chapter, co-authored with Pinelopi Troullinou and Dr. Nikolaos Thomopoulos, to be published in the edited collection *ICTs for Transport* in 2015 (forthcoming).

technology, meaning that technology is understood as a neutral means to an end outside itself, and its consequences. Heidegger's argument that we are 'delivered over to [technology] in the worst possible way when we regard it as something neutral', as quoted above, is based on the fact that where an instrumental understanding of technology dominates we are blinded to the deeper underlying essence of technology which, according to Heidegger, is the real danger that we must address - rather than the ubiquity of technological devices and machinery that is the subject of much so much current debate about information and communication technology. The distinction between technology and its essence is at the heart of Heidegger's thinking on technology and will be dealt with in depth in this thesis. To begin with, however, I aim to show how the ideology of technological neutrality is indeed pervasive in our everyday dealings with technology.

I argue that a perception of information and communications technologies as neutral means to beneficial ends has blinded, or in the very least numbed us, to the consequences the use of these technologies brings about. For instance, the Oyster smart card has made travelling through London more efficient and convenient, giving customers a cash-free way of using different transport systems (including the Tube, buses, the Docklands Light Railway and river boats). At the same time, however, Oyster collects a wealth of information about its customers (a passenger's full name, address, telephone number, email address and password, and encrypted bank details of those who purchase Oyster products using a debit or credit card), which can then be collated with data from other sources to form an increasingly comprehensive 'digital footprint'. Whilst by agreeing to the terms & conditions of Transport for London (TfL) passengers are giving TfL permission to 'share Oyster information with their subsidiaries and service providers' (Transport for London, n.d.), it is not clear precisely how this data will be used. For instance, Oyster information may be made available to law enforcement agencies, which arguably goes against the principle of 'purpose limitation' laid down by the European data protection legislation. Section I, Article 6 of the EU Data Protection Directive states that "personal data must be collected for specified, explicit and legitimate purposes - and not be further processed in a way incompatible with those purposes" (European Commission, 1995).

The example of the Oyster smart card is just one of many where a user's everyday information-technological activities are subject to surveillance by private and public entities, and, as I have repeatedly argued, the immaterial and systemic nature of our digital informational infrastructure means commercial and law enforcement interests are increasingly difficult to separate. As I will argue throughout this thesis, the operating principle of digital technologies (the processing of binary signals) is what makes these technologies inherently open to the surveillance and exploitation of user data. Indeed, the Snowden revelations have shown that these processes are a persistent feature of our information-technological landscape, and as such they are a central matter of concern for a critical investigation of the social significance of ICTs. In other words, the surveillant capacities of ICTs are not only an issue from the explicit perspective of surveillance studies, rather, they should come into focus for any critical analysis of ICTs.

This chapter will first address how the ideology of technological neutrality, which defends the viewpoint that technologies are neutral means to beneficial ends, is utilised by both state and private entities to create a smokescreen around the use of ICTs for surveillance purposes. In this context I will discuss the so-called 'surveillance ideology', which refers to the promise of security by means of surveillance, as a particularly topical and perturbing example of the ideology of technological neutrality. I will examine in some detail specific instances of the surveillance ideology, focusing on the rhetoric of CCTV camera warning signs. This is in keeping with my argument that we are dealing with an informational system, rather than an accumulation of technologies and devices: on- and offline activities of users are processed by digital technologies as strings of binary code, which flows seamlessly through an infrastructure of computers and databases where physical, institutional or national boundaries are of only nominal significance. Physical technological devices are only significant in so far as they act as portals to this underlying informational matrix. CCTV cameras, then, are part of this informational system as much as smart phones, social networking sites and Oyster cards, all of which are sites for the creation and transmission of data and thus contribute to a user's 'digital footprint'.

4.2 The Surveillance Ideology: an Ideology of Technological Neutrality

We then turn to Heidegger to see how the surveillance ideology is made effective by convincing users of an existing threat to their safety and security that legitimises the use of surveillance technology. The work of Martin Heidegger has so far been largely outside the remit of critical studies of ICTs (for reasons already mentioned in the Introduction and that will be explored in more detail in chapter 8), but I aim to demonstrate why it is uniquely relevant to a critique of the kind of ideological language constituted by the surveillance ideology. In this sense his work can also make an invaluable contribution to existing theories of ideology and language, where so far it has been of little significance (the same goes for the branch of philosophy dedicated explicitly to the study of language, which developed in the second half of the 20th century based on the work of John Searle). I will offer a brief discussion of these existing theories, before moving on to show how Heidegger's theory of language offers a valuable insight into the relationship between language and social reality, which is key to understanding how ideology works.

4.2 The Surveillance Ideology: an Ideology of Technological Neutrality

In 2013 Edward Snowden, a former employee of the American intelligence services CIA and NSA, leaked details of the US electronic surveillance programme 'PRISM' to a number of newspapers. The leaks revealed the full extent of US surveillance operations, and triggered the exposure of similar programmes in the United Kingdom (Tempora) used to spy on the electronic communications of ordinary citizens. Critical approaches to ICTs have drawn attention to the fact that these programmes are not an anomalous event, a singular storm in otherwise calm waters (Fuchs 2013), as some of the vehement reactions in the media and amongst public figures might suggest. The truth is that they form part of a more general trend towards 'ubiquitous surveillance' (Murakami Wood 2011) that has been going on for some time.

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However, a number of critical voices in the academy, the media and amongst privacy watchdogs have begun to call into question the arguments that have been used to justify this increasingly global and ubiquitous surveillance, namely that programmes such as PRISM and Tempora are “absolutely essential for effective fighting of terrorism” (Former Home Secretary John Reid cited in Watson 2013). As Fuchs (2013) has argued,

[s]ince 9/11 there has been an intensification and extension of surveillance that is based on the naïve technological-deterministic surveillance ideology that monitoring technologies, big data analysis and predictive algorithms can prevent terrorism.

Studies exist that cast doubt over whether these forms of surveillance are in fact effective at combatting terrorism and lowering crime;⁶ so we are right to ask how the surveillance ideology, which we can define broadly as the promise of security through surveillance, maintains itself.

The argument I wish to make is that the large-scale surveillance programmes revealed in 2013, as well as the justifications offered by policy-makers and law enforcement agencies, are taking place in a wider ‘ideological atmosphere’⁷ that is already receptive to such policies. By ideological atmosphere I mean an atmosphere where a certain idea has become naturalised, meaning neither its origins, nor its validity, are any longer questioned. The naturalisation of an idea with the purpose of distracting from a deeper underlying truth was problematized by McLuhan (2001) with specific reference to the media when he argued that the

⁶ Fuchs (2013) for instance argues that “[high-tech surveillance will never be able to stop terrorism because most terrorists are smart enough not to announce their intentions on the Internet”.

⁷A number of scholars have remarked on the emergence of a “culture of fear” in Western societies (Furedi 2002 and 2006, Mythen and Walklate 2006, Linke and Smith 2009, Glassner 1999), built upon the increasing profitability of mitigating risk and to legitimise political action in the name of national security and democratic values. As a concept, however, it is not specific to surveillance but includes a range of wider cultural factors, hence I prefer to speak of an ideological atmosphere or the surveillance ideology specifically.

4.3 The Language of the Surveillance Ideology

content of the media is like a ‘juicy piece of meat’ carried by the burglar to distract the ‘watchdog of the mind’. One of Žižek’s favourite anecdotes forces the same point: a workman is suspected of stealing something in the wheelbarrows he pushes before him as he leaves every night - only much later do they realise it is the wheelbarrows the workman has been stealing. These are useful metaphors for thinking about how the naturalisation of certain ideas regularly has us missing the real point, which, as we will see throughout this thesis, is precisely Heidegger’s point. The idea that seems to have become naturalised in the case of the surveillance ideology is the existence of a threat to our way of life that requires the policing through surveillance mechanisms. The visible proliferation of these mechanisms then continues to reinforce the idea of a threat, the very idea that was originally used to justify their introduction. From there ensues a vicious circle in which ideology and technology are closely interlinked, constantly reinforcing each other. So the first task of this chapter is to shed light on some of the factors that would contribute to such an ideological atmosphere, namely the ways in which surveillance technology such as CCTV is marketed to the public by corporations and justified by the state. The next section will address more specific examples of the surveillance ideology.

4.3 The Language of the Surveillance Ideology

This section explores some of the mechanisms that might be contributing to an ideological atmosphere that sustains the surveillance ideology by looking at some examples of CCTV (Closed Circuit Television) camera warning signs. The ubiquity of CCTV in the United Kingdom means the mandatory warning signs are a particularly prevalent example of how the promise of security through surveillance manifests itself. As we will see from two specific examples, the signs utilize the rhetoric of ‘safety and security’ to reinforce the idea of a threat, thus justifying the use of surveillance. Just how this idea is reinforced is a process that Heidegger’s theory of language can help us understand conceptually.

4.3 The Language of the Surveillance Ideology

The use of CCTV in the UK has expanded dramatically over the last two decades: in 1991 no more than ten British cities operated CCTV surveillance equipment in public spaces, and these systems were small-scale and locally funded cooperations between private entities and local police (Norris et al. 2004).⁸ Today, whole areas of cities are under surveillance and it is estimated that there are now 5.9 million cameras in operation, one for every eleven citizens (Barrett 2013). It is argued that ‘[e]ffective CCTV schemes are an invaluable source of crime detection and evidence for the police’ (ibid.). The *actual effectiveness* of CCTV for these purposes has been questioned⁹, but according to Norris et al. it is beside the point: they argue that for politicians, it is crucial ‘to be seen to be doing something’, and that faced with the complexity of problems such as terrorism, ‘technological fixes which promise the appearance, if not the reality of security are highly appealing’ (2004, 126).

The technological equipment itself gives an appearance of security and thus acts as a signifier of the surveillance ideology, but as the cameras are becoming less obvious and easy to spot (Murakami Wood 2011), the legally required warning signs act as effective mediators of the surveillance ideology in lieu of the cameras themselves. They employ discursive mechanisms that indeed promise the appearance of security, but as I aim to show, they do so by sustaining a climate of threat by their very reference to our ‘safety’ and ‘security’. The images in figures 4.1 and 4.2 are typical examples of a CCTV warning sign, fluorescent yellow and black to attract attention, and featuring a stylised CCTV camera icon. In the the first image, the sign alerts the passerby to the fact that ‘This organisation operates 24hr CCTV surveillance’ and that ‘[i]mages are being recorded for the purpose of crime prevention and public safety’.

⁸Norris et al. (2004) trace the rise of CCTV in Britain in comparison with the global rise in CCTV surveillance.

⁹Krahmann (2011) for instance argues that due to the poor quality, complexity and sheer amount of recorded material CCTV is effectively useless as a deterrence mechanism. A European-wide review commissioned by the European Union’s Directorate General for Internal Policies urges to treat arguments promoting the use of CCTV for crime-prevention with caution (Statewatch 2009).

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Figure 4.1: CCTV warning sign outside London Zoo. The sign reads in full: ‘This organisation operates 24hr CCTV surveillance. Images are being recorded for the purpose of crime prevention and public safety. Please contact 020 7449 6570 for further information about the scheme. This scheme is controlled by the Zoological Society of London, London Zoo, Regent’s Park, London NW1 4RY.’ Image courtesy of Chris Campbell.

4.3 The Language of the Surveillance Ideology



Figure 4.2: CCTV warning sign in Bexley, London. The sign reads in full: “CCTV in operation. Images are being monitored and recorded for the purposes of crime prevention, public and road safety. The contact number for information is: 020 8303 7777”. Image courtesy of Chris Campbell.

4.3 The Language of the Surveillance Ideology

The sign in the second image contains the warning: “CCTV in Operation. Images are being monitored and recorded for the purposes of crime prevention, public and road safety”. Other typical notifications are “24hr CCTV - Images are being recorded and monitored for your safety and to help prevent crime” or, more frequently in semi-public or privately owned spaces such as shops, “Warning. CCTV security in operation on these premises”. In train stations or airports announcements are frequently made via loud speakers, emphasising that surveillance is taking place for the purposes of “safety and security”.

Figure 4.3 is a preliminary attempt to model the discursive mechanisms employed by the surveillance ideology, specifically the relationship between the rhetoric used to justify the surveillance and the surveillance process itself. At the centre of the model is the surveillance process itself. The surrounding circles contain examples of the rhetoric used by industry and governmental actors in their justifications of surveillance, such as “security”, “crime prevention” or “efficiency”. This rhetoric works similarly to the light-reflective strips on a cyclist’s clothing, deflecting from the surveillance process itself towards the prospective benefits of “security” or “crime prevention”. Thus the rhetoric of the surveillance ideology forms a kind of ‘ideological packaging’¹⁰ around the technologies and the surveillance process itself.

Arguably, however, the mechanisms of this ideological packaging by which words such as ‘security’ and ‘convenience’ are attached to the surveillance process are not yet fully understood. I would argue that this process is far more complex and significant than existing definitions of ideology would permit, as it is rooted in the ontological relationship between language and being. Where McLuhan’s burglar and Žižek’s workman tell us that we need to look more closely for obvious truths, Heidegger can give us an understanding of how our minds are distracted from recognising these obviousnesses in the first place. Heidegger’s account of language is ontological and uncovers that which has been obscured by the history of Western thinking which has presented language to us as a neutral means for

¹⁰The concept of the “ideological packaging” was first presented in a joint paper “The Ideological Packaging of ICTs” given at the 4th ICTs & Society Conference in Uppsala, Sweden, in May 2012.

4.3 The Language of the Surveillance Ideology

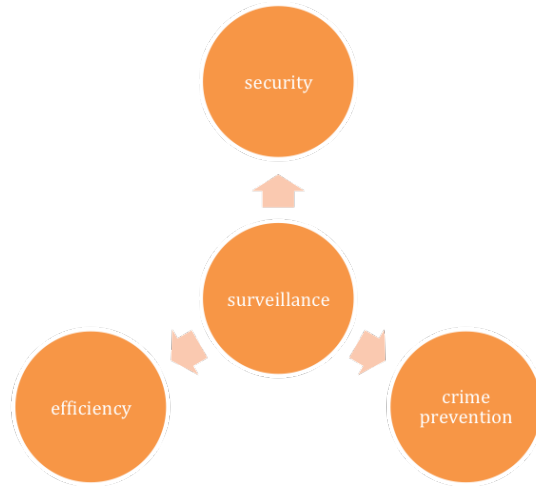


Figure 4.3: The Ideological Packaging of ICTs. Copyright Heidi Herzogenrath-Amelung

communication. This, as I hope to show, has significant implications for ideology: the effectiveness of the surveillance ideology is largely indebted to an instrumental understanding of language whereby words transparently envelop a piece of reality, thus making it communicable. The consequence of this is that we take the rhetoric of ‘safety’ or ‘crime prevention’ to be statements of actual fact rather than realities ‘called into being’ by their verbalisation. This, for Heidegger, is the essence of language which its instrumental everyday use has obscured.

In order to highlight the unique suitability of Heidegger’s philosophy of language for understanding the surveillance ideology, it will be necessary to first provide a discussion of ideology in conceptual terms, not least because it constitutes “one of those philosophical terms that has entered into everyday speech with an impoverished meaning” (Kotsko 2012). As ideology critique has traditionally been faced with the problem of how to critique ideological language when it must rely on language itself, it will also be necessary to briefly outline how previous thinkers have approached the connection between ideology and language.

4.4 Ideology, Language and the Possibility of Critique

Ideology has never been so much in evidence as a fact and so little understood as a concept as it is today... For some, the concept now seems too ubiquitous to be meaningful; for others, too cohesive for a world of infinite difference.

Eagleton 1991, back cover

Ideology-critique needs to know how ideology works if it wants to be effective. Various definitions of ideology exist but our common understanding of it is rooted in Karl Marx's critique of capitalism. It is important to situate this understanding of ideology within its historical context to understand the form ideology-critique has since taken. For Marx, ideology was a means of maintaining the capitalist social order by blinding the proletariat to the true conditions of their existence. The basis for this materialist account of ideology lies in *The German Ideology*, where Marx and Engels argued that 'the ideas of the ruling class are in every epoch the ruling ideas', and the ruling ideas in turn 'nothing more than the ideal expression of the dominant relationships, the dominant material relationships grasped as ideas' ([1846] 1947, 64). For Marx, the consciousness of the individual was determined by his place in the capitalist hierarchy of production. Ideology was thus not a matter of individual consciousness, of the human being as subject. It addressed itself to the consciousness of an entire social class, into which the human being as subject was dissolved. It was here that "false consciousness"¹¹, the "distance" or "divergence between so-called social reality and our distorted representation [...] of it" (Žižek 1989, 28) was located.

However, because this theory of ideology is one of class and not individual consciousness, it does not really answer the question how 'the ruling ideas actually get into the heads of individuals and, once there, how effective they might be in

¹¹As Eagleton argues, there is no evidence that Marx himself used the term "false consciousness" so frequently attributed to him but we find it in a letter written by Engels (Eagleton 1991, 89)

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securing their acceptance' (Scannell 2007, 203). Various 20th century thinkers have attempted to develop a more nuanced theory of consciousness and ideology than the one Marx provided, these include Georg Lukes and Antonio Gramsci, but it was Louis Althusser who emphasised the specific role of language in shaping individual consciousness.

Althusser was interested in how precisely the social conditions of production reproduce themselves, the question Marx and orthodox Marxism had “uniquely ignored” (Althusser 1971, 123). How was it that the ‘tenacious obviousnesses’ of these conditions had become so ingrained in our consciousness that it was difficult even to trace their origin (ibid.). Althusser sought to address this blind spot in orthodox Marxism with his concept of the ‘Ideological State Apparatuses’ (ISA), institutions such as the family, the education system, political parties and the media, which operate not through coercion but through ideology. Althusser argued that his concept of the ISA has merely spelled out what Marx had already implied, but the important conclusion he drew was that ideology works not on the consciousness of a class but on that of the individual. For an understanding of how the surveillance ideology works this step is already of great significance, as it provides the grounds for exploring how exactly an *individual’s* encounter with surveillance equipment can be ideological.

However, the real significance of Althusser in terms of understanding the surveillance ideology lies in the fact that Althusser shifted the attention onto the ideological function of language. This shift took place via Althusser’s reading of Jacques Lacan’s psychoanalytical theory of language, and this is ultimately where Althusser’s real break with Marxist approaches to ideology occurred. Under this influence, ideology is no longer understood as a misconstrued understanding of reality in the Marxist sense, but as the reality we construct around ourselves through our entry into what Lacan calls the ‘symbolic order’, the order of language. From Althusser’s perspective, the consciousness of the individual is secured through his “interpellation”, the addressing of the individual, as individual, through language. Althusser’s example is of a policeman calling “Hey, you there!” to a person on the street. The point is that by turning around (as they unfailingly will), they are ‘recruited’ as subject and reproduce the ideology

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in question. This simultaneity for Althusser is crucial, it is not that there is ideology and then the interpellation of the subject: they are ‘one and the same thing’. Again drawing on Lacanian psychoanalysis which argues that there exists no subjectivity outside of language, Althusser’s conclusion is that there is no outside of ideology for “ideology has always/already interpellated individuals as subjects” (Althusser 1971,164).

If Althusser is right in claiming that wherever we are in language, we are in ideology, this has some quite serious consequences for the possibility of critique where critique itself must rely on language to express itself, and it prompts the question whether Heidegger offers an exit from this apparent ideological impasse. Critique itself depends on the very notion of an outside, a “separate space from which critical reflection can be launched” (Lash 2002, vii), premised, as Eagleton argues, on the Enlightenment belief in the rational human being capable of exerting powers of objectivity from an elevated perspective (1991, xiv). In section 4.2 I gave some examples of the rhetoric that is part of the surveillance ideology, such as the claim by the former Home Secretary John Reid that the surveillance of all electronic communication is “absolutely essential for effective fighting of terrorism” (Watson2013). I will consider the rhetoric of the surveillance ideology in more detail in the next section, but the problem we are faced with seems to be how to mount a critique of ideology that relies on language, if we need to utilise these very same tools in order to mount our critique? If we agree that ideology-critique needs an external, transcendental vantage point from which to launch itself, surely we need a different set of tools at our disposal, tools that have not already been co-opted by ideology. But in very practical terms ideology that uses language makes it difficult to occupy this external viewpoint, as it is difficult to critique the rhetoric of the “war on terror”, for instance, without using the very expression that we are seeking to dismantle. It seems to be the paradox of ideology that with every attempt to critique it, the object of our critique is reasserted and reinforced by our very utterance of it.

The problem of an outside to ideology has been raised by various critical approaches to language and ideology. Thus Laclau and Mouffe argue that there is no outside to discourse (Laclau and Mouffe 1987) and that the idea of an

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outside to ideology is the ideological product itself (Laclau 1997). Žižek issues a similar warning, saying that we are never more entrenched in ideology than when we believe ourselves to be outside of it. He argues that

the minimum necessary structuring ingredient of every ideology is to distance itself from another ideology, to denounce its other as ideology. Every ideology does this. (Žižek and Dillworth 2004).

Thus the question what Heidegger can offer in terms of an understanding of ideology and the possibilities for mounting a critique of ideological language that is not already exhausted by these approaches seems justified. Even Heidegger's ontology does not occupy a space outside of language - Adorno's critique of Heidegger's "jargon of authenticity" suggests that Heidegger's language might draw us even deeper into 'language games' and away from objective truth.

It has been argued that in the face of the general informational immanence of the Information Age critique has no other option but to be "radically empiricist" (Lash 2002, xii). I would argue, however, that this position is not critique but the surrender of critique and that faced with no obvious transcendental vantage point from which to objectively critique ideology, we need to make this very lack the focus of our critique. What I mean is that we need a better understanding of the processes whereby we are put 'in ideology' by language, the process of interpellation itself, and that here Heidegger's philosophy can help us. It allows us to see is how it is our understanding of language as a neutral tool for communication that makes it so amenable to ideology. Language, for us, is something we take for granted, rather than an object of critical reflection. Ideology fully exploits this takenforgrantedness, but on the other hand a Heideggerian analysis will show how it is that language itself 'interpellates' us before this exploitation can take place. While there might be no outside of language from a Heideggerian perspective a sense of empowerment emerges from critical reflection on this lack of an outside. Having looked at examples of the surveillance ideology, and in this last section, given an overview of existing approaches to theorising the connection between ideology and language, the discussion now turns to the specific value of a Heideggerian approach to understanding and critiquing the surveillance ideology.

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4.5.1 The Instrumental Ideology of language

This section addresses the key theoretical contribution Heidegger can make for an understanding of the linguistic mechanisms employed by the surveillance ideology. The first point concerns the instrumental ideology of language, meaning the belief that language constitutes a neutral tool for communicating an external, factual reality, upon which, as I aim to show, the effectiveness of the surveillance ideology as a whole relies. The first sub-section will thus give an overview of how Heidegger thinks we ended up with the instrumental view of language, contrasting it with Heidegger's insistence that we need to get to the 'essence' of language.

Critical and psychoanalytically inspired approaches to language emphasise how language provides the grounds for experience, but don't explain the ontological relationship that language has to being itself. For Heidegger the "essence of language" is how the addressing of a thing through language brings the thing itself into being, but he argues that our everyday use of it has obscured this essential property of language. In our everyday use of language, language has a transparent quality and only serves to communicate a factual, external reality. Hence the "security" rhetoric that pervades the surveillance ideology is accepted as the herald of an actual threat, as we are about to see.

Western philosophy, Heidegger acknowledges, has a long-standing and natural preoccupation with language. After all, language has historically defined what it is to be human, it is "as one who speaks that man is - man" (Heidegger 1971, 187). But from his perspective, scientific interest in language has not sufficiently challenged our everyday, instrumental use of it. At worst, it has even served to reinforce the instrumental ideology. Logical positivism, drawing on both Bertrand Russell and Ludwig Wittgenstein's work on logic and language, takes a view of language that is "descriptive of a reality that is outside, external to language" (Scannell 2007, 172). The main question was whether a sentence could be said to be true, or not. For Heidegger, this conception of truth as

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correspondence however, was one of the original errors of Western philosophy. Truth, for Heidegger, is not the correspondence of one state of affairs with another but the bringing of things into the open from hiddenness, to show something as it really is, what he refers to as unconcealment. What we take as truth is merely correctness. Truth, however, is precisely the function of language. Hence, the Western philosophical tradition has led us to the wrong conclusions about language, this most natural of phenomena, for they

ignore completely the oldest natural cast [Wesensprägung] of language [...] despite their antiquity and despite their comprehensibility, they never bring us to language as language. (Heidegger 1971a, 191)

Put simply, being brought to “language as language” means forgetting what Western philosophy has taught us about language and instead *experiencing it*. The essence of language, as Heidegger argues, lies in its primordial experience, which centuries of *talking about* and textusing language have obscured. Language, for Heidegger, is not a tool at our disposal, but something that is infinitely more powerful, something that discloses or unlocks being itself. His project is to challenge the instrumental ideology of language, as it is this understanding of language as a neutral carrier for meaning that blinds us to its essence. As a first step the following paragraphs trace this instrumental ideology of language and show how within the current surveillance ideology it is responsible for words such as “security” being taken as neutral envoys of a reality outside of language. The second step will be to examine the essence of language obscured by its instrumental use, that is, the ontological relationship between the word and the thing. From Heidegger’s perspective this is the key to the surveillance ideology as the essence of the word “security” lies in the calling into being of the threat that is needed to justify surveillance measures such as those recently revealed by Edward Snowden.

The instrumental ideology of language is rooted first and foremost in its everydayness:

Man speaks. We speak when we are awake and we speak in our dreams. We are always speaking, even when we do not utter a single

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word aloud, but merely listen or read, and even when we are not particularly listening or speaking but are attending to some work or taking a rest. We are continually speaking in one way or another. (Heidegger 1971a, 187)

Conventionally, language is thus defined as either “the activation of the organs for sounding and hearing” or the “audible expression and communication of human feelings [and] [...] thoughts” (Heidegger 1971a, 190). From every angle these definitions will strike us as correct: if we observe someone speaking, we see him opening his mouth to shape the words, our ears can hear the sound his words make, and our brains enable us to process information, hence we are able to translate the sound our ears absorb into meaning, allowing us to respond. We assume that what we hear are the thoughts and feelings the person speaking intended to communicate.

Heidegger doesn't deny this is how we commonly experience language, but he challenges us to question the assumptions that underlie this commonsensical understanding. It asserts that speaking is an act of *expression*. “The idea of speech as an *utterance* is the most common” (Heidegger 1971a, 190, emphasis added). But Heidegger points out that this assertion “already presupposes the idea of something *internal* that utters or *externalizes* itself” (ibid, emphasis added)¹². Secondly, it asserts without doubt that speech is an “activity of man. Accordingly we have to say that man speaks”. By insisting on this order we are already negating the possibility that “[i]t is language that first brings man about” (Heidegger 1971a, 190) - the argument of psychoanalysis. Finally we have the assertion that “human expression is always a presentation and representation of the real and the unreal” (ibid.). This too is correct, since we can talk about an actual object, such as a painting at a gallery, but at the same time we can talk about a dream we have had about this very painting.

¹²‘Expression’ and ‘utterance’ already contain within themselves a movement from within to the outer ? ‘expression’ containing the Latin prefix ‘ex’, meaning ‘out of’ or ‘from within’, and ‘utterance’ deriving from the Middle Low German ‘utern’, meaning ‘to turn out’, ‘to show’ and ‘ut’ meaning ‘out’.

Speech stands in a relationship to the world, both to that of actually existing objects and our imagination - this relationship is what my earlier model (the ‘ideological packaging of ICTs’) attempted to capture: the relationship between the surveillance process and the positive signifiers such as “security” and “crime prevention”. Heidegger does not deny this relationship. He says the view of language put forward by its definition as an utterance, an activity of man and a representation of an external/internal reality is indeed correct, “for it conforms to what an investigation of linguistic phenomena can make out in them at any time” (ibid.). The problem for Heidegger is that we never questioned the “singular role” played by these “correct ideas” about language. What is it that makes its way through language into the world? Whence do we confidently undertake this separation between inner, outer and language? Does this not somehow presuppose that language acts as a *neutral* vehicle or mode of transportation, with the sole purpose of conveying something that exists independently of its verbalisation, in the most accurate possible way, without interference and without adding something that wasn’t there in the first place? Language, our commonplace understanding suggests, *dresses* an external or internal reality *in words*. This “instrumental ideology of language” is the reason we take words such as “safety” and “security” for granted as transmitting a factual reality that exists independently of its expression through language.

So from Heidegger’s perspective the view of language as fundamentally “fact-stating” and “descriptive” (Scannell 2007, 172) is not just to be found in the logical positivist approaches to language based on Russell and Wittgenstein, it determines our everyday understanding and use of it. The speech act theory that developed in the 1960s through the work of J.L. Austin is often said to have challenged this approach and set philosophy of language on a new course by emphasising the constructivist power of the spoken word. But outside the power the “speech act” or utterance had to shape a social situation (e.g. the act of a priest of pronouncing a couple “husband and wife”) it still posited the existence of an external, objective realm of language where truth was not determined by the situation but transcended it. This is an idea psychoanalytical approaches to language such as that of Althusser would negate, and Heidegger too would deny

the existence of such an outside, transcendental realm of language. Talking about language still involves language, hence there is a circularity that is inevitable, and Heidegger doesn't exempt himself from it. But being aware of this circularity is the first step towards a non-instrumental understanding of language and ultimately brings us a step closer to what Heidegger claims is its essence. As we will see, in the case of the surveillance ideology such a non-instrumental approach can lead to the rhetoric of "safety" and "security" becoming conspicuous, which is a first step towards questioning.

4.5.2 Truth and the Essence of Language

The approaches to language discussed here, whether they were concerned with language as ideology (Althusser), or the philosophy of language (whether logical positivist or constructivist), relate language with truth. Truth seems to be something that is obscured by ideology and needs to be recovered. The truth masked by the surveillance ideology for instance relates to the complex political and commercial interests served by widespread surveillance. For Heidegger, the essence of language is indeed a matter of truth, but he doesn't equate truth with an external, objective meaning that language must strive to convey, nor is it something that is forever outside of language and unreachable. Truth, for Heidegger, is the essence of language itself, the relationship between the word and the thing, but not in the way this relationship has conventionally been understood, where the word is a *correct representation of the thing*. As he puts it, it is

language alone [that] brings what is, as something that is, into the Open for the first time [...] Language, by naming beings for the first time, first brings beings to word and to appearance. Only this naming nominates beings *to* their being *from out of* their being. (Heidegger 1971c, 71, emphasis in the original)

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What Heidegger is trying to explain is that language is not merely a talking about beings, but that we call beings into being by addressing them through language.¹³

For Heidegger, the idea of truth as the correspondence of a representation with the “true state of affairs”, or a verifiable attribute of something such as what we can “make out” about language by observing speech, is one of the original errors of Western philosophy. Ever since Plato, he argues, philosophy has taught us to think of truth in terms of correspondence (Gunkel & Taylor, 2014), but we have confused truth with correctness. Instead, he argues, “[i]f we translate *ἀλήθεια* [aletheia] as ‘*unconcealment*’, this translation is not merely more literal; it contains the directive to rethink the ordinary concept of truth in the sense of the correctness of statements and to think it back to that still uncomprehended disclosedness and disclosure of beings” (Heidegger 2008, 125, emphasis added). The implications of this distinction Heidegger draws between truth and correctness are profound. Firstly, our obsession with the “correspondence theory of truth” (what he calls “correctness”) means we have a tendency to fetishise the “accurate representation” of facts over any underlying deeper meaning. This ties in with the general instrumentality of thought that for Heidegger is the culmination of Western metaphysics in the rationality of technological modernity, a rationality of which the ubiquity and pervasiveness of ICT systems is perhaps the most acute manifestation.

¹³It should be noted here that Heidegger’s thoughts on language found within these pages are not intended as a summary, or representative of, Heidegger’s overall views on language. The concern with language is a persistent one in Heidegger’s writings, beginning most overtly in *Being and Time* but continuing into his latest works. In the period of this engagement Heidegger does not work towards a single and consistent account of language, rather, his concern moves from language in its metaphysical sense (i.e., as the language spoken by beings) towards a view of language that speaks Being itself, within which the metaphysical resides. The account given here forms a milestone within this trajectory (discussed at length in Powell 2013) from the time when Heidegger began to move towards a view of language as the “house of Being”. What I wish to emphasise however is that it would be wrong to reduce the ideas discussed here to a social constructivist view of language, for even where Heidegger is concerned with language spoken by beings, the fundamental connection between language and Being is already present in the ‘calling into Being’ that the naming of things represents.

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By way of illustration we might consider the example of the body scanners implemented at a number of airports worldwide ? as technologies collecting and processing data in digital form they too form part of the move towards ubiquitous surveillance. In the UK Manchester Airport came under severe scrutiny by privacy advocates during their trial of body scanners that used x-ray technology to scan through passenger clothing. When the European Commission failed to approve continued use of the scanners after the trial period had ended, Manchester announced it would begin using “privacy-friendly”, “non-invasive” scanning equipment that would merely produce cartoon images of the passenger’s body (BBC News 2012). While the new technology might indeed produce a less accurate image of the body (this far the argument for greater privacy may be correct), the use of terminology such as “privacy-friendly” or “non-intrusive” ignores the fact that the scanning process as such represents an invasive procedure as the human is subjected to surveillance by a machine, with no knowledge about what happens with the images once collected. So while we adhere to our conventional understanding of the connection between language and truth, we might assemble everything that is correct, but fail to realise the full significance of what is being said.

There is another, potentially even more significant implication of the distinction between truth and correctness. More specifically this is an implication of interpreting truth “correctly” (pardon the pun) as “unconcealment”. If we accept Heidegger’s argument that truth is not a statement corresponding to a state of affairs but a state of disclosedness, a state where things are revealed as what they really are, then the essence of language is to reveal the true nature of the thing it addresses. Put more simply, language is not a talking about things that already exist independently by themselves, but it is through language that things *approach* us. The spatial dimension of approaching is crucial, because what Heidegger is trying to explain in necessarily abstract terms is that language doesn’t merely ‘put into words’ (though we often use this expression), it calls into being from a distance and thus brings what is being called closer to us. Elsewhere Heidegger comments on the apparent capacity of media for eliminating spatial and temporal distance (an argument that pre-empts McLuhan’s ‘global village’ and all

current rhetoric of how media create global communities) - but Heidegger's point about the *calling into being from a distance* that language effects suggests our views of distance are very superficial. Distance, for Heidegger, is an ontological quality not so easily disposed of. It denotes the ontological relationship between the thing and the word that lies at the heart of the essence of language, and it can help us understand how it is possible that talk of "safety" and "security" maintains the need for surveillance it is through these concepts that the reality of a threat approaches us. In order to fully understand how language calls into being we need to follow Heidegger on a slightly odd track, one that takes us through poetry, which he sees as the domain that most heeds the insight that language is not simply a tool for making communicable an objective external reality (Gunkel and Taylor 2014).

4.5.3 Calling a "Threat" into Being

...and what are poets for in a destitute time?

Hölderlin quoted in Heidegger 1971e, 89

Like for Marcuse, poetry for Heidegger has a special place amongst all other forms of language and for both thinkers it is poetry that is most intimately connected with truth. Marcuse looks to poetry for its refusal of the actual historical situation and its ability to imagine an alternative reality. He sees in it a medium for critique after critical potential has been neutralised in close to all other domains of social life. Heidegger has often been branded as a Luddite and his preoccupation with poetry might suggest that he too sees the only possibility for truth and redemption from the onslaughts of modern technology in the realms that transcend mortal existence, in faith or in art. I think this is a misreading of Heidegger, but one which unfortunately the space constraints of this chapter won't allow us to go into. But in Marcuse's hope of poetry as a critical medium an element of instrumentality seems to remain, where for Heidegger the point of poetry is its very non-instrumentality, its very "surface-level materiality" (Gunkel and Taylor 2014). Heidegger is not so much concerned with the issue of "human

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solitude” in Georg Trakl’s poem “A Winter Evening”, but with how the *language* of poem *calls this solitude into being*.

So there is no need to reproduce the lines of “A Winter Evening” in full, the point is that the window against which the snow is falling, and the tolling of the vesper bell that both feature in Trakl’s poem, do not address or “cloak” an existing window or tolling bell with words, but both are *brought before us* by their very naming as the “[w]indow with falling snow arrayed,” and the “vesper bell” that “[l]ong tolls”. In Heidegger’s own words:

Does [...] [naming] deck out the imaginable familiar objects and events - snow, bell, window, falling, ringing - with words of a language? No. This naming does not hand out titles, it does not apply terms, but it calls into the word. (Heidegger 1971a, 196)

What Heidegger means is that our naming of things is not merely an *attaching* of an array of letters and sounds to a thing, whether that thing is concrete like a bell or abstract like the sound of its ringing. Rather, our naming of these things *brings them towards* us from a distance, it is a naming that “calls”, and as Heidegger reminds us, calling always “brings closer what it calls” (ibid.).

The misunderstanding that we must avoid, however, is to think that by calling something we might be bringing this thing into our presence. Heidegger is emphatic that this is not the case: what we have called, or summoned, into closeness from a distance at the same time remains in this distance. Distance and closeness interact in everything that we call and thus retain the true being of the thing we have called. The difference between closeness and presence is not easily retained in the English translation: things *presence* in their call, but they do not become a presence. In the original German “sie wesen an” (they presence), “wesen” has the same etymological root as “das Wesen”, the essence of things. The English translation “presence”/“essence” however misses this reference which conveys that our calling of things into presence lets us experience them in their essence. It is crucial that we understand this correctly because in the context of the surveillance ideology and ICTs the rhetoric of “security” and

“crime prevention” does not actually cause the threat to our security to *become a presence*. The point is that the “calling from a distance” of the threat is enough to legitimise the surveillance process. The ideological atmosphere within which surveillance has become near-ubiquitous is in fact the “calling from a distance” of a threat that emanates from the language of “safety and security”.

Psychoanalytic theory argues that desire lives from the distance between its actualisation and its symbolisation (Žižek 1989). Heidegger’s inquiry into the essence of language suggests that the threat around which the surveillance ideology is based functions in the same way. It taps into the distance that exists between the thing and the word that calls it into being, the symbolisation of the threat in a CCTV warning sign and the actual terror or criminal event. As mentioned earlier, the proliferation of CCTV and other surveillance mechanisms then only reinforces the existence of this threat, leading to a situation where ideology and technology mutually reinforce each other. Of course the individual is never confronted with the full technological infrastructure, nor the actual terror/criminal event itself, but the surveillance ideology turns him from a citizen with rights and liberties into a prospective victim in need of protection and more likely to accept surveillance as part of these protective measures.

4.6 Summary

In the context of the move towards “ubiquitous surveillance” (Murakami Wood 2011) that the recent revelations of global surveillance programmes have again manifested, this chapter has emphasised the need for critical approaches to ICTs to question the extent and nature of these surveillance processes. This chapter of the present thesis has aimed to contribute to this process of questioning by focusing on what Fuchs (2013) has termed the “surveillance ideology”, the promise of security through surveillance that seeks to legitimise the infringement of our civil liberties that result from increasingly comprehensive surveillance. The aim was firstly to cast some light onto the workings of the surveillance ideology itself, and

secondly, to show how Heidegger's philosophy of language can contribute some key theoretical groundwork for a critique of the surveillance ideology.

In order to locate the gap in existing critical approaches to language and ideology that Heidegger can fill I began by examining the concept of ideology and the connection between ideology and language. Althusser corrected the blind spot of orthodox Marxism by identifying language as the process whereby the individual, as opposed to the social class, becomes an ideological subject, but seemed to offer no account of how language operates at the most basic, ontological level. Heidegger's ontological grounding of language in Being itself offers an explanation of how ideological language works on the mind of the individual, for instance by calling into existence a threat to his or her way of life. This threat is manifest everywhere in the language of the surveillance ideology, but also in the growing presence of surveillance equipment, leading to a situation where ideology and technology mutually reinforce each other.

In order to gain an understanding of how the surveillance ideology works I have examined some of the ways in which surveillance technology such as CCTV is marketed to the public by corporations and justified by the state. My discussion of examples of this rhetoric, such as the arguments made by political actors and the ubiquitous CCTV camera warning signs has shown that the surveillance ideology rests on the continued emphasis on "safety and security". Approached through Heidegger's philosophy of language, this rhetoric ceases to justify the need for protective measures but becomes its source. Heidegger's analysis highlights how the history of Western philosophy has fostered an everyday use of language that is instrumental, and it is this instrumentality that inclines us to accept the rhetoric of "safety and security" as a neutral envoy of a threat that exists beyond and outside of language itself. For Heidegger, however, language in its very essence is non-instrumental, it is not the neutral communication of an external reality, but the calling into being of reality itself. Through a Heideggerian analysis of the ontological relationship between the security rhetoric and the actual criminal or terror event, it emerges how the threat necessary to sustain the surveillance ideology is created.

The second aim of this chapter was to help mount a critique of this surveillance ideology. The possibility of mounting a critique of ideological language, as we have seen, is complicated by the fact that critique must rely on language itself. The question is whether Heidegger's philosophy offers a route out of this 'vicious circle' where other thinkers have argued that an outside perspective from which to engage in ideology-critique doesn't exist, or that only "radical empiricism" will do. Heidegger doesn't offer a solution to the problem of an outside to language, indeed his argument only confirms Althusser's claim that wherever we are in language, we are in ideology. From Heidegger's perspective too language interpellates us even before ideological institutions have the chance to co-opt it and use it for their purposes.

However, this perspective should not be confused with resignation. This is particularly important in the current context, where we are dealing with the ideological representation of ICTs. Here resignation might be taken as an outright condemnation of information and communications technologies. I deal with both the positions of techno-enthusiasm, which is widespread in mainstream commentary on ICTs, and techno-pessimism in the next chapter, as from Heidegger's perspective both fall far short of grasping the realities of our technological situation. As he emphasises in his essay "The Question Concerning Technology", the aim is not to abandon technology but to enter into a free relationship with it. For our purposes, this means not finding a way to extricate ourselves from our information-technological environment, but to enter into a process of deep and rigorous questioning, and Heidegger's ontological approach, which consists of important yet simple questions about the nature of technology and how we engage with technological objects, can help us with this. This is also true for the critique of ideology and specifically ideological language. Critique must draw on thought itself, on the reflection on the constraints that language imposes upon us. Thus Heidegger is not preoccupied with poetry for its promise of an alternative social reality but because it challenges the instrumentality of language that ideology exploits. In poetry we find in its clearest form the conspicuousness of language that Heidegger insists it possessed from the beginning, but that through more than two millennia of instrumental thinking we have lost. What this means

in terms of the surveillance ideology is that the rhetoric of “safety and security” needs to become conspicuous. This is first and foremost a matter of awareness, of critical thinking. As Žižek recently commented on Marx’s famous criticism that philosophy only ever interprets the world (Thesis 11 on Feuerbach, Marx and Engels [1846] 1947, 123),

in the 20th century, we maybe tried to change the world too quickly, the time is to interpret it again, *to start thinking* (Žižek 2012, emphasis added).

This argument will be an ongoing reference point in this thesis, as we move through our discussion of various points in Heidegger’s philosophy, specifically those that deal with the question of technology, and how it can illuminate some of the issues we are facing in view of the ubiquity of information and communications technologies.

Chapter 5

Heidegger's Network Ontology The Being of Technological Structures

Do we in our time have an answer to the question of what we really mean by the word 'being'? Not at all. So it is fitting that we should arise anew the question of the meaning of Being. But are we nowadays even perplexed at our inability to understand the expression 'Being'? Not at all.

Heidegger, 2008, p. 1

The less we just stare at the hammer-Thing, and the more we seize hold of it and use it, the more primordial does our relationship to it become, and the more unveiledly is it encountered as that which it is - as equipment. The kind of Being which equipment possesses - in which it manifests itself in its own right - we call 'readiness-to-hand'.

Heidegger, 2008, p. 98

5.1 Introduction

Heidegger's arguably most radical claim is that despite more than 2000 years of philosophical thought and scientific progress, we still do not have an understanding of that "most universal and emptiest of concepts" (Heidegger, 2008, p. 2), Being. Rather, as he notes in the above quotation, this universality and emptiness has become taken for granted: we are no longer even perplexed by the question. The critique of common-place assumptions and understandings we take for granted, we have already seen, runs deep through Heidegger's thinking. In this chapter, we will see how Western philosophy's failure to give an appropriate account of Being has profound consequences for our understanding of technology, and in particular our current information-technological landscape. From a Heideggerian perspective, our failure to provide an appropriate understanding of the Being of these technologies is a dangerous paradox in light of their ubiquity and pervasiveness.

Heidegger's argument, as we know, is that our dominant understanding of technology is that it is a means to an end, an understanding that, in the case of ICTs, is constantly reinforced by marketing rhetoric. One of the examples given in the preceding chapter was the Nokia advertising slogan "It's not technology, it's what you do with it" (Youtube, 2010), but the internet service provider Google is another fitting example. Next to its search-engine, it provides email services (Gmail), a browser (Google Chrome), Cloud computing services (Google Cloud) and office software (Google docs). All of these services are fast, free and efficient to use, and - combined with Google's colourful and friendly logo - seem to reinforce its corporate philosophy of 'Don't be Evil'. However, what presents itself to its users as a benign *service provider* - which we might say is marketing slang for *neutral means to an end* - is also one of the world's most efficient and productive tracking companies.¹⁴ In 2012 Google made extensive

¹⁴Google has almost 90% global search engine market share (Statista, 2014), moreover more than 425 million users (as of 2013) of its gmail service, 4 billion videos played daily on YouTube, the video-sharing site owned by Google, half the global smartphone market from which it can collect location information, a fifth of all internet browsers and an almost 50% share in all online advertising. (Bullas, 2014)

changes to its privacy policy, which in the media were represented as making its services ‘simpler’ and more ‘user-friendly’, but they also made it much easier for Google to correlate information collected across its products and services. Users can thus be targeted with advertising based on their online activities, for instance

[a] YouTube history consisting of karaoke singalongs may be used to inform recommendations of nearby bars on your smartphone. An email to a friend saying “I’m pregnant!” could conceivably lead to some maternity-wear ads elsewhere. (Ball, 2012)

A substantial amount of Google’s revenue comes from targeted advertising, but the point is not simply the commodification of users’ online activities. From Heidegger’s perspective, the instrumentalisation of our information, whether by governments or corporations, is only one aspect of a much more fundamental commodification of human Being that characterises our current Being-in-the world. This is the essence of technology that Heidegger argues is ‘by no means anything technological’ which, in the way that the correct eclipses the true, is obscured by our instrumental understanding of technology.

This section draws on the ontology developed by Heidegger in response to Western philosophy’s “forgottenness of Being”, to explore the specific features of information-technological objects. A cornerstone of this ontological framework is his distinction between presence-at-hand [Vorhandenheit] and readiness-to-hand [Zuhandenheit]: the former denotes the reduction of things to pure presence, or simply being there, that is characteristic of Western philosophy’s failure to properly examine Being. Based on Heidegger’s argument that *human experience* needs to form the basis for an understanding of Being rather than its abstract conceptualisation, he introduces the concept of readiness-to-hand to emphasise that we do not engage with objects as mere lumps of physical mass, but in terms of their purpose. Here lies the crucial relevance for technology: our instrumental understanding of technology is not just ideological, rather, it emerges from the *particular structural qualities* these objects exhibit and which to a significant part determine our interaction with them.

Digital ICTs, as argued throughout this thesis, are characterised by a unique combination of material and immaterial features: our gadgets and devices are merely access points to the underlying, immaterial matrix of informational flows. This renders their status as objects somewhat oxymoronic, but it is precisely these im/material qualities that allow digital ICTs to take full advantage of their readiness-to-hand. Google’s ubiquitous digital services are a case in point - they are everywhere and freely available, and not tied to any single physical device. By withdrawing into what Gunkel (2009) refers to as ‘instrumental transparency’, these technologies are uniquely successful in obscuring the much more fundamental instrumentality that lies at the depths of their ontological complexity - what Heidegger calls their *essence*.

Where previous ontological approaches have either dealt with Being purely in terms of existing entities, and frequently not dealt with objects at all, Heidegger’s approach unearths their previously unseen ontological complexities. His focus on human experience as the basis for his phenomenological approach reveals an intricate network of connections between human beings and objects: a “network ontology”, wherein it becomes possible to analyse the complex ways in which human and technological beings interact. Heidegger himself did not utilise the trope of the ‘network’; doing so however allows us to highlight the ways in which current approaches to ICTs that fetishise the concept of the network fall far short of the ontological depth of Heidegger’s analysis.

This chapter will be structured as follows: before we can highlight the distinctness of Heidegger’s approach we need to explain what Heidegger means by the ‘forgottenness of Being’ and give a brief account of the philosophical positions that led to Being being conceived of in terms of *pure presence*. We will then show how Heidegger’s alternative ontological framework and in particular, his notion of *readiness-to-hand*, can usefully be applied to the problem of an over-reliance on ICTs that is blind to their wider significance for human being-in-the-world. Finally we will focus on the special ontological significance Heidegger retains for *Dasein*, which is frequently underestimated but is of crucial significance for the question of technology.

5.2 The Forgivenness of Being and Why it Needs to be Questioned Again

So if it is said that ‘Being’ is the most universal concept, this cannot mean that it is the one which is clearest or that it needs no further discussion. It is rather the darkest of all.

Heidegger, 2008, p. 3

Heidegger was not the first thinker to point out the peculiar nature of the concept of Being as one that is everywhere in use but at the same time seems to eschew definition. The quote with which Heidegger opens his magnum opus, *Being and Time*, stems from Plato’s dialogue *The Sophist*, where the philosopher Socrates tells his audience:

manifestly you have long been aware of what you mean when you use the expression ‘being’. We, however, who used to think we understood it, have now become perplexed. (cited in Heidegger, 2008, p. 1)

Both Ancient philosophers Plato and Aristotle launched an inquiry into this most urgent and fundamental of matters and I will briefly summarise their positions below. The main point however is that for Heidegger, 2000 years after Plato and Aristotle, the question of Being is still not resolved. Rather than continuing the investigation begun by the Ancients, Western philosophy has relapsed into its original state of amnesia:

On the basis of the Greeks’ initial contributions towards an Interpretation of Being, a dogma has been developed which not only declares the question about the meaning of Being to be superfluous, but sanctions its complete neglect. It is said that ‘Being’ is the most universal and the emptiest of concepts. As such it resists every attempt at definition. Nor does this most universal and hence indefinable concept

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require any definition, for everyone uses it constantly and already understands what he means by it. In this way, that which the ancient philosophers found continually disturbing as something obscure and hidden has taken on a clarity and self-evidence such that if anyone continues to ask about it he is charged with an error of method. (Heidegger, 2008, p. 2)

It is worth looking in a little more detail at the reasons Heidegger gives for this ‘forgetfulness’, because it confirms once again Heidegger’s main criticism of Western thinking - its failure to examine its own basic assumptions, which we see at work right through to our own everyday understanding of technology.

The question of Being is for Heidegger the one that underlies all other questions: what does it mean for something to ‘be’? We clearly ‘are’, a tree out in the garden ‘is’, birds flying in the sky ‘are’ and a man-made object like a table ‘is’ also. It seems clear that ‘being’ is always the being of an entity, and that every entity has a way in which it is. The question then arises of

whether this way-of-being has the same character in every being - or whether individual ways of being are mutually distinct. Which are the basic ways of being? Is there a multiplicity? How is the variety of ways-of-being possible and how is it at all intelligible? (Heidegger, 1988 [1975], p. 18)

An inquiry into Being might thus begin by asking whether different entities (including human beings) have different ways of being, or whether they are all *manifestations of one kind of being*. This is the view Plato took, and we will see in a moment why Heidegger disagrees with it.

If all things are manifestations of *one kind of being* the question that emerges is: what is this being, or we might say, what is *being as such*? Here we run into the problem that sticks to the question of Being like a shadow to its owner: the tendency of Being to “‘withdraw’ in the face of questioning” (Sadler, 1996, p. 2). For how can we get to the bottom of something when the very thing to be

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interrogated already forms the premise of the interrogation? In other words - when we ask what being is, we are already relying on an understanding of what it means to 'be' - we can't formulate the question without it. Even the natural sciences that are meant to investigate the primary nature of things already move within an understanding of Being (Heidegger, 2008, p. 11), for instance when they say that an atom is the most basic unit of matter. The reason Western philosophy has stopped thinking about the meaning of Being, Heidegger concludes, is that 'being' is the most universal, indefinable and self-evident of concepts. However - and this is Heidegger's recurring point - just because something seems obvious doesn't mean we have understood it. In the case of ICTs, it is precisely their self-evident nature and quasi-scientific objectivity that seems to place them beyond the realm of questioning. As Heidegger states in the quote at the beginning of this section, just because a concept is universal in its use "this cannot mean that it is the one which is clearest or that it needs no further discussion". Being, for Heidegger, is "rather the darkest of all". So the task Heidegger set himself in *Being and Time* is to explore the question of what it means for something to 'be'. Human beings, birds, trees and banal objects like tables - all these things 'are', but the question is whether they all 'are' in the same way, or whether the Being of a table is different from our own being? Moreover, when we say 'the table is on the floor' or 'the table is red', to what extent does this really tell us something about the existence of the table as such? Both 'being on the floor' or 'being red' can be understood as properties of the table, but do these properties exhaust its Being?

We can see how Heidegger forces open a series of questions, and it is the process of questioning, rather than finding answers, that for Heidegger is the most important. As he remarks at the end of his essay on technology, "questioning is the piety of thought" (Heidegger, 1977, p. 35). It is not the failure to find answers about the meaning of Being that Heidegger is so deeply critical of, it is the fact that the process of questioning has stopped. Where Being is no longer conceived as something mystical and worth exploring, this can have catastrophic consequences: the rule of the essence of modern technology is precisely the consequence of turning Being into something merely present-at-hand, because through

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this process it has become objectifiable and within the scope of human control. This point is nowhere illustrated more clearly than in this passage from Heidegger's lecture "The Danger", where he comments upon the war crimes committed by the Nazis:

Hundreds of thousands die in masses. Do they die? They perish. They are put down. Do they die? They become pieces of inventory of a standing reserve for the *fabrication* of corpses. Do they die? They are unobtrusively liquidated in extermination camps. ... To die, however, means *to endure death in its essence*. To be able to die means to be capable of this *endurance*. ... But in the midst of these innumerable dead, the essence of death remains disguised. (Heidegger, 2012 [1994], p. 53, translation modified, emphasis added)

It is one of the comments that has been vilified as a great 'insensitivity', and Rockmore (1992, p. 242) for instance sees it as evidence of Heidegger's 'incapacity' to "comprehend' the Holocaust through his theory of technology". However, the point of this passage is precisely a technological account of the Holocaust.

Death, for Heidegger, has a special significance that goes beyond our common understanding of it, and is closely related to his account of temporality (see chapter six). The ability to die is the unique capacity of Dasein, and his point is that the extermination of the Jews in the gas chambers rid them of their ability to die a human death. Heidegger is explicitly commenting on the *forgottenness of Being* manifested by modern technological ways of killing - which is why an accurate translation of Heidegger's original German sentence "Sie werden *Bestandstuecke* eines *Bestandes* der *Fabrikation* von Leichen" is important. Rockmore's "[T]hey become mere quanta, items in an inventory in the business of manufacturing corpses" ignores the strength of the technological terminology used by Heidegger: the German term "Fabrikation" is related to the term "Fabrik" - meaning factory. Then Heidegger's use of the term "Bestand" is crucial - it denotes the effects the essence of technology has on what it encounters - objects no longer even have the status of objects, and human beings are rid of their capacity to *be* as human beings.

5.3 Plato and Aristotle on the Being of ICTs

Heidegger's technological account of the Holocaust has been widely misinterpreted and made the subject of much ill-informed polemic against him - which we will address separately in chapter 8. The point here is that it shows why the forgottenness of Being, for Heidegger, is not simply a methodological omission. The reduction of Being to mere presence is what defines the essence of modern technology, something that is covered up by our failure to question technology appropriately. This failure is rife in mainstream approaches to our current information-technological environment, as both optimistic and pessimistic accounts move within an understanding of technology that is limited to pure presence. Our *everyday experience of technology* tells us that technological objects aren't mere presences or self-sufficient objects - but rather than questioning these hidden dimensions, the instrumental ideology that they are neutral means to ends outside the objects themselves is reinforced. To this end, Western philosophy's amnesic stance toward the question of Being has been incredibly useful. It is grounded in the original questions raised by Ancient Greek philosophy.

5.3 Plato and Aristotle on the Being of ICTs

5.3.1 Plato and Aristotle on Being

Heidegger states at the beginning of *Being and Time* that it is “[o]n the basis of the Greeks’ initial contributions towards an Interpretation of Being [that] a dogma has developed which ... declares the question about the meaning of Being to be superfluous” (Heidegger, 2008, p. 2). In this section we will inquire briefly into these ‘initial contributions’ made by the Greeks into the question of Being, specifically those of Plato and Aristotle¹⁵. Heidegger’s overarching criticism of Western ontology is its failure to recognise what he calls the ‘ontological difference’, the difference between beings (entities) like tables, birds, trees and human

¹⁵I am focusing on these two thinkers as it is generally recognised that Heidegger’s critique of the Western philosophical tradition sets in with Plato. As Wheeler argues for Heidegger the forgottenness of Being began with Plato who was Aristotle’s teacher (Wheeler, 2013).

5.3 Plato and Aristotle on the Being of ICTs

beings, and Being as such¹⁶, something that all these entities have in common. Being, Heidegger argues,

is essentially different from a being, from beings. We must be able to bring out clearly the difference between being and beings in order to make something like being the theme of inquiry. This distinction is not arbitrary; rather, it is the one by which the theme of ontology and thus of philosophy itself is first of all attained. It is a distinction which is first and foremost constitutive for ontology. (Heidegger, 1988 [1975], p. 17)

Though Heidegger argues that Aristotle certainly recognised this difference, neither he nor any other thinker before him or subsequently investigated this other, more general mode of Being in the way Heidegger thought it should be investigated. Rather, he argues, Being itself was treated as *just another kind of being* - although it was given different names, like 'idea' (Plato), 'substance' (Aristotle), 'monad' (Leibniz) or 'will to power' (Nietzsche) (Wheeler, 2013).

Western thought, Heidegger argues, has levelled the ontological difference into a *single dimension* of presence where all beings are 'self-sufficient' entities (Dreyfus, 1995, p. 61), locked into their own Being and isolated from each other. Heidegger develops an alternative ontological structure where the 'membranes' of things that keep them within their self-sufficiency are substituted with multiple connections to other things and importantly, to us as human beings. Together these connections form a network-like structure, a referential totality that we experience as the *world*. We will see how it makes far more sense to explore our

¹⁶In the original German the being of entities is 'das Seiende', where Being as such is 'Sein'. But as Wheeler (2013) points out, there is a problem that we need to stay aware of when we read 'Being' in English: "Unfortunately the capitalization of 'Being' also has the disadvantage of suggesting that Being is, as Sheehan (2001) puts it, an ethereal metaphysical something that lies beyond entities, what he calls 'Big Being'. But to think of Being in this way would be to commit the very mistake that the capitalization is supposed to help us avoid. For while Being is always the Being of some entity, Being is not itself some kind of higher-order being waiting to be discovered."

5.3 Plato and Aristotle on the Being of ICTs

relationship with technological objects not in terms of a subject/object relationship, but in terms of this network of referentialities: in particular our relationship with our digital environment, since the fundamentally im/material nature of ICTs challenges the ways in which traditional ontology has thought of the *object*.

Plato's ontology hinges on a difference between what visibly exists in the world and a higher, ideal sphere of being. If we apply this to our earlier examples this means the table, the bird and the tree are 'imperfect' manifestations of their ideal beings, or 'forms'. As Clarke explains, Plato's ontology is based on the idea that our

material world of flux and movement... and everything in it is a reflection or imitation of a stable ideal world beyond this in which are found the unchanging ideal forms or eternal essences of all physical objects. As such, all tables are imperfect approximations of the ideal table, they embody, in an imperfect way, the essence of 'tableness'.
(Clarke, n.d.)

The ideal forms of things like tables, trees and birds are thus permanent essences that do not change, as opposed to the everyday material world that is imperfect and ever-changing. An important point for Plato is that real knowledge, truth, cannot be accessed through our sensory experience of the material world.

Aristotle on the other hand argued against such a separation between ideal forms and their particular manifestations in the physical world. He recognised that a table, the birds in the sky, the trees outside and human beings all share in a more general, universal category of Being; however, this was not an abstract form, but a 'substance'. For Aristotle there was no logical explanation why abstract forms could bring about actual, physical substances: rather we should look for factual, causal explanations for how things come into being that are open to human perception. For Aristotle, the coming into being of every entity is a result of four causes: the material cause, the formal cause, the efficient cause and the final cause. Taking our earlier example of the table, the material cause of its being is what it is made of (usually wood), its formal cause is its shape (four

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legs and a flat surface), the efficient cause would be the person who made it (the carpenter), and the final cause is its purpose (serving as a surface to eat and drink from). So where for Plato the table we see before us is the physical manifestation of the ideal table, for Aristotle it is the tangible and logical result of the interplay between these four elements.

Aristotle's doctrine of the 4 causes in itself shows quite clearly why it is Aristotle and not Plato who is known as the father of empiricism. Aristotle's conviction that the answer to the question of what exists lies firmly in the realm of what humans can perceive led to his developing a system of categories for classifying entities such as tables, birds, etc. According to this system, all entities (i.e., the beings at which one arrives as a result of the four causes) can be wholly described by their substance and their attributes, such as size, shape, weight, etc. Where for Plato being was a universal, an abstraction beyond human experience, for Aristotle it is to be found in the particulars, the substances and their attributes that are accessible to human perception and understanding. Now that the main difference between Plato's and Aristotle's ontologies should be clear, how does Heidegger follow on from there and why is this third approach (if we believe Heidegger's assertion that between the Ancients and his own investigations the question lay dormant for nearly 2000 years) the right one in the present context? how we engage with the ubiquity of information and communication technologies around us? First, what, if anything, does Heidegger take from Plato? We know that Heidegger too is concerned with the essence of things. In "The Question Concerning Technology" he writes:

Technology is not equivalent to the essence of technology. When we are seeking the essence of "tree," we have to become aware that That which pervades every tree, as tree, is not itself a tree that can be encountered among all the other trees. (Heidegger, 1977, p. 4)

In stating that a tree is not the same thing as that which pervades it as 'tree' he seems to come quite close to Plato. Nevertheless, Heidegger's essence is not the same as Plato's essence. For Heidegger, the essence of a thing does not lie

in a remote location like Plato's realm of forms - a realm that is, in principle, inaccessible to human beings. Rather, the essence of a thing lies precisely in how it allows us to relate to the world around us, and it is this concept of essence that is the more helpful one for thinking about technology.

5.3.2 The Platonic and Aristotelian Smart Phone

Taking Plato's approach, every smart phone would be the imperfect manifestation of that ideal smart phone that endures, inaccessible to us, in the realm of ideal forms - like a techno-evangelist vision of the eternal iPhone. Neither looking at the actual physical phone-object (with all its scratches and other imperfections) nor considering the 'ideal phone' that exists in the realm of forms, tells us anything about the meaning of this technological object for ourselves, how we engage with it in everyday life. However, it is precisely this latter category that, from Heidegger's perspective, is the most crucial one. In everyday life, we use a mobile phone to connect to friends, to access our social networks, to manage our diaries etc. It is the *readiness* of the phone-object to meet these needs that determines its Being to a far greater extent than its material properties. This readiness (which Heidegger calls readiness-to-hand) does not exhaust the Being of the object in question - in fact it is the very thing that prevents us from realising the deeper underlying essence of the mobile phone as a technological object - but it is why we can engage with the phone as an object in the first place.

Having examined the grounds on which Heidegger's ontology departs from Plato, we need to investigate what his grounds were for criticising the understanding of Being developed by that other great Ancient philosopher, Aristotle. In fact Heidegger's ontology is influenced by a far greater degree by Aristotle than by Plato: contrary to what his critics claim, Heidegger gives absolute priority to human experience, or the facticity of human life, over abstract, theoretical ideas. Heidegger saw Aristotle as having placed the question of Being on "a new basis" (Heidegger, 2008, p. 3), precisely by looking at actual phenomena, rather than abstract ideas. He was, in Heidegger's own words, "the last of the great philoso-

5.3 Plato and Aristotle on the Being of ICTs

phers who had eyes to see and ... the energy and tenacity to continue to force inquiry back to the phenomena” (cited in Dreyfus, 1995, p. 8).

Nevertheless, Heidegger says, “even Aristotle failed to clear away the darkness of these categorical interconnections” (Heidegger, 2008, p. 3) - looking at digital ICTs, we might say that the deeper significance of digital interconnectedness eluded him. In terms of the ontological makeup of a smart phone, for instance, Aristotle’s metaphysics tells us that it is a physical object with a ‘substance’ (matter) and numerous properties such as its size or shape, even the property of ‘being in my pocket’ or ‘being broken’. However, it tells us nothing about how we as human beings relate to it, or how it relates to other objects also existing in the world (beyond sharing the quality of having a substance). By conceiving of beings as composites of form and matter, Aristotle’s ontology locks them into the kind of self-sufficient existence that precludes any connections to other beings. Unless entities merge physically in the real world to form a new composite, there is no connection between them.

5.3.3 Limitations for an Ontology of ICTs

How limited Aristotle’s approach is for understanding media technologies becomes clear when looking at the work of the German medium theorist Friedrich Kittler, one of the few scholars in the field to draw on philosophy to analyse modern media systems. Kittler argues that it has been impossible for Western thought to develop an ontology of media because it has reduced being to a question of pure presence, of things simply *being there*. He goes as far as stating that Aristotle’s metaphysics, dealing as it does “only with things, their matter and form, but not with relations between things in time and space” actually *prevents* an ontology of media because the fundamental characteristic of media is to bridge time and space:

Being, whether natural or technical, has been thought of for 2500 years
... in the metaphysical terms of here-ness and presence, *entelécheia* and

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ousía, not in their many opposites such as past and future, storage and transmission. (Kittler, 2009, p. 25)

We think of storage and transmission as technical properties of media technologies, but if we reduce them to their most basic function we find that they are means of overcoming the boundaries of time and space.¹⁷ However, as Heidegger points out in *Being and Time*, by reducing the question of being to one of presence, of being there, traditional ontology had also reduced it to the *present*, being here and now. This is what Heidegger refers to as ‘the problematic of Greek ontology’:

Entities are grasped in their Being as ‘presence’; this means that they are understood with regard to a definite mode of time - the ‘Present’.
(Heidegger, 2008, p. 25)

This shows quite clearly why traditional ontology cannot supply us with a full understanding of objects the purpose of which is precisely to overcome the limitations of the here and now.

This is why Kittler concludes that Heidegger was in fact the first philosopher to make an ontology of media possible, and it is for the same reason that Heidegger’s approach is uniquely suited to understanding our ubiquitous information-technological environment. Heidegger’s ontology doesn’t limit entities to their object-like characteristics that keep them firmly in the here and now. Instead, it considers the relations of beings with other beings across time and space, which will help us understand not only the technological objects themselves but also how we engage with them. In fact, the instrumental nature of our engaging with technologies already always involves a temporal dimension as it points to a future

¹⁷This was essentially the point made by Harold Innis in *Empire and Communications* where he distinguished between media with a time-bias and media with a space-bias: the former are suited to storing information in a particularly durable way, such as clay or stone, the latter are lightweight media such as paper scrolls, making it easier to transport messages across large distances (Innis, 2007).

purpose. Technologies are means to ends that point outside the present existence of the technological object.

By now it should be clear why Heidegger decided to launch his own inquiry into the question of Being, but more importantly for our purposes, we should understand the relevance of this step for the question concerning technology: as a result of how the question of Being has traditionally been posed, the *existence* of a technological object like a mobile phone (in terms of its properties like shape, size, etc.) has taken precedence over the question of how we human beings engage with it. The world, for traditional ontology, is an accumulation of self-contained objects, objects that can be analysed and broken down endlessly only to reveal further self-contained entities (this is where modern mathematical science has taken over from philosophy). Neither philosophy nor science consider the being of a technological object as fundamentally different from that of a non-technological object. This is precisely the reason, however, why neither offer an adequate conception of technology, which brings us to the advantages of the ontological framework developed by Heidegger. His concept of readiness-to-hand addresses the limitations of approaches based on pure presence and is particularly suited to theorising the complex relationship between the material and immaterial that characterises digital technologies.

5.4 The Readiness-to-hand of ICTs

5.4.1 Phenomenology vs the Ubiquity of ICTs

Heidegger argues that contrary to the worldview fostered by Western philosophy, we are not subjects encountering the world as an accumulation of bundles of physical matter, but engage with it by way of a set of reciprocal relationships existing between ourselves and the things around us. In order to capture the fundamentally relational nature of our experience of the world, Heidegger introduces the concept of ‘readiness-to-hand’. The original German *Zuhandenheit* literally

means the quality of “*being to hand*”. The fact that it contains the word “hand” emphasises precisely the handiness of the beings it is meant to describe.

Readiness-to-hand describes the Being of things that we encounter in our everyday environment: it is a Being that is a facing-towards-us-to-be-engaged-with, rather than the closed-off nature of Being assumed by traditional ontology, which Heidegger calls ‘presence-at-hand’ [*Vorhandenheit*]. Readiness-to-hand does not only apply to technology, but it is technology that most clearly highlights the ‘availability for use’ that characterises this kind of being: it denotes how we encounter an object like a laptop not as physical object (e.g. a pile of plastic, metal, screws and wires) but as a tool, or as Heidegger calls it, as equipment. In this section we will examine in more detail how Heidegger’s concept of readiness-to-hand contrasts with the traditional ontology of presence and why this concept is particularly useful in the current context of our relationship with our information-technological environment.

Heidegger’s concept of ‘readiness-to-hand’ is easier to understand if we remind ourselves of what determines Heidegger’s basic approach to philosophy. His ontology is not aimed at producing a complex theoretical construct, but at providing a framework by means of which we can talk about how we experience the world. So in terms of understanding the Being of the things around us - whether they are tables, birds, trees or computers - it is not a theoretical concept that counts, but the non-conscious way in which we engage with them:

The Being of those entities which we encounter ... can be exhibited phenomenologically if we take as our clue our everyday Being-in-the-world, which we also call our ‘dealings’ in the world and with entities within-the-world... Such entities are *not thereby objects for knowing the ‘world’ theoretically*; they are *simply what gets used, what gets produced, and so forth*. (Heidegger, 2008, pp. 66-67, emphasis added).

The familiarity of the realm of things Heidegger is talking about here, “simply what gets used” and so forth... is precisely the realm of our everyday, information-technological environment. Traditional ontological approaches fall short by their

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attempts to *theoretically grasp* these objects, even in such simple terms as form and matter - they are, paradoxically, the very thing that has so far prevented us from understanding them. What counts is our experience of them, which is pre-theoretical:

The achieving of phenomenological access to the entities which we encounter, consists rather in *thrusting aside our interpretative tendencies*, which keep thrusting themselves upon us and running along with us, and which conceal ... those entities themselves *as encountered of their own accord...* (ibid., p. 67, emphasis added)

Phenomenology¹⁸ means encountering entities ‘of their own accord’, how they show themselves to us in our experience of them. The world¹⁹, for Heidegger, is not an object for scientific investigation to be understood, theorised and thereby appropriated by a subject, but a phenomenon of which we human beings are a fundamental and original part and which we need to try and understand from the perspective of this involvedness.

In terms of what we are trying to achieve, which is a critical understanding of our information-technological environment, this involvedness seems to pose a

¹⁸Heidegger argues that ‘phenomenology’ is frequently misunderstood as mere appearance, Heidegger however argues that phenomenology is about how things *show themselves to us* in their true being. Phenomenology is Heidegger’s ontological methodology, it means letting “that which shows itself be seen from itself in the very way in which it shows itself from itself” (Heidegger, 2008, p. 34).

¹⁹It is important not to misunderstand what Heidegger means when he talks about the ‘world’. The world, for Heidegger, is not simply an ontical concept, i.e. the sum of things we find in the world, nor is it merely an ontological term that refers to the type of Being of those entities. The problem with either of these interpretations is that both already operate from within an understanding of “world as a phenomenon” (2008, p.64) - a problem that arises from our own being part of what we are trying to understand conceptually. As always, there are limitations to understanding that of which one is oneself a part. But it is for this very reason that ‘world’ for Heidegger, signifies the very ‘wherein’ that forms part of the kind of being that is specific to human beings, which he calls DASEIN. The concept of Dasein will be of importance later in this investigation, for now however it is important to understand that Heidegger’s ontology takes its starting point from this very ‘wherein’ or ‘involvedness’.

problem: it has been argued that a critical perspective requires some distance to the object of critique. The overwhelming immediacy of our information-technological environment appears to make this distance impossible: even when we not embracing the opportunities of Web 2.0 and frantically producing content ourselves it is almost impossible to shut ourselves off from all media-input. Ever more sophisticated advertising strategies, such as “whispering windows”, a technology that delivers audio advertising messages via hidden speakers in shop windows, are forcing the attention of an increasingly distracted audience. From a surveillance perspective, posts and pictures uploaded onto social media sites are stored and processed in a way that might affect our future life chances (Lyon, 2010). On the website TheFacebookFired.com for instance employees share accounts of how their social networking activity was scrutinised by their employers and led to their employment being terminated.

From Heidegger’s radical perspective, attempts to disinvolve ourselves from this ubiquity with the aim of gaining an objective, critical perspective are intrinsically flawed. The understanding that Heidegger wants to bring us closer to is not one of a thinking subject reflecting upon his environment from an elevated position. Such attempts are premised on a subject/object dichotomy that is the result of reducing Being to mere presence. Heidegger’s profoundly paradoxical point is that the pervasiveness of our informational infrastructure is the result of precisely our attempts at an objective, detached understanding of our environment. The phenomenological premise of Heidegger’s approach is a full awareness and acceptance of the ways in which we are entangled in the referential totality that is constituted by our interactions with other beings - both animate and inanimate. His concept of readiness-to-hand is a concept for understanding ICTs from *within this totality*.

5.4.2 Readiness-to-hand: the Being of Equipment

Heidegger’s approach to the question of Being begins with the simple question of how we encounter the things that are closest to us in our immediate environment.

5.4 The Readiness-to-hand of ICTs

As we have seen, characterising them as ‘objects’ leads towards a theoretical understanding of them that places them within the realm of our control. This is why in standard accounts of technology, “[e]verything depends on our *manipulating* [it] in the proper manner”. In English we are inclined to take this word as almost synonymous with tools, which seems to make it eminently suitable for talking about technology. Despite technology being our theme, it is worth noting that the original German term used by Heidegger - which is “Zeug” - is not quite as unambiguous. This is important in so far as the Being of what Heidegger calls “equipment” (readiness-to-hand) is not limited to technology alone. The fact that we encounter things not as physical mass but through *using* them is all the more obvious with immaterial structures like language: as noted in chapter 4, our everyday engagement with language is not with a system of words and grammatical rules, rather, we use it as a means of communicating. ICTs will emerge in our analysis as a prime example of how ‘equipmentality’ increases with immateriality. Heidegger uses the example of the hammer, a very simple technological implement, to denote how, rather than being “grasped thematically as an occurring Thing” it is in the *process of hammering* that we, as human beings or Dasein, meet with the Being of the hammer-thing:

the less we just stare at the hammer-Thing, and the more we seize hold of it and use it, the more primordial does our relationship to it become and the more unveiledly is it encountered as that which it is - as equipment. (Heidegger, 2008, p. 69)

The Being of the hammer is best described not in terms of its presence, of its merely being there in some way, or its object-like properties, but in terms of its usefulness for doing something. From this perspective, understanding the hammer in a theoretical way as an object would actually prevent our recognising it for what it is, as equipment. Heidegger’s reference to hammers and similar simple objects has been taken by some as evidence of the fact that his analysis cannot be pushed beyond the bounds of the archaic - but the point is that we engage with far more advanced technological structures like ICTs in a similarly non-conscious way: this is why the *content* of the media is always phenomenologically

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closer to us than the physical media technologies themselves (Heidegger, 1971, p. 163), which is another way of putting McLuhan's argument that "the medium is the message" (2001). To denote how in our engagement with them the actual physical objects seem to withdraw, as it were, into their usage, and to distinguish this Being conceptually from the mere presence or "occurrentness" with which ontology has traditionally approached the question of Being, Heidegger introduces the term *readiness-to-hand*:

The kind of Being which equipment possesses - in which it manifests itself in its own right - we call "readiness-to-hand". Only because equipment has this 'Being-in-itself' and does not merely occur, is it manipulable in the broadest sense and at our disposal. (Heidegger, 2008, p. 69)

To be precise, readiness-to-hand is not a way in which we encounter things at all - it is the manner in which *things approach us from within their Being*. This places us, as human beings, in the centre of Heidegger's phenomenological account of the world - this central position is however very different than the central position granted to the human as subject by traditional ontology: a distinction that should be kept in mind.

It is important, however, that we do not translate the fact that technology approaches us in its readiness-to-hand, rather than the other way around, into a situation where we are the passive victims of technological agency. This is particularly crucial where technological encounters have demonstrable negative consequences, for instance where ICTs are used for surveillance. It is widely emphasised that we are the victims of governmental and corporate surveillance when we pass through airport bodyscanners or when we are caught on CCTV camera, for instance. These are technological encounters that we do not engage in as active agents, but where we are subjected to collection of data about ourselves as our failure to cooperate would have negative consequences (we might be denied the right to travel). Readiness-to-hand is an ontological condition that applies to all technological structures - whether we engage with them out of choice or not.

5.4.3 The ‘In-order-to’ of Surveillance Equipment

There is another aspect to the Being of equipment that bring us even closer to an understanding of our everyday ICT environment: what Heidegger calls its “in-order-to”. The point of any piece of equipment is that it is equipment for doing something. All equipment has a specific purpose *for which* it is ready-to-hand, and this purpose connects it with a larger totality of equipment. As Heidegger says:

Taken strictly, there ‘is’ no such thing as an equipment. To the Being of any equipment there always belongs a totality of equipment, in which it can be this equipment that it is. Equipment is essentially ‘something in-order-to’... [‘etwas um-zu’]. A totality of equipment is constituted by various ways of the ‘in-order-to’, such as serviceability, conduciveness, usability, manipulability. (2008, p. 68)

To first understand in conceptual terms what Heidegger is saying here it is easiest to stick with our earlier basic example of the hammer, before we consider the significance of these terms for understanding our information-technological environment.

First of all, a hammer is a piece of equipment that fulfils a specific purpose. It is an object we use *in order to* drive a nail into a plank of wood, for instance. In its very design and appearance it is geared towards fulfilling this purpose and our appreciation of its value wholly depends on how well it meets this specified purpose. A piece of equipment and its purpose belong together, as Heidegger says “Equipment can genuinely show itself only in dealings cut to its own measure”, the purpose of the hammer (hammering) is “constitutive for the equipment we are employing at the time” (Heidegger, 2008, p. 69). It is worth bearing in mind that even though Heidegger is referring to the more general notion equipment²⁰

²⁰What has to be noted is that the English term ‘equipment’ already bears much stronger connotations to technology than the German original, ‘Zeug’, which as Macquarrie and Robinson point out is more of a “collective noun ... analogous to our relatively specific ‘gear’ (as in

here, rather than technology, the purpose, or ‘in-order-to’, that is characteristic of equipment is equivalent to the instrumental definition of technology: technology as a means to an end. The significance of the ‘in-order-to’ for our understanding of technology becomes even more apparent when we consider Heidegger’s insistence that “In the ‘in-order-to’ as a structure there lies an *assignment* or *reference* of something to something” (Heidegger, 2008, p. 68). Any piece of equipment by way of its in-order-to points us *away from itself towards* its specified *purpose*. The hammer, for instance, point away from itself towards its purpose of driving a nail into a plank of wood.

The significance of this re-direction that occurs as a result of the in-order-to is something that becomes very real when we consider our earlier examples of CCTV cameras. They might often be referred to as a piece of ‘surveillance equipment’ but Heidegger allows us to appreciate the full extent to which they really are ‘equipment’ for the purposes of surveillance and how the emphasis on ‘equipmentality’ affects how we perceive these technologies. Consider once more the example of a CCTV camera warning sign (figure 5.1), which informs us that CCTV images are being recorded “for the purposes of crime prevention and public safety”:

Seen from Heidegger’s perspective, CCTV cameras are in fact equipment that has a specified purpose or ‘in-order-to’ - recording images. Ontologically therefore the ‘in-order-to’ already directs us away from the equipment itself (the cameras) towards their purpose. When this equipmentality is strategically *foregrounded* however, as is the case in the above example, this is likely to have a significant impact on how we respond to these types of surveillance because our attention is distracted away from the technologies themselves towards their beneficial purpose (crime prevention and public safety). Thus we see how the instrumental ideology

‘gear for fishing’) or the more elaborate ‘paraphernalia’’. Heidegger never explicitly equates ‘equipment’ or ‘Zeug’ with technology but the examples he lists, such as “equipment for writing, sewing, working, transportation, measurement” (2008, p. 68), suggest that there is an almost-equivalence. Even if we don’t insist on the equivalence however what is characteristic of ‘equipment’ is that it has an ‘in-order-to’ which is a fundamental part of the instrumental definition of technology.



Figure 5.1: (as Figure 1): CCTV warning sign outside London Zoo.

of technology is sustained ontologically by the particular Being that technology exhibits: equipmentality, which always already directs us towards the purpose of the equipment.

This instrumentality is reinforced by that other characteristic of equipment: beyond the immediate ‘in-order-to’ that belongs to a particular piece of equipment, any piece of equipment always belongs to a larger totality of equipment “in which it can be this piece of equipment that it is” (Heidegger, 2008, p. 68). Taking again the example of the hammer, the referentiality that is implied in the hammer’s own ‘in-order-to’ (driving a nail into a plank of wood) already situates it within a wider system of ‘in-order-to’s or referentialities: every nail driven into the plank of wood by the hammer has its own purpose or ‘in-order-to’ (securing one plank of wood to another, for instance), and each plank of wood thus secured serves its own purpose, for instance that of forming a table, thus the hammer, the nail and the planks of wood all come together *in-order-to* form this final piece of furniture. This connection to a wider system of references determines the very Being of equipment, and it is important to note that it is not only objects like hammers and nails that form part of this system. Rather, even the workman

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doing the hammering, and the family that eventually will be sitting around the table are already implicated in this network of references. In a similar way, if the hammer and the nail come together in a shoe, its wearer is already there as a reference even as the cobbler is hammering on the sole. As Heidegger says,

we encounter not only entities ready-to-hand but also entities with Dasein's [human] kind of Being, entities for which... the product becomes ready-to-hand; and together with these we encounter the world in which wearers and users live. (2008, p. 71)

The point is that through their readiness-to-hand things are connected with us, and together we inhabit the referential totality, or network of meaningful relationships, that is the world.

A consequence of the fact that any piece of equipment forms part of a wider referential totality, is that this referential totality becomes far more important in our experience than the individual piece of equipment itself. In other words, the wider network of equipmentality only reinforces the instrumentality of the single piece of equipment. This is true for the hammer - the larger system of references that it is part of that come together in the making of the table foreground the making of the table, where the hammer itself, the piece of equipment, becomes somewhat insignificant. However, the heightened complexity of the digital informational system constitutes a far more intricate network of referential totalities, where the referentiality is foregrounded by the particular im/material qualities these technologies exhibit. A single CCTV camera, for instance, becomes less significant in itself as it becomes part of a larger instrumentum of surveillance equipment. The increasingly rhizomatic nature of what Fuchs (2013) calls the "surveillance-industrial complex" where state and private sector surveillance intertwine means the 'in-order-to' of any single piece of surveillance equipment within this system is subordinate to the 'in-order-to' of the system as a whole: the guarantee of our safety and security. Heidegger's concept of the 'in-order-to' of equipment (the purpose for which it is ready-to-hand) highlights how our technological encounters are determined not by technological objects themselves and their properties, but by the ends to which they are assigned. As Heidegger says,

That with which our everyday dealings proximally dwell is not the tools themselves... On the contrary, that with which we concern ourselves primarily is the work - that which is to be produced at the time; (Heidegger, 2008, p. 69)

This is precisely the effect of the surveillance ideology: the single piece of surveillance equipment receives its legitimacy through belonging to this larger ‘in-order-to’. The most important feature of technological encounters that Heidegger’s account of the Being of equipment draws our attention to is how the actual physical objects recede further and further into the background: they become what Gunkel (2009) “instrumentally transparent”.

5.4.4 Instrumental Transparency: the Withdrawal of ICTs

The peculiarity of what is proximally ready-to-hand is that, in its readiness-to-hand, it must, as it were, withdraw [zurckziehen] in order to be ready-to-hand quite authentically.

Heidegger, 2008, p. 69

The opacity of the mechanism that tracks, sorts and mines all the data that you provide is very high. People just aren’t aware it’s going on. You can tell them so they know intellectually, but it’s just not there in the process when you’re online and doing things. *It seems to fade into the background.*

Andrejevic cited in PBS.org, 2014, emphasis added

The peculiarity that Heidegger mentions almost as an aside in this quotation - the fact that in order to be ready-to-hand, things need to withdraw from us - is in fact one of the most useful ways for thinking about the digital matrix. In the first instance, we need to draw out Heidegger’s emphasis on the proximity of the ready-to-hand. This refers to the ways in which phenomenologically, nothing could be further from our awareness than the technological devices themselves:

we are distracted by their content like McLuhan's watchdog by a juicy piece of meat. The theme of distraction brings us to the second point implicit in Heidegger's comment: it points to the existence of a hidden depth that lies beyond the immediate readiness to hand of the technology in question which its very readiness-to-hand is preventing us from perceiving. This depth refers to the essence of technology.

It should thus be clear that Heidegger's use of the expression "proximally" is crucial: it is an example of how Heidegger's phenomenology is organised along spatial relationships. His point is that what in conventional ontological terms should be closest to us, is not what is phenomenologically closest. Where traditional ontology would measure actual physical distance, Heidegger argues this reduces categories that are fundamental to human experience to mere presence-at-hand:

When, for instance, a man wears a pair of spectacles which are so close to him distantly that they are 'sitting on his nose', they are environmentally more remote from him than the picture on the opposite wall. Such equipment has so little closeness that often it is proximally quite impossible to find. Equipment for seeing - and likewise for hearing, such as the telephone receiver - has what we have designated as the inconspicuousness of the proximally ready-to-hand. (Heidegger, 2008, p. 107)

Heidegger refers to the Being of technologies like glasses and telephones as "*inconspicuous*" in that phenomenologically, they bring us closer to something by themselves *withdrawing from us*. The result of this withdrawal is that the things themselves acquire an almost *transparent* property as they recede behind their use. Transparency can refer at the same time to something that goes unnoticed, letting the gaze pass straight through it without drawing attention to itself, like a clear plane of glass, and to something that is clear to see, of which the inner workings are in plain sight and easy to grasp. Both meanings are arguably at work in equipment: we can quite literally see through Heidegger's example of

the glasses, but it is the second meaning of the term that underlines the obviousness and self-evidential nature of the technologies that are ‘instrumentally transparent’: precisely the ‘hidden in plain sight’ qualities of our modern media environment which are not a consequence of how we use these technologies but, as Heidegger points out in the quotation at the beginning of this section which is repeated here - are the very *condition* of our being able to use them:

The ready-to-hand is not grasped theoretically at all..... The peculiarity of what is proximally ready-to-hand is that, it must, as it were, withdraw [zurückziehen] *in order to be ready-to-hand quite authentically*. (2008, pp. 69-70)

Heidegger is right: in a practical sense, we could not concentrate on watching the evening news if we were constantly aware of the flatness of the TV screen, and our enjoyment of a film would be similarly hampered if the frame of the TV set did not itself *withdraw*.

Media technologies are a prime example of the necessary unreflexivity that characterises equipment in order for it to be ‘ready-to-hand’, an unreflexivity that has also been noted by critical media commentators like McLuhan, but also much earlier by Walter Benjamin and Siegfried Kracauer: McLuhan’s watchdog of the mind, distracted by the piece of meat that is media content is an illustration of how Heidegger’s ontological concept of withdrawal plays out in the mass media. Benjamin (2008 [1936]) commented explicitly on how film necessitates a “*distracted*” frame of mind that is far removed from the contemplative mindset that characterises our experience of traditional works of art. Commenting on what he saw as the vacuousness of the emerging newspaper culture, Kracauer spoke of a “demon of absent-mindedness” (Kracauer, 1995 [1963], p. 43) living between the pages, all information and no knowledge. For both Kracauer and Benjamin distraction is the mode of perception demanded by modern media technologies - and for both it has political implications: Benjamin saw in it a possibility for the masses to be liberated from the authoritarian rule of bourgeois art, Kracauer on the other hand saw it as a vehicle of their enslavement. Heidegger’s analysis avoids both optimistic and pessimistic assessments as they situate

technology within the realm of the correct: instead he draws attention to the way in which distraction is the result of the ontological structure of the technologies themselves.

When applied to our contemporary, digital environment, the tendency towards withdrawal can have critical consequences. Here the ontological tendency of tools or pieces of equipment to withdraw behind their functionality is exacerbated by the im/material qualities of the digital, with the result that the ideology of technological neutrality is reinforced, blinding us to the ‘interruptive’ (Gunkel, 2009) capacities of computerised communication. David Gunkel’s notion of ‘instrumental transparency’ clearly illustrates the consequences of the ontological tendency toward withdrawal asserted by Heidegger for computer technology. Gunkel argues that the dominant paradigm within media and communications studies in the second half of the 20th century has been that the computer constitutes a neutral channel in the communication process, a model which he argues derives a great deal of its validity from its initial formalization as the sender/message/receiver model in Shannon and Weaver’s *The Mathematical Theory of Communication*:

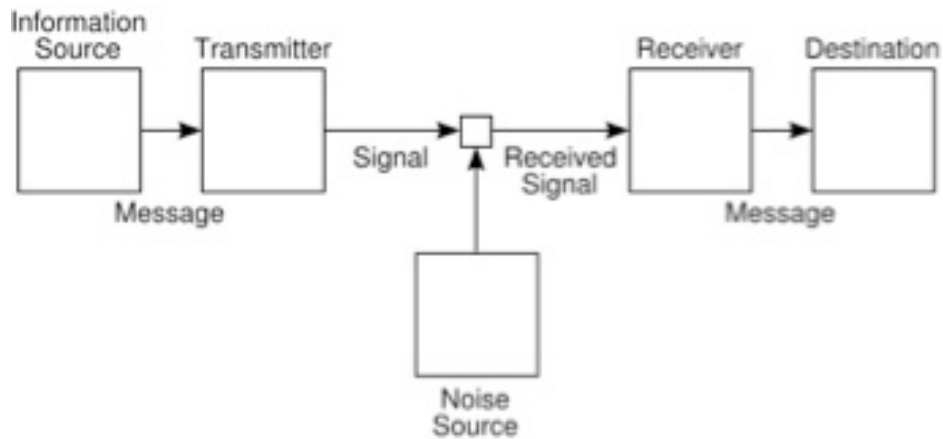


Figure 5.2: Shannon and Weaver’s model of communication.

As the diagram shows, information emanates from a source (sender) and is transmitted as a signal via a transmitter, which is then decoded on the receiver side. As Gunkel argues, this model has two significant advantages that have helped maintain its dominance: firstly, the computer is located “at an identifiable

position within the process model of communication” (2009, p. 9) and secondly, that it fits in with our understanding of the “proper role and function of the technological apparatus” (ibid.): the ideology of technological neutrality. As Feenberg argues

the instrumentalist theory offers the most widely accepted view of technology. It is based on the common sense idea that technologies are ”tools” standing ready to serve the purposes of users. (Feenberg, 1991, p. 5)

This is precisely the starting point for Heidegger’s own examination of the “Question Concerning Technology”.

The crucial point as Gunkel rightly points out, is that where a tool is seen as neutral it is evaluated “not in and for itself, but on the basis of the particular employments that have been decided by a human user” (Gunkel, 2009, pp. 10-11). This adherence to an understanding of ICTs as in themselves value-neutral means that research in media and communications and related fields has for the greater part focused on

either the quantity and quality of the messages that can be distributed by the system, or the kinds of relationships established between the senders and receivers through its particular form of mediation. (Gunkel, 2009, p. 12)

This tendency can be seen quite clearly in current research on social media, as mentioned in the previous chapters. Social media are seen either from the perspective of human political emancipation, such as those arguments that try and link these technological applications with the Arab Spring and other political movements (Sullivan, 2009) or from the perspective of surveillance and the exploitation of digital labour (Fuchs, 2013). In both cases however it is how these technologies are *put to use by human agents* that determines their overall value.

Gunkel's concept of 'instrumental transparency' is useful when applying Heidegger's neutrality thesis to our current information-technological environment. It denotes how, as a result of the dominant paradigm of technological neutrality, the "computer recedes from view and becomes a more or less transparent medium of message exchange" (Gunkel, 2009, p. 14). However, though Gunkel does invoke Heidegger in his analysis, he doesn't take him far enough. Gunkel only refers to Heidegger for his critique of the dominance of the instrumental ideology of technology. What he doesn't engage with is Heidegger's ontology of equipment, and this is what provides the experiential explanation for his concept of 'instrumental transparency'. Heidegger's ontology of equipment as Being that withdraws into its 'in-order-to' explains at a very phenomenological level why it is possible for digital computing technology to acquire this level of transparency.

Nevertheless, Gunkel's main point, and the one that is important for this thesis, is that this instrumental transparency belies what is actually happening at the level of the technology itself:

This form of instrumental transparency, however useful and convenient, is necessarily interrupted and even resisted by the mechanisms and machinery of computing. ... Instead of functioning as a virtually immaterial and transparent channel through which human agents exchange messages, the computer participates in and contaminates the process. It acts on the messages, significantly alters them, and delivers information that was not necessarily selected, composed, or even controlled by human participants. (Gunkel, 2009, pp. 15-16)

One of the examples Gunkel lists are spam messages sent out by computers on an automated basis, informing users "of everything from herbal supplements, which enhance the size and operation of various parts of the body, to bogus stock and investment opportunities" (ibid). Email, Gunkel argues,

is no longer an exclusive instrument of human communication but shows signs of increasing involvement by machines in the communicative process. (ibid.)

Actions of this kind carried out by computing machines for Gunkel are evidence of the fact that computers do not fit easily within the dominant paradigm of technological neutrality. The computer, he argues

substantively resists being exclusively defined as a medium and instrument through which human users exchange messages. Instead, it actively participates in communicative exchanges as a kind of additional agent and/or (inter)active co-conspirator. (ibid.)

As Kittler (2006 and 2009) argues, when we abandoned the Roman alphabet and Arabic numbers for digital code, we ultimately ceded control over the processing of meaning to machines. This is exacerbated by a complex system of privileges built into a computer's central processing unit, the highest of which decides how much memory space is allocated to programmes running parallel to each other. This so-called Protected Mode is an area on the computer motherboard that cannot be accessed or influenced by its user - who on the other hand is under the impression that the computer is at his/her personal disposal (Kittler 1995 and 1997). This is precisely the effect of the graphical user interface, or GUI: it gives the user the impression that he is in control, an impression reinforced by the "ready-to-hand" nature of icon and button design perfected by Apple and the friendly, participatory rhetoric of Web 2.0 companies:

Users are allowed much control over the *surface* of Web 2.0; they are the ones who fill in the ghostly frames, make connections, remix content, and process digital artifacts. However, all too often in Web 2.0, the depth - the code (both computer and legal) and the material behind the ghostly frames - is controlled by new media capitalists, who deny users the ability to determine how their content is used. (Gehl, 2009, p. 25)

The online retailer Amazon's book retail business is a current example of how a 'user-friendly' graphical user interface gives the customer the illusion of being free to choose, whilst behind the scenes this choice is determined by the company's

corporate monopolistic strategies. In order to make up for the losses incurred through selling books below their recommended retail price to stay competitive, Amazon charges publishing houses fees to have their books listed. Thus, as the author Amanda Foreman has argued in an article published by *The Sunday Times*, “it is the fees, not consumer choice, that drive nearly every aspect of how a book is displayed and recommended”. Where publishers resist these practices their authors are simply not represented on the site, as Foreman relates, as is the case with the publishing company Hachette, who have had 5000 books and their authors removed from the site “in an attempt to force Hachette into giving larger discounts on its books”. The practice of ‘disappearing’ certain authors goes on without the consumer’s awareness - he or she doesn’t know their choice has been restricted (Foreman, 2014). This is a clear example where from the perspective of the user, he is engaging instrumentally with a tool - for him, the Amazon website is a means towards an end (purchasing a book) - but where the tool is in fact far from ‘instrumentally transparent’ but interferes with the original purpose of the user’s interaction with the technological object.

5.4.5 Broken Tools

A point we have not addressed is what happens when technologies have a fault that stops them functioning properly. For Heidegger, this marks the return of objects into pure presence, but I would argue that where readiness-to-hand is interrupted, this provides a possible entry point into their ontological depth. In other words, when ICTs are no longer instrumentally transparent or inconspicuous but become opaque and conspicuous, a space opens up for some of the dimensions that are otherwise obscured to reveal themselves - such as the ways in which our benign online social networking activities are mined for corporate profit.

The readiness-to-hand of technological structures (whether hammers or computers) that allows them to withdraw into instrumental transparency relies on their functioning in the proper way, their ability to carry out the purpose (or ‘in-order-to’) for which they are intended. However, if a technology malfunctions

and cannot carry out its specified purpose, is it still ‘ready-to-hand’. From personal experience we can assume that this is not the case. If our personal laptop stops functioning, if we can no longer turn it on, for instance, our attention is drawn to the technological object and it becomes something that is preventing us from sending an important email. The object has become, as Heidegger argues, ‘obtrusive’. Readiness-to-hand, Heidegger argues, is the standard mode of Being of equipment, but where equipment ceases to function properly or is in some other way unsuitable for the task, it acquires elements of the ‘present-at-hand’:

When we concern ourselves with something, the entities which are most closely ready-to-hand may be met as something unusable, not properly adapted for the use we have decided upon. The tool turns out to be damaged, or the material unsuitable... When its unusability is thus discovered, equipment becomes conspicuous. This *conspicuousness* presents the ready-to-hand equipment as in a certain un-readiness-to-hand. But this implies that what cannot be used just lies there... Pure presence-at-hand announces itself in such equipment... . (Heidegger, 2008, p. 73, emphasis in the original)

It is important, however, not to assume that the presence-at-hand that broken equipment acquires means it has been reduced to pure presence in the traditional ontological sense - to a heap of dead matter. In this respect Heidegger is very clear that

equipment which is present-at-hand in this way is still not just a Thing which occurs somewhere. The damage to the equipment is still not a mere alteration of a Thing - not a change of properties which just occurs in something present-at-hand. (ibid.)

Rather, the object’s presence-at-hand emerges only on the basis of its usual readiness-to-hand, to which it strives to return.

The conditions under which equipment can go from being ready-to-hand to unready-to-hand are worth examining a little more closely. Unreadiness-to-hand

can be the result of the equipment being damaged or made of ‘unsuitable’ material - in which case, Heidegger argues, we experience it as ‘conspicuous’. However, if it is missing, that is not ‘to hand’ at all, then it is also ‘unready-to-hand’; in the meanwhile however everything else that functions becomes ‘obtrusive’ - its readiness-to-hand almost becomes an annoyance: in fact, “[t]he more urgently ... we need what is missing, ... all the more obtrusive [and therefore all the more present-at-hand]... does that which is ready-to-hand become” (2008, p.73) - because it cannot be “budged without the thing that is missing”. An example would be a communications application like Skype - without an internet connection the former becomes quite useless even though there might be nothing wrong with it. There is a third possibility, however: in some cases equipment can ‘stand in the way’ of our concern, that is of how we would usually engage with it, as a result of which we need to get it out of the way before we can return to business as usual.

The three modes of unreadiness-to-hand, conspicuousness, obtrusiveness and obstinacy, provide a framework for exploring ruptures in what, under normal circumstances, is a seamlessly functioning informational matrix. All of them interrupt the readiness-to-hand that makes our information-technological objects withdraw and bring them to our attention - which, I would argue, brings with it potential for critical awareness. Specifically events like hacks, the intentional, unauthorized accessing of data flows and repositories, and the leaking of confidential documents, cause an interruption to the readiness-to-hand of our informational system that constitutes a hindrance for those operating the system - but has significant critical momentum for wider society. An example is the exposure of the PRISM surveillance programme by Edward Snowden in 2013. As we have seen, the readiness-to-hand of individual technological objects like CCTV cameras or store loyalty cards is augmented by their being subordinate to the larger system of governmental and corporate surveillance that they form part of. The smooth running of the system as a whole depends on its readiness-to-hand as this is what foregrounds its positive uses (convenience, security etc.) and prevents us from considering the negative implications (e.g. the infringement on our privacy). In this sense, it is possible to view the PRISM revelations as a breakdown in the instrumental transparency of the system: Previously Snowden had worked as a

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contractor for the US National Security Agency (NSA), facilitating the running of the surveillance operations. When he leaked the PRISM files to the media, he arguably created an error in the system as a result of which the system as a whole became conspicuous. In Heideggerian terms he had created an 'obstinacy', an obstruction that was too large to just be cleared out of the way. Instead it developed the critical potential of the breakdown of readiness-to-hand in shedding light, globally, on the extent of global surveillance operations facilitated by digital ICTs. In the following section we will explore the role of humans in technological systems in more detail.

5.5 Humans and Things in Heidegger's Network Ontology

5.5.1 Where Humans Stand in Heidegger's Referential Network and why this Matters for the Question Concerning Information and Communication Technology

The attempts at gaining an ontological understanding of technology that have taken up the majority of this chapter are part of the wider project of gaining an understanding of how we engage with technology and what this mode of engagement (which we have discovered is mainly instrumental) means for our being-in-the world more generally, we might say our quality of life. This question is not as simple as it might at first seem: in order to judge how any form of technology, and information technology in particular, is impacting on the way we live, and in order to judge whether this impact is positive or otherwise, requires an idea of what human life should be like. A normative perspective on the place of technology in human life has traditionally been the domain of Critical Theory, for instance as in the work of Herbert Marcuse. Heidegger's technological account of modernity is widely contrasted with such approaches - and his supposedly anti-Semitic tenden-

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cies proclaimed as incomparable with a humanist perspective. This section seeks to counter such criticisms by exposing the deeply normative dimension of Heidegger's ontological account of technology, which is grounded in the fundamental distinction he draws between human and non-human Being.

Asking about the impact of technology requires an idea of what it means to be human. One of the ways in which society has addressed this question is by laying down 'fundamental human rights' such as liberty, privacy and dignity. These were laid down by the UN Universal Declaration on Human Rights (1948) and the European Convention on Human Rights (1950). As stated by the civil liberties watchdog Liberty they apply to all people "regardless of sex, race, nationality, socio-economic group, political opinion, sexual orientation or any other status", in other words they are universal, applying "to all people *simply on the basis of being human*" (Liberty, n.d., emphasis added). The protection of human rights, then, is based on the principle that where these rights are infringed upon, a human being loses part of what it means to be human: there is something specific about being human that is not shared by other entities. A hammer, to use Heidegger's earlier example, is not something that has privacy or dignity, and would not suffer if these are violated. A human being, however, experiences suffering (at least psychological). The UK phone hacking scandal involving News of the World journalists for instance involved the violation of the privacy of victims of the 7/7 bombings, the parents of a murdered schoolgirl and members of the British Royal family. Put bluntly, the point is that the suffering was experienced by the human owners of the mobile phones that were hacked into, not the technological devices. So even though we as human beings inhabit the same world and are connected with our technological objects through the network of referential totalities, there is something that makes our Being different from the Being of inanimate objects.

This brings us back to the very beginning of our investigation into Heidegger's ontology, where we established that what distinguishes Heidegger's approach from previous ontologies is that he puts the question of 'Being' back on the map: where previously all kinds of beings had been reduced to their properties (what Heidegger calls 'presence'), Heidegger starts from the fact that there is a fundamental difference between the ways in which humans, birds and objects like tables

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are. We made a choice at that stage, in that from this list of objects we chose to investigate the being of inanimate things, in order to see how this could help us understand technological objects. Hence we followed Heidegger in his analysis of simple tools like hammers to see what could be applied to more complex technologies like ICTs. We learnt that equipment has a specific kind of being that Heidegger calls 'readiness-to-hand', which means that objects like hammers present themselves to us as things to be used. A key finding was that this utility makes the object itself recede into the background which means that we see even complex tools like computers as neutral means to an end, what David Gunkel calls 'instrumental transparency'. To relate this finding back to earlier chapters, the fact that we engage with even complex technologies as means to ends results in surveillance technologies being easier to market to us by emphasising these positive ends - safety and security.

Where ICTs are used for the purposes of corporate or governmental surveillance, they can have a significant impact on our lives in terms of the rights we listed earlier as being fundamental to human life - dignity, privacy and freedom. Another example is the process of 'social sorting', a practice with a long history the effects of which however have been exacerbated by the internet:

The Internet gives us an amazing amount of information about one another. Every time you check up on a new acquaintance or job applicant through social media, you are conducting surveillance of a sort. We associate ourselves with some people, but not with others, and thus sort ourselves in very powerful ways. But when our self-sorting is exploited through the algorithms and in the databases of huge organizations, the sorting machine thus created affects us in ways we are not aware of... How data are sorted and categorized have very real implications as people are socially sorted in profiles and groups. This is done on you without your knowledge, and without any way to change it. (Cochrane, 2013)

Medical data for instance can have far-reaching consequences that affect the person in question at a future point in their lives. Unless the patient has chosen

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to opt out, his or her medical data in Britain is collated by the NHS and stored in a central database, from where access can be bought by research bodies but also by pharmaceutical companies and health insurance providers. Where the NHS claims to anonymise data, a representative of the patient pressure group *medConfidential* points out how

the care.data scheme is deliberately designed so that 'pseudonymised' data - information that can be re-identified by anyone who already holds information about you - can be passed on to 'customers' of the information centre, with no independent scrutiny and without even notifying patients. (cited in Ramesh, 2014)

Someone tested positively for one of the genetic mutations responsible for certain types of breast cancer or with a different diagnosed medical condition might thus find themselves refused certain types of treatment or insurance policies. It is clear, then, that these technologies have a demonstrable effect on how we live our lives. Heidegger's network ontology seems to locate human and non-human entities on the same ontological plane, so we need to take this investigation further to understand what is distinctive about the Being of human beings. After all it is this distinctiveness that makes the impact of technological beings on human beings a matter of concern.

Human beings, we have seen, are part of Heidegger's referential totality. The carpenter using the table is as much part of the network of referentialities, as the family that will eventually be sitting around the table the carpenter has built with the use of his hammer, the nails etc. However, does our being part of the same referential totality that forms the world mean that in our Being we are also essentially the same? In fact, Heidegger couldn't be clearer about the fact that human being is essentially different from all other kinds of being - so different that it has its own category, which Heidegger calls 'Dasein', or 'being there'. It is important not to misunderstand Heidegger in this crucial point: firstly, because some of the most influential current philosophy exploring the links between technology and the social, the actor-network theory pioneered by Bruno

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Latour, argues precisely that ontologically, there is no difference between human and non-human entities. Secondly, because some of the most recent work seeking to update Heidegger's philosophy of technology for the 21st century curiously suggests that Heidegger is making the same argument as Latour - that between the being of humans and the being of things like hammers etc. there exists no ontological difference. Fortunately for our purposes, Heidegger is very clear about this distinction, for if human Being were in no way different to the Being of a hammer or a more advanced piece of technology like a string of code, how would it be possible to judge the impact of technology on human life from a critical, normative perspective? It is nevertheless worth considering both the above positions as this will allow us to see the relevance of what Heidegger is saying more clearly, as the following sections shows.

5.5.2 Dasein: the Privilege and Responsibility of Being Human

Dasein encounters the objective world as a world of meaning oriented toward existence. It does not encounter it as a *rigid res extensae*, as independent, abstract physical things. Rather they are related to an Existenz that uses them, orients itself towards them, and deals with them; thus ascribing to them meaning, time, and place.

Marcuse, 1969, p. 13

The above quote, from the critical theorist Herbert Marcuse's engagement with his one-time teacher Heidegger, reminds us of two things: firstly that human beings don't encounter the world as a set of objects but as a world of meaning - which is key in the context of technology, as we have seen in this chapter. It also reminds us of the mutuality of these meaningful relationships: Marcuse emphasises that in being encountered, the 'objective world' is "oriented toward" existence. Again, we find in Heidegger the relationship between beings defined as a reciprocal relationship that expresses itself in spatial terms: as an approaching and encountering. Crucially, it is not Dasein that is the only active kind of being

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that approaches, it is at the same time approached by other beings. Noting that the relationship between human and non-human beings is essentially reciprocal is important if we are to understand how human being, what Heidegger calls *Dasein*, is at the same time fundamentally different to other entities.

When it comes to Heidegger's argument that human Being has a privileged position over other kinds of Being we need to clarify a point that might otherwise lead to some confusion. This point relates to what might seem like a contradiction between Heidegger's insistence, on the one hand, that human and non-human beings co-inhabit the world, which seems to involve an element of parity, and the argument that there is something specific to human life that differentiates it from non-human existence on the other (dignity, liberty, privacy etc.). This problem persists as long as we treat the ontological and moral/ethical dimension as two separate categories. Traditional ontology, we have seen, is mainly concerned with beings as unities of form and matter. So despite the apparent difference between a human being and an inanimate object like a hammer or a mobile phone, for instance, both can be understood in terms of substance.

Figure 5.3 is an - intentionally simplified - illustration of what happens when beings are reduced to their substance: the human being emerges as merely a more complex arrangement than an inanimate being.

The figure resembles a comparison between two different arrangement of cells, one simply more complex than the other. This is no coincidence, as the view that humans are a more complex composition of the same elements as non-human entities is of course the view that Heidegger argues modern science has taken. For instance, it compares human and non-human beings in terms of their water to body mass ratio: the human body consists of approximately 70% water (H_2O) (NASA, 2007), and a fruit like a tomato is made up of 94% water (Bowes & Church, 1993). Thought in terms of basic chemistry, human beings even share elements with mobile phones. The point is that where humans and mobile phones are seen in terms of these basic structural categories it is clear that no moral/ethical dimensions arise, hence the traditional separation between science and ethics. However, this

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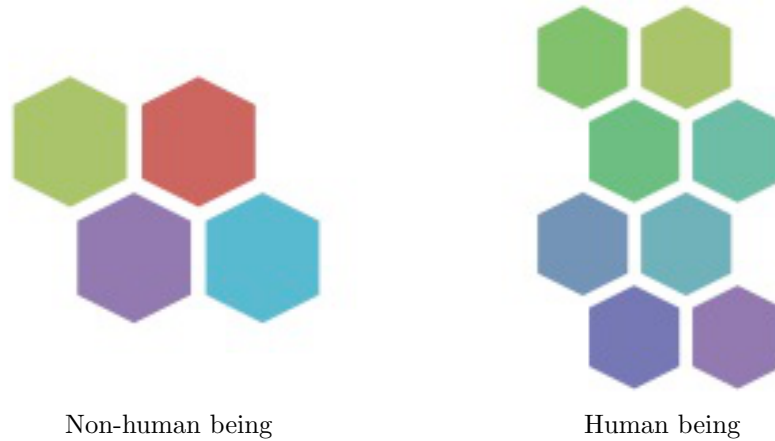


Figure 5.3: A mere difference in complexity **copyright** Heidi Herzogenrath-Amelung

dimension is arguably of great importance in the context of the impact of information and communication technology on human life. For Heidegger these two dimensions are inseparable because his ontology is grounded in *experience*, and it is because it is *human experience* that is at the centre of his ontology that humans have privileged position in relation to other beings.

It is because Heidegger wanted to be clear about the particular nature of the 'privilege' that human Being enjoys in relation to other kinds of being that Heidegger developed the notion of 'Dasein' for specifically human being. The exact nature of Dasein is the subject of much discussion in Heidegger's *Being and Time*, and this thesis cannot render the full complexity of the concept. What is important is that the term, which is usually left untranslated in English, translated would mean 'being *there*'. What Heidegger is trying to emphasise is that human being is a being there in the world - it is a *being-with*, not a being before, over or ahead of other things. In fact, Dasein is characterised by 'being-in-the-world' in the sense that this mode of being belongs to Dasein alone and no other kind of being: it is Dasein's fundamental and 'authentic' way of Being. Heidegger thus argues against the stance mainstream Western philosophy has taken in positing the human being as subject and thus ontologically prior to everything else that exists in the world. The problem with this view is that it has led to humans

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assuming an elevated stance, conceiving of themselves as subject with the right to act *upon* the world around them. Our thoroughly technological environment is the ultimate consequence of this particular view of the world, or, as Heidegger put it, the setting up of the world as a 'world picture'.

Despite Heidegger's argument that human being-in-the-world is a Being that is simultaneous with other beings and in no way prior or superior to them, human Being still occupies a position of privilege in that it has an awareness of its own Being. Dasein, he argues, is the Being for whom its own Being is "an issue" (Heidegger, 2008, p. 42). This understanding, and not some intrinsic kind of priority, is the nature of the privileged being that humans enjoy - inanimate objects do not have this gift to reflect on their own situation. But from this privilege emerges also a responsibility: the capacity to reflect on one's own situation also calls for the exercise of such critical reflection. One could argue that this precisely is what Heidegger is trying to help us achieve. This capacity that is specific to Dasein is the reason why Dasein must never be reduced to mere presence, as Heidegger clearly states:

Dasein does not have the kind of being which belongs to something merely present-at-hand within the world, nor does it *ever* have it.
(Heidegger, 2008, p. 43, emphasis added)

Given Heidegger's unequivocal insistence on the difference between Dasein and other kinds of Being it is especially surprising that Graham Harman insists that Heidegger's contribution to modern philosophy is a metaphysics that has 'no need for any special human entity' (2002, p. 41). Harman's argument is that the main achievement of Heidegger in *Being and Time* is his liberation of objects from pure presence by developing an ontology specifically devoted to objects that Harman calls 'tool being'. Harman is right in stating that Heidegger's distinction between presence-at-hand and readiness-to-hand has so far been undervalued, and its significance for understanding technological objects in particular. In this chapter I have tried to show how valuable this approach is for understanding how we encounter our modern information-technological environment. However,

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Harman's argument that the complex internal life of objects, oscillating as they do between readiness-to and presence-at-hand, proves that there is no need for a specific role to be allocated to humans, seems extremely difficult to reconcile with the important role Heidegger allocates to Dasein. Harman argues that

if we read Heidegger's tool analysis in the right way, the lingering priority of Dasein in his philosophy is vaporized, and we encounter a strange new world filled with shocking possibilities for twenty-first-century philosophy. (2002, p. 2)

He argues that Heidegger's liberation of Western philosophy from the "long dictatorship of human beings" makes way for

a ghostly cosmos in which humans, dogs, oak trees, and tobacco are on precisely the same footing as glass bottles, pitchforks, windmills, comets, ice cubes, magnets and atoms. (Harman, 2002, p. 2)

This reading of Heidegger is not only extremely difficult to reconcile with Heidegger's persistent emphasis on Dasein's special kind of Being. It also seems to be an attempt to merge Heidegger's ontology of objects with the 'network metaphysics' of Bruno Latour. While it is worth exploring the points where Heidegger's and Latour's approaches come close to one another especially with regard to understanding technological objects, Latour's complete levelling of human and non-human beings in their role as 'actors' is a reduction of the complexity of Heidegger's thinking: here human Being is given no kind of privileged status over a piece of technology like a mobile phone. As such, it is a philosophy that doesn't seem to allow much space for a normative evaluation.

Arguably however, the normative component is a crucial one in the analysis of our information-technological environment, precisely because of the demonstrable ways in which a lack of understanding of the full rationalising dimensions of these technologies affects human life: for instance, the right to privacy. These

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consequences are being regularly obscured by the marketing rhetoric of the corporations owning the technological infrastructure. For instance, the social networking site Facebook has recently announced a new feature to its mobile app that enables it to “listen” to conversations and background noises via the mobile phone’s microphone:

Billed as improving on “feelings and activities” in the Facebook milieu, the snooping feature is very high tech. It employs noise cancellation and the ability to function even when sound is on at a low volume. It takes the sound pattern of what it “hears” and compares it to a library of information to find the right tune or TV show. Facebook makes clear that this is an “opt in” feature. But “opt in” often means always “on” because people don’t know or don’t take action to turn on various privacy features. But even assuming that Facebook is good on its word and the feature must be activated, it does not mean that it can’t be activated by a hacker or intruder. ...Facebook does not make any promises about protection against hackers, nor should Facebook make such a promise, because it is one that cannot be kept. (Abrahams, 2014)

The point is that if we do not grant that Dasein (human being) has any special kind of status amongst other beings - if we do not accept that when all is said and done, human experience is still the reference point for evaluating our relationship with technology, then it’s not clear why the above examples of Facebook’s intrusion upon our privacy matters at all.

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5.6.1 Network Ontologies

Man ... is possessed by technology, and it is a complete illusion to believe that we can master it. We are, on the contrary, framed by this Gestell, which is one way in which Being is unveiled. Is technology inferior to science and pure knowledge? No, because, for Heidegger, far from serving as applied science, technology dominates all, even the purely theoretical sciences. By rationalizing and stockpiling nature, science plays into the hands of technology, whose sole end is to rationalize and stockpile nature... Technology is unique, insuperable, omnipresent, superior, a monster born in our midst which has already devoured its unwitting midwives.

Latour, 1999, p. 176

A comparison between the ontological approaches of Heidegger and Bruno Latour suggests itself as both are based on a network structure that connects human and non-human entities - although in Heidegger's ontology this is far more implicit. Latour on the other hand fully exploits the network metaphor - he speaks of human and non-human beings as actors in networks, which seems to make him the obvious choice for a philosophical approach to digital networks. However, a contrast between both approaches exposes important incongruences and suggests that Heidegger's approach contains far more potential for an analysis of the complex structures of digital ICTs.

It is concerning that some of these fundamental differences that emerge between the two approaches have at times been conflated (see for instance Harman, 2002), which is another important motivation for undertaking this comparison. This conflation is curious in so far as Latour himself is deeply critical of Heidegger's views on technology, as the above quote demonstrates. Latour has claimed himself to be "baffled" that anyone would take Heidegger seriously in matters

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of technology (Latour, 2007, p. 140). For Latour, Heidegger is a “thoroughly pessimistic technological determinist” (Kochan, 2010, p. 584) but apart from Heidegger's own very clear statement to the contrary (see Heidegger, 1977, p. 25) this interpretation doesn't make much sense in view of the distinction that is at the heart of Heidegger's approach, the distinction between technologies and their underlying essence: technologies are only a visible manifestation of a much more fundamental, underlying technicality that has its origins in Western philosophy.

In fact both Latour and Heidegger start from a similar criticism of Western philosophy: the rule of the subject and the reduction of objects to mere substance. The ontology developed by Heidegger opposes the ‘ontotheology’ practiced by Western metaphysics, “the notion that any particular kind of being can explain being itself” (Latour, et al., 2011, p. 27) . This is also Latour's criticism of the way philosophy has traditionally thought about objects - the basis of his actor-network-theory (ANT) is the “irreducibility” of objects to something else (Latour, 1988). Both Latour and Heidegger developed a metaphysics of objects that denies that objects can be explained by breaking them down to their finite components. For instance, analysing a physical object like a hammer in terms of its physical properties (the materials, e.g. wood and iron, its size and weight etc.) doesn't tell us much about the object or how it interacts with the realm of the social.

The question concerning technology is however very much the question of the relationship between the technological object and the social, and in this context we are interested in how we engage with the ubiquity of current information and communication technologies. Heidegger's concept of readiness-to-hand, we have seen, explains this engagement in terms of our reliance on technological objects to fulfil a certain purpose, as a result of which the technological object itself recedes into the background. A debit card we use at an ATM to make a cash withdrawal in our experience is not a thin piece of plastic containing a microchip, it is a means of accessing the funds in our bank account in a quick and easy way.

A simple illustration is the advert the UK Halifax bank ran when the first

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debit cards were introduced in the 1980s, using the Commodores' song 'Easy Like Sunday Morning' (YouTube, n.d.). The catchy, up-beat melody of the song and the lyrics encourage us to perceive the card as ready-to-hand, and can thus be seen as an early example of the ideology of technological neutrality playing out in the public domain. The technological object itself - the ATM card - is so far from our minds that we even forget it in the card slot once we have removed our cash from the machine. The recent introduction of contactless payment systems, it should be added, maximises our experience of our debit card's 'readiness-to-hand', as we no longer even have to insert our debit card into a card reader to make a payment, only to 'tap' our card or hold our smart phone against a reader. Visa fittingly advertises its contactless system with "Tap to pay, quick getaway" (The Grocer, 2013), Barclays and The Co-operative retailer have advertised their contactless payments as "life in the fast aisle" (The Co-operative Food, n.d.). These latest payment methods with their accompanying marketing communications lessen our experience of our bank cards as technological objects even further.

5.6.2 Hidden Surplus: Heidegger's Fourfold

A crucial point in Heidegger's notion of the "readiness-to-hand" of equipment is that it doesn't fully disclose the equipment to us - there remains what Harman calls a "hidden surplus" that we cannot access, an ontological depth that remains hidden from human engagement. In fact, it is necessary for this depth to withdraw from human engagement, as Heidegger argues, "in order to be ready-to-hand quite authentically" (Heidegger, 2008, p. 69). The nature of this 'hidden surplus' however depends on the nature of the piece of equipment in question. For simple pieces of equipment like hammers, or water jugs, it is what Heidegger calls the 'fourfold', the way in which these objects are connected to the four elements (earth, sky, mortality, and divinity). The water jug, for instance, unites the earth and sky in that the jug is made from clay from the earth, and is filled with rainwater from the sky. It also unites the mortal and the divine in that it is mortal human beings that will drink from it, and in that the water in the jug might be 'blessed' to be holy water:

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In the gift of the pour there abides at the same time earth and sky, divinities and mortals. These four, united of themselves, belong together. Obliging coming before all that presences, they are folded into a single fourfold. (Heidegger, 2012 [1994], p. 11)

The 'fourfold' is one of Heidegger's most controversial concepts, as it invokes rather religious ideas. Its importance in this context is that it is a mode of *revealing*, a way in which things show themselves to us. It can be understood as similar to Walter Benjamin's concept of 'aura', which he uses to explain what is lost in the reception of the technological reproduction of an artwork vis-à-vis the original (Benjamin, 2008 [1936]). If we accept that from Benjamin's perspective, we could not describe our earlier example of the plastic bank card as 'auratic', it should also be clear why it has little in common with the kind of revealing constituted by the 'fourfold'. This is because in our heavily technological environment, the interplay of the fourfold has been replaced with an entirely different kind of revealing: one that is driven by wholly instrumental considerations, a logic of ultimate rationality. This is the essence of technology that is in itself "by no means anything technological" (Heidegger, 1977, p. 4).

Latour, not surprisingly, is highly critical of Heidegger's concept of the fourfold:

To be sure, such tools may be beautifully made, and it is much better to call on the gods and the mortals, heaven and earth, to account for their emergence than to dismiss them as the thinnest of "mere" objects. But look... at the VW Beetle: just four elements, really? That's a very small list indeed... there are many more than four existing deities, or dimensions, or factors, brought simultaneously into play in order to define what it is for "uranium" to be "nuclear". Any technical imbroglio forces us to count *way* beyond four. But it is true - and here Heidegger sends the inquiry in the right direction - that any artifact is a form of assembling, of gathering, of "thinging" entities together... (2007, p. 140, emphasis in the original)

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Latour's project is to bring the inner life of objects out into the open. His objects, whether they are hammers, water jugs, bank cards or nuclear energy, are not mysterious beings evading human grasp, but actors fully deployed in their environment that they are shaping, and being shaped by. For Latour, the difference between a water jug and an ATM card is not that the hand-crafted production of the former connects it to mortal and divine spheres, and that the latter is an industrially mass-produced object where all these connections have been severed. For Latour neither of them are static entities but the result of different actors coming together to form these new object-actors. The key difference between them is not whether they are natural, hand-made, or mass-produced but how powerful they are in terms of the effect they can execute on other actors.

5.6.3 Black Boxes

For Harman, the complexity of Latour's ontology seems to consist in the fact that every actor constitutes a black box. The power of an actor, that is, the effect it can have on other actors in the network, is determined by what goes on inside the black box:

Latour's actors are objects of all sizes; they can be either real or unreal in physical terms; they are black boxes that you can open to find many more actors hidden within them; and every actor has effects on other entities. (Latour, et al., 2011, p. 34)

One problem that emerges from this endless succession of black boxes nestling inside each other is that there is no determinate, final black box. If on opening one, another is revealed, and this process goes on endlessly, Marres is right in arguing that Latour doesn't ultimately provide an answer to the question of what things, or Being as such, are:

as soon as we are not going to address the question of what is, but we are instead going to take as our starting point stuff that is happening,

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as soon as you make that shift, in a sense you suspend ontology. (cited in Latour, et al., 2011, p. 89)

In this sense then we can already see Latour's approach is not as ambitious as Heidegger's: Heidegger is clear that what he is aiming for is an understanding of the Being of technology.

However, it is worth investigating the structure of Latour's black boxes a little further. Referring to Latour's actors as 'black boxes', which usually denotes a device or system where only the input and output are known but not its inner workings, might suggest that they are inanimate structures. The interesting point about Latour's approach however is that, like Heidegger, he sees humans and non-human entities interacting with each other in our environment. His emphasis on the instability of actors as they change to form new alliances consisting of human and non-human entities offers, at least in the first instance, some intriguing possibilities for analyzing the relationship between technology and the social.

As we know, the question of technological neutrality hinges on whether we think technology acts as an independent force (this is the technologically determinist viewpoint in a simplified form) or whether it is a neutral tool that achieves whatever impact it has through the hands of a human agent (this, again in a simplified form, is the social constructivist viewpoint). Latour's ANT offers a third possibility, which he illustrates using the well-known example of the American National Rifle Association's statement that "Guns don't kill people, people kill people" (Latour, 1999, p. 176f). Although this is not a new example and not immediately related to ICTS, it is still useful for outlining the main tenets of his argument. The above slogan was used by the NRA to challenge the argument of the anti-gun lobby that "Guns kill people". The latter, Latour argues, is the materialist viewpoint according to which it is the gun that turns a law-abiding citizen into a dangerous criminal. The argument advanced by the NRA on the other hand is that the gun in itself is only a tool, a "neutral carrier of human will" (ibid., p.177). What Latour proposes is that where the gun and its holder come together, they form a new actor, a 'citizen-gun' or 'gun-citizen'. This process is what Latour refers to as 'technical *mediation*' or more specifically, a form of

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technical mediation that he calls '*translation*', where both actors are modified by the encounter:

You are different with a gun in your hand; the gun is different with you holding it. You are another subject because you hold the gun; the gun is another object because it has entered into a relationship with you. (Latour, 1999, p. 179)

The interesting possibility Latour opens up here is that we can conceive of technological objects as combinations of material components and human agency, which has implications for how we think about the so-called 'impact' of technology on human life. We can think about how this approach applies to our example of the surveillance camera, for instance. The German supermarket chain Lidl came under scrutiny in 2008 when it emerged that it had placed its employees under covert CCTV surveillance, monitoring for instance the frequency of visits to the toilets and the length of breaks taken (Stern, 2008). From the perspective of Latour's principle of translation, the criminalising feeling experienced by the store employees once the surveillance became known was not the result of the technological camera-object but the result of a combined actor consisting of the camera and the store-manager. The surveillance was carried out neither by the camera, nor by the manager but by the *camera-manager actor*.

The advantages of taking this perspective become even clearer when we consider Latour's other example: that of the speed bump, which in France is also referred to as a 'sleeping policeman', a modification of the road-surface to regulate drivers' speed without the need for a policeman on site - which would be a more expensive measure. A website run by the International Rubber Products Exhibition Centre Malaysia (lobbying for the Malay rubber industry) for instance advertises the speed bump as

designed to have different sizes and shape [sic] to suit the requirements and place of services. Some are narrow as to deliver a *sharp jolt* to vehicle suspension and to gives *discomfort* when crossing at high

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speed. The wide humps are mainly for further reducing the vehicle speed due to longer crossing time. (IRPEC, 2002)

The speed bump is a technology with clearly noticeable negative effects - where the bump is ignored, the likely damage caused to the car is a very real effect of what is, on the surface, only an inanimate object. Latour's concept of mediation, however, allows us to see the speed bump as an assemblage of material and immaterial actors: The agency of the speed bump can be understood as a complex of a number of agents ranging from police officers, engineers, politicians and construction workers to different sorts of materials taken from various places and times. The speed bump is a certain kind of 'black box' or a 'technical delegate' that redistributes the absence and presence of these various agents and interferes directly with the daily life of urban car-humans. (Riis, 2008, pp. 287-288)

What the example of the speed bump demonstrates is that the more complex a technological object, usually the greater the number of agents or actors involved. Any technological object can be taken apart to amount to the equivalent of a pile of screws, nuts and bolts. However, these material components in themselves don't amount to anything that we could construe as an 'evil' technology - even a knife or a gun, at a purely material level, cannot be construed as such. The study of the effects of such technologies becomes meaningful only when we look at them as combinations of matter, human actors and their intentionalities.

It seems that Latour's approach of mediation even offers a path out of the problem perceived by scholars like Emilio Mordini that some technologies could be perceived as 'intrinsically evil'. From this perspective, the question whether a knife is 'evil or not' depends on whether it is held by a diner to cut his steak or whether it is wielded by a murderer. However, technologies like nuclear fusion could be perceived as evil as they are a threat to nature or are dangerous to humans. The example that is particularly interesting in this context is that of biometrics - the use of personal identifiers in microchips embedded in passports, for instance.

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Latour's account of technological mediation can thus be applied to even the largest, most complex technological systems such as the ubiquitous information-technological infrastructure that is the subject of this thesis. As I have argued repeatedly and as the NSA revelations have shown, this ubiquity has resulted in an increasingly global surveillance system where governmental and corporate surveillance practices intertwine. Building on the work of Deleuze and Guattari, Haggerty and Ericson (2000) thus argue that contemporary surveillance has a rhizomatic structure (as opposed to the one-way structure suggested by the Panopticon), and introduce the concept of the 'surveillant assemblage' to denote that

No single technological development has ushered in the contemporary era of surveillance. Rather, its expansion has been aided by subtle variations and intensifications in technological capabilities, and connections with other monitoring and computing devices... Much of this expansion is driven by the financial imperative to find new markets for surveillance technologies which were originally designed for military purposes. (2000, pp. 614-615)

As is characteristic of a rhizomatic structure, the surveillant assemblage is decentralised and the surveillance operations emanate from "a host of scattered centres of calculation" (Haggerty & Ericson, 2000, p. 613). So at a structural level, the surveillant assemblage is particularly suited to thinking in terms of Latour's actor-network-theory. As Haggerty and Ericson argue, the assemblage consists of a "multiplicity of heterogeneous objects, whose unity comes solely from the fact that these items function together" (Patton quoted in Haggerty & Ericson, 2000, p. 608). This multiplicity does not only span real technological objects such as networked computers, store loyalty cards and CCTV cameras, but also the processes of data collection that occur between those entities, the purposes (both overt and covert) for which this data is collected, the human agents involved in operating the systems (for instance the airport security staff operating body scanners) and at a higher level the individuals and groups with

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vested interests in expanding the scope of the surveillant assemblage for personal or other gain.

So where Haggerty and Ericson's concept of the surveillant assemblage grasps the ubiquity and complexity of contemporary surveillance technologies and practices, viewing it from the perspective of Latour's ANT allows us to see how these factors combine with more immaterial elements to form an actor that can have the kinds of demonstrable effects we have discussed in this thesis. These immaterial elements include national and international security laws and the imperatives of global corporate finance. The question that arises is where, within this structure of black boxes within black boxes, we can locate the responsibility for the real and often disastrous consequences the surveillant assemblage has on individuals and groups, such as the problem of social sorting, and the infringement on the privacy of individuals through apparently 'harmless' social networking features.

5.6.4 Agency and Responsibility

To this question, I argue, Latour provides only a unsatisfactory answer, which is that the "[r]esponsibility for action must be shared among the various actants" (Latour, 1999, p. 180). However it is only the logical consequence of the over-all democratic principles of actor-network-theory where human and non-human actors combine to form new actors but where, beyond the possibility that a human actor might exert a more powerful influence over other actors than a simple object like a hammer, there seem to exist no special privileges for human actors. Humans, in Latour's network metaphysics, after all remain only 'actors', they are not 'beings' as they are for Heidegger. Where Heidegger's ontology is also grounded in the ongoing interaction between human beings and non-human beings, this interaction is inseparable from the category of human experience. Despite Heidegger's emphasis that human being-in-the-world is fundamentally a being-with, not a being-before or being-over-and-above other beings, the human being remains the reference point for it could not be otherwise. Heidegger is aware of the impossibility of raising himself above a reality that he is part of, but

5.6 Comparing Heidegger's Network Ontology with the Network Metaphysics of Bruno Latour: a Human Being is not a Mobile Phone

insists that critical reflection upon our existence and how we interact with other beings in the world is nevertheless necessary.

When it comes to assessing the impact of contemporary information technology on the social, Latour's approach on the one hand allows us to escape the simplistic frameworks of technological determinism to shed light on the fact that any technology is not merely the inanimate object it appears as, but the result of the combination of human and non-human, material and immaterial forces working together to produce it as an 'effect'. On the other hand however, his insistence that the 'responsibility' for the effect generated by any actor in the network must be shared by its human and non-human components is inconclusive: if any actor is a black box that consists of an endless amount of other black boxes, responsibility can never determinately allocated.

Ultimately, as Khong (2003) argues, Latour and Heidegger have different solutions to the question concerning technology. In the networks of human and non-human entities that form their respective ontologies, Latour's sympathy lies with the objects, and Heidegger's with the humans: Latour's aim is to "liberate artefacts from their role as alien objects" (p.700). Latour is adamant that this does not mean

extend[ing] subjectivity to things, to treat humans like objects, to take machines for social actors, but to avoid using the subject-object distinction at all. (Latour, 1999, p. 194)

The subject-object distinction is what Heidegger's ontology is aimed at replacing, but his solution is not to flatten the two into a single ontological plane where a human being is affected by the surveillant assemblage, for instance, purely on the basis of this assemblage being the more powerful actor. Heidegger's solution, as Khong points out, is to "minimise our dependence on technological artifacts whilst Latour's is to accept the myriad ways in which we are dependent" (Khong, 2003, p. 702).

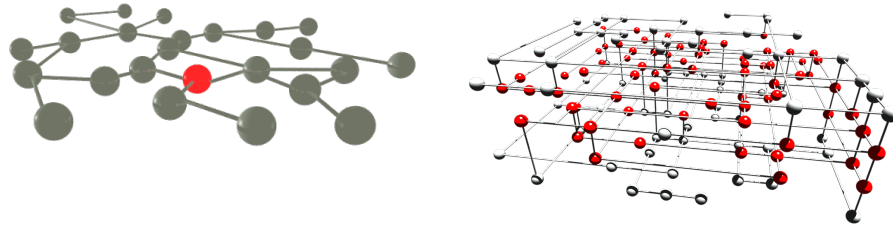
5.7 Summary

To summarise, both Heidegger and Latour have developed an ontology that takes the shape of a network. Heidegger's network is populated by Being that is Dasein (Daseinsmaessiges Sein - human Being) and Being that is not Dasein (Nicht-Daseinsmaessiges Sein - non human Being). Latour's network is constituted by relationships between what are essentially human/non-human hybrid actors.

The first difference that emerged in our analysis is the contrast in dimensionality. Heidegger's multi-layered network results from the hiddenness of Being, a complexity that withdraws from our engagement with things but that is nevertheless there. As we have seen, this withdrawal is what allows us to engage with everyday objects in a way that seamlessly integrates them into our everyday lives. If we encountered the full complexity of the hidden Being of a water jug, for example, it would obstruct our practical usage of it. At the same time, this means that we engage with technological objects in an equally non-conscious way, which makes us less critically minded when it comes to estimating the full impact of contemporary surveillance. Latour's network on the other hand is one-dimensional:²¹ this means that every node in the network is constituted by its relations, it is never more than its relations and is fully deployed in them at any moment in time. Heidegger's object is deeper than any possible relations to it, Latour's object is reducible to its relations. The images in figure 5.4 model the difference between the two network ontologies, albeit in a simplified way:

The other point where the models diverge from each other is a far more political one: Heidegger makes a fundamental distinction between the Being of humans and non-human Being. Latour on the other hand is strictly democratic: all actors, whether human or non-human, whether real or unreal, exist on the same plane. As we have seen, this causes problems where a critical analysis of

²¹I am referring to the network being one-dimensional not in the mathematical sense but in order to heighten the contrast with the structure of Heidegger's ontology. In mathematical terms it is more accurately described as two-dimensional, where Heidegger's is three-dimensional, as the former extends along two, the latter along three coordinates.



Latour's two-dimensional network

Heidegger's multi-layered network

Figure 5.4: Network Ontologies **copyright** Graham Creeth

the impact of current information and communication technologies on human experience is concerned.

Harman has positioned himself at the crossroads between Harman and Latour and has highlighted the importance of 'tool-being' in Heidegger's ontology. His argument, however, that Dasein can claim no special status over things that are ready-to-hand or present-at-hand in the world, is extremely difficult to reconcile with Heidegger's own clear words:

Dasein is never to be taken ontologically as an instance or special case of some genus of entities as things that are present-at-hand. To entities such as these, their Being is 'a matter of indifference'; or more precisely, they 'are' such that their Being can be neither a matter of indifference to them, nor the opposite. (Heidegger, 2008, p. 42)

For Heidegger, awareness and concern for one's own Being is what characterises us as human beings and is something that is not shared by inanimate structures. As Dreyfus and Wrathall (n.d.) argue, "[a] chair can't be alone, or indifferent to other chairs" in the way a human being can. In fact, it is the very distinctness of my own human Being and the Being of other humans, in that we both share that special quality of Dasein, that enables us to feel such a feeling as 'indifference' in

the first place. This is what ‘being-in-the-world’ means and why it is reserved for Dasein: Other human beings are

entities which not only are quite distinct from equipment and Things, but which also - in accordance with their kind of Being as Dasein themselves - are ‘in’ the world in which they are at the same time encountered within-the-world, and are ‘in’ it by way of Being-in-the-world. (Heidegger, 2008, p. 118)

Dreyfus and Wrathall put it more simply when they say:

I am indifferent to another person, my indifference as an attitude is constituted in part by the fact that it is *another person* to whom I am indifferent, if I stand by and indifferently watch as you die, this has a very different character as an act than if I stand by, unconcerned that a pen has ceased functioning. (Dreyfus & Wrathall, n.d.)

So where Harman points out that “both hammers and Dasein can be viewed from the outside” and concludes from this that “[l]ike all other entities, Dasein turns out to be both present-at-hand and ready-to-hand”, this rests on an underspecification of what is meant by ‘viewing’. If the ‘viewing’ is done by a human being, this is inseparable from his or her ‘being-in-the-world’ and opens this viewing up to being full of sympathy, admiration, contempt, etc, emotions that don’t characterise the co-existence of inanimate matter like pens and stones.

A final example helps prove that the distinction between human and non-human being is an important one, and this relates strongly to our relationship with technology. Let us recall our earlier example of the hammer and the table that are connected to each other through a network of referentialities. Heidegger is so clear that the humans involved in this network of referentialities have a different kind of Being to the Being of the hammer that he uses a different term to denote their linkage point into the network, which is not an ‘in-order-to’ but a ‘for-the-sake-of-which’. This is because the final purpose of the table is to provide

a place for the family to come together to enjoy a meal and in this sense the table serves the end of human existence - human being in the world. Visualising once again the network of referentialities, the chain of 'in-order-to's is finite, and it ends in the human being, because, as Kant argued, the essence of human dignity is that a human should never be a means, only an end.

The reason this is crucial for understanding our information-technological environment in terms of Heidegger's network of referentialities is because it shows that these technologies need to be judged in terms of the final link that connects them to human beings, and whether this final link is an 'in-order-to' that is in danger of turning the human being into a means (as is the case with current surveillance technology), or whether the technology is serving the purpose of sustaining Dasein's mode of existence being-in-the-world. The difference between the in-order-to and the 'for-the-sake-of' is that the former is an instrumental relationship (belonging to beings that have the Being of equipment), the latter a human one, as Heidegger clearly states when he says: "the 'for-the-sake-of' always pertains to the Being of Dasein" (2008, p. 84). The fact that Harman "flatly contest[s] that this Worumwillen [for-the-sake-of] is necessarily human" suggests again that Harman's perspective is far more Latourian than it is Heideggerian. The "strange new world" he argues that 'tool-being' opens up, where "humans, dogs, oak trees and tobacco are on precisely the same footing as glass bottles, pitchforks, windmills, comets, ice cubes, magnets, and atoms" (Harman 2002, pg.2) is Latour's world, not Heidegger's.

So to conclude this section, where in both Latour's and Heidegger's ontologies humans are connected to their technologies (whether it be a hammer or a computer) via a network of meaningful relationships there is a fundamental difference as to the status granted to human being in these networks, with profound consequences for the question of technology. For if the human ceases to exist as a central point of reference as he can no longer claim any privileged status over a smart phone - doesn't the relationship between society and its technologies cease to be a matter of concern? Isn't the human being the only 'concerned' entity in the network, also the only one who can problematise this relationship? Heidegger's specifically human Being, Dasein, allows for this relationship to continue as

5.7 Summary

a matter of concern by having defined the human as the only Being that has a relationship to its own Being.

Chapter 6

The Essence of Technology is Nothing Technological: The Rise of Technological Thinking

6.1 Introduction

[T]he essence of technology is by no means anything technological.

Heidegger, 1977, p. 4

The limitless domination of modern technology in every corner of this planet is only the late consequence of a very old technical interpretation of the world, [this] interpretation is usually called metaphysics.

Heidegger quoted in Zimmerman, 1990, p. 166

6.2 Introduction: Did Someone say ‘Revolutionary Technologies’?

In this chapter, we will unravel what Heidegger means by his famously confusing statement that “the essence of technology is nothing technological”. In the same way that the true challenges the correct, Heidegger’s concept of essence challenges common-sensical accounts of technology in that it dispenses with the idea that technology is a mere means to an end. Instead, it draws attention to a more fundamental, underlying technicality, the origins of which cannot be found in technology at all but in a way of thinking that operates in terms of means and ends that Heidegger traces back to the beginnings of Western thinking, to the metaphysics that forms its very foundations. Heidegger forces us continuously to break with our established patterns of thought, and applying a Heideggerian approach to ICTs means challenging what has become the common sense: it argues against the “revolutionary” nature of digital information and communication technologies and ‘new media’ specifically, and instead forces us to view these technologies as the most recent and acute manifestations of the Western conception of the world, or the Western ‘world picture’ [Weltbild].

What unites most mainstream approaches to ICTs is an emphasis on their uniqueness and novelty. The enthusiastic accounts of a “digital” or “social media revolution” taking place, or those lauding the rise of a ‘participatory culture’ (see for instance Jenkins, 2006), all seek to persuade us that networked digital communications are fundamentally different to their analogue forerunners, but this emphasis on the altogether transformative nature ICTs can have profound consequences. For instance, it has been argued that both the Orwellian Big Brother and Foucault’s Panopticon no longer work as metaphors for contemporary surveillance: the latter, based on Samuel Bentham’s prison design, designates the inspection of activities in the perimeter from *one central location*. It is aimed at one-directional, top-down surveillance, where it is argued that the networked structure of contemporary ICTs means we are dealing with more vertical, peer-to-peer and resistive surveillance practices (Haggerty & Ericson, 2000 and for an overview of the challenges to the panoptic metaphor see for instance

6.2 Introduction: Did Someone say ‘Revolutionary Technologies’?

Boyne, 2000). I would argue however, that amidst this emphasis on change there is always a risk that we might lose sight of the hierarchical power structures that have remained in place.

A Heideggerian perspective on ICTs allows us to focus precisely on these continuities because the essence of modern technology does *not* lie in its novelty. It lies in its opposite, in a continuum we can trace back to the very origins of Western civilization. Modern technology, as Lovitt puts it, is only the “coming into overt expression of a tendency whose true origin lies decisively if hiddenly in Greek antiquity” (Lovitt, 1977, p. xxiv). This tendency is what I refer to as “technological thinking”: the tendency of human beings to seek to master their surroundings, a fundamental ontological disposition that gave rise to modern science as well as modern technology.

I argue that digital information and communication technologies are the most recent and acute manifestation of the kind of rationalist, ‘technological’ thinking that Heidegger sees as characteristic of the Western ‘worldview’. So to fully grasp Heidegger’s concept of the ‘essence of technology’ it is necessary to engage with Heidegger’s critique of the Western philosophical tradition. As this critique arguably spans Heidegger’s whole oeuvre, we need to be selective and focus on those points that are most relevant to the question of technology - and we need to bear with him whilst at times he is wading through very deep philosophical waters. This runs counter to our current culture, where what is worth saying must fit within 140 characters, the length of a tweet. ICTs operate in terms of bits and bytes and have arguably contributed towards a discourse of brevity that has little time for the profound and at times lengthy ruminations of philosophical argument. However, this is precisely the kind of ends-oriented thinking that Heidegger seeks to challenge.

6.3 Modern Metaphysics, Science & Technology

Metaphysics grounds an age.

Heidegger, 1977a, p. 115.

The key to unlocking the distinctiveness of ICTs does not lie in an idea of progress - in an improvement of mediated communication, however radical - but in how they manifest a technical conception of the world, and hence of communication itself. This technical conception is grounded in our metaphysical orientation towards the world, which Heidegger explores in his essay “The Age of the World Picture” (1977a). We might regard metaphysics as the most fundamental branch of philosophy as it is concerned with the *first principles of things*, and thus with abstract entities such as time and space. How these first principles are decided is fundamental, in that they provide the basis for the entire orientation of an age: Metaphysics, Heidegger insists, is what

grounds an age, in that through a specific interpretation of what is and through a specific comprehension of truth it gives to that age the basis upon which it is essentially formed. (Heidegger, 1977a, p. 115).

Physical science, for instance, relies on an idea of time as something that is linear, and of space as something that extends along three coordinates. Technology is usually aimed at overcoming their limitations, something that is nowhere more evident than in the case of digital ICTs: digital recording is an attempt to store time, social networking sites by ‘connecting’ people globally are an attempt to bridge physical distance. From Heidegger’s perspective however this is a very limited conception of distance - a point we will return to.

Metaphysics’ grounding principles form the basis for all other knowledge, hence their questioning should be the first and most important task of philosophy. Heidegger’s chief criticism of the Western philosophical tradition, and the starting point for *Being and Time*, is that it has failed in this basic but most

6.3 Modern Metaphysics, Science & Technology

fundamental task. Instead of cultivating a critical self-reflexivity, Western philosophy has developed on the premise that human awareness, as a mental state, precedes everything else. It is the condition upon which an understanding of ourselves as human beings, and of our surroundings, can be developed, similar to the way in which the objects in a dark room only become noticeable once a light bulb has been switched on. This seems natural and inevitable to us, but Heidegger challenges precisely this inevitability. He wants us to engage with the consequences of this arguably most fundamental premise of Western thought: the world having become an object of human consideration.

We need to keep reminding ourselves that we are talking of Western or occidental thought, as there are other and distinctly different traditions of thought - with other 'metaphysical' orientations. Eastern philosophy (Hinduism, Buddhism, Taoism) is in many ways different and has different ideas about the relationship between humans and nature. Here, it is believed that humans only organise nature into categories for their own benefit - any regularities perceived in the workings of the world (e.g. the 'laws of nature') are in the human mind only. In contrast to this, Western thought is characterised by its "strongly rationalistic tendency - an assumption that everything can be accounted for" (Dalai Lama and Cutler, 1999), precisely the kind of thinking that Heidegger encapsulates with his concept of the essence of technology.

One widely held view of technology is that it represents the practical application of scientific knowledge (see for instance Bunge, 1966 on technology as "applied science"). Where technology and science are both seen as definitive characteristics of modernity, technology is seen as putting into practice the principles of rationality and objectivity embodied by modern science as "*the theory of the real*" (Heidegger, 1977d). In other words, technology derives its objectivity from the objectivity of science. The binary operating principle of digital ICTs is the perfect embodiment of this objectivity: in order for digital ICTs to be able to process information, this needs to be represented as a code sequence of 0s and 1s. Every bit of code is absolute in its value, it has to be either the one or the other, there is no room for indecisiveness or ambiguity. As the below illustration

6.3 Modern Metaphysics, Science & Technology

of a simple digital logic gate shows, for every input there is a defined possible output depending on whether the logic gate is open or closed:

A	B	Output
0	0	0
0	1	1
1	0	1
1	1	1

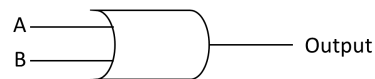


Table 6.1: Digital logic gate

It is telling that logic gates are also referred to as truth gates - they are a perfect illustration of what Heidegger argues is not truth, but correctness. Correctness, we have seen, is determined by whether or not a statement agrees with its object (recall the example of the picture hanging askew). Here there are only two possibilities: this is either the case, or it is not. The choice between two absolute states and the lack of a ‘half-way-solution’ is precisely the principle of binary logic, as logic gates have only two possible states: either open or closed. In this sense digital technologies can be seen as an actualisation of the philosophical conflation of truth with correctness. Digital ICTs can thus be seen as epitomising the embodiment of objectivity which technology derives from modern science. However, Heidegger challenges this particular way in which technology has asserted itself as rational and objective by questioning the objectivity of scientific knowledge itself. For Heidegger, science is as much a manifestation of our metaphysical orientation towards the world as technology, but it is science’s stronger and more original claim to objectivity that necessitates the investigation of its very metaphysical assumptions. So in a sense Heidegger is working backwards. He begins by asking what defines science in order to work his way through to the essence of science, the scientific mindset. In his search for the origins of the scientific mindset Heidegger takes us back to the French philosopher René Descartes. Descartes is often referred to as “the Father of Modern Philosophy” (Skirry, n.d.), based on his ‘scientific’, mathematical approach to

basic philosophical questions. Through Heidegger's analysis we will see, however, that the 'modern' element in Descartes thinking is not so much the introduction of the 'scientific method' into philosophical thought but the laying down of the principles of modern metaphysics themselves by positing the human, and human awareness, as the foundation for human existence and experience.

6.4 Calculation as the Essence of Modern Science

Modern science, Heidegger argues, seems defined by research. In fact, "research" itself has become an indicator of the scientific, and by extension of that which has been tried & tested and can thus be relied upon to be true (we only have to think of the use of the phrase "research has shown that..." in the marketing of beauty products, for instance). What has been 'proven' by research belongs in the realm of objective knowledge. But Heidegger asks us to question what objective knowledge actually consists of. Because it isn't the case that objectivity is the automatic and natural the result of scientific research, rather, scientific research itself decides what objective knowledge is. It does this by arranging the world into a set of categories which then form the basis for all further knowledge.

In his famous book *The Structure of Scientific Revolutions*, Kuhn makes a similar point, arguing that 'normal science' establishes itself by setting down its own terms and then solving problems based on those terms. We might say that Heidegger's approach is similarly anti-positivist, meaning it denies that the human life-world can be quantified and understood in simple causal terms, but more radically and originally so: from Heidegger's perspective science, even before it sets out its concepts and methods, has already defined what is knowable, the very contours of the world it seeks knowledge about. Heidegger sees in science the clearest example of

the way in which modern man as subject represents reality. The modern scientist does not let things presence as they are in themselves.

6.4 Calculation as the Essence of Modern Science

He arrests them, objectifies them, sets them over against himself, precisely by representing them to himself in a particular way.... But this does not happen simply because nature intrinsically is of this character; rather it happens ... specifically because man himself represents nature as of this character and then grasps and investigates it according to methods that, not surprisingly, fit perfectly the reality so conceived. (Lovitt, 1977, pp. xxvi-xxvii)

So what science does is to arrange the world into a “fixed ground plan” (Grundriss), a *matrix* into which we can then order the knowledge gained by research. The quantifying, binary logic on the basis of which digital ICTs operate is only an instantiation of this original scientific matrix. What Heidegger seeks to alert us to, however, is how even before this matrix is set up, the scientific mind has always already *represented* to itself that which it seeks knowledge about. This is what makes Heidegger’s argument more fundamental than Kuhn’s: before the scientist decides on how to categorise nature into entities (the elements, for instance), and the processes he will use to interrogate the characteristics of these entities, he has already committed a much more fundamental act of objectification - he has represented the world in a way that places his human mind at the centre of this representation and everything else at the disposal of his mind.

Typically of Heidegger, he makes his point by stripping down worn-out words to their original meaning: to *re-present* actually means placing something before the mind’s eye, so that it can be fully grasped. The act of re-presentation, Heidegger emphasises, means “of oneself to set something before oneself and to make secure what has been set in place” (Heidegger, 1977a, p. 149), and what we might not realise but what constitutes a crucial point is that it is through this process that the thing set before oneself *becomes available*. Heidegger insists that a thing or concept’s ability to avail itself to this mental grasping is what constitutes the very condition of existence itself: only what can be made available in this way is considered “to be in being”:

Knowing, as research, calls whatever is to account with regard to the way in which and the extent to which it lets itself be put at the

6.4 Calculation as the Essence of Modern Science

disposal of representation. ... Only that which becomes object in this way *is* - is considered to be in being. (Heidegger, 1977a, pp. 126-127, emphasis in the original)

Current AI attempts to model the human brain are a prime example of the correlation that Heidegger draws between the process of mentally availing oneself of something, seeking to calculate it and placing it under human control: these attempts are based on the claim that the calculating powers of computers already far extend our own calculative abilities. Early in 2014, Japanese researchers thus claimed to have simulated 1 second of human brain activity. This was achieved using the fourth most powerful computer in the world, with 705,024 processor cores and 1.4 million GB of RAM, but despite the enormity of this processing power the simulation took a total of 40 minutes, and only simulated 1% of the activity taking place in the human brain at any one point (The Telegraph, 2014). The very first computers were already hyped as man-made brains (ENIAC, the first general purpose computer developed for American ballistics research, was referred to in the press as a “Giant Brain”), but now the aim is no longer to emulate, rather, the brain is used as a yardstick for measuring computing capacity, which implies that it can be *surpassed*. The fact that the Japanese’ project aims were stated as demonstrating the powers of the supercomputer (ibid.) by means of showing to what extent it is capable of simulating the human brain, demonstrates the extent of the fetishisation of ICTs’ calculative powers.

From a Heideggerian perspective the very idea of technologically reconstituting the human brain is part of the very calculative thinking that AI is seeking to transcend: the human brain is widely acknowledged to *be more* than its computational faculties, but the attempts to recreate this excess by means of digital computing technology shows the extent to which our thinking is already thoroughly technologised. As we saw in the previous chapter, Heidegger’s argument that the Being of humans is fundamentally different to the Being of things is one of the crucial distinctions in his thinking. It is encapsulated in his concept of *Dasein*, it is the excess that AI is seeking to recreate but which must forever escape it.

6.5 Correct Calculations: How Digital Technology Seeks to Manage the Future

Research has disposal over anything that is when it can either calculate it in its future course in advance or verify a calculation about it as past.

Heidegger, 1977a, pp. 126-127.

For Heidegger, a significant measure of whether the scientific mind has successfully availed itself of an object through re-presenting it to itself, is the extent to which it can then be subjected to calculations about its past, or its future. It is in this way that both nature and history have come within the domain of human control: our representing of the natural world and the linear progression of history as a series of events is a “*counting on*” nature, and a “*taking account of history*” (ibid., emphasis added). Heidegger’s wording makes it very clear that our understanding of both these fields of knowledge is essentially calculative in nature. Heidegger does not explicitly link the idea of calculating the past and the future to technology, but it is implicit in that he claims that through these calculations, both nature and history become “set in place”: the German word used by Heidegger is [gestellt], which is the verb form of Gestell, which is the very essence of modern technology. The AI example from the previous section showed how digital ICTs can be used to replicate existing calculations, but in this section we will explore some of the ways in which the inherently calculative properties of ICTs are applied to make predictions about the future.

The first computers were designed for military purposes and constituted part of the Allied war efforts in WWII: Alan Turing’s designs enabled the breaking of the German Enigma code, but it was ballistics research that capitalised on the ability of these machines to not only verify calculations about past aspects of physical reality, but also to calculate its future course. To win the combat in the air, machines were needed that would be able to calculate the course of missiles not retrospectively, but with regard to their future position. As Norbert Wiener, the founder of cybernetics, put it:

6.5 Correct Calculations: How Digital Technology Seeks to Manage the Future

unlike all previously encountered targets, an airplane has a velocity which is a very appreciable part of the velocity of the missile used to bring it down. Accordingly, it is exceedingly important to shoot the missile, not at the target, but *in such a way that missile and target may come together in space at some time in the future*. We must hence find some method of predicting the future position of the plane. (Wiener cited in Kittler, 1999, p. 260, emphasis added)

All early, room-filling models of digitally operating computers, Alan Turing's ACE, the American ENIAC and John von Neumann's EDVAC, served this purpose. But Kittler points out how the full significance of the 'Linear Prediction Code' developed by Wiener goes far beyond the victory of the Allies in WWII. Mathematics, he argues, shows how Heidegger's argument that by being able to calculate something, we have brought it under control, applies to time itself:

mathematics changed into an oracle capable of predicting a probable future even out of chaos - initially for fighter aircraft and anti-aircraft guidance systems, in between the wars for human mouths and the computer simulations of their discourses. *Blind, unpredictable time ... was finally brought under control*. (Kittler, 1999, p. 260, emphasis added)

What Kittler is arguing here in slightly elusive terms is in fact absolutely crucial to the way in which our current informational matrix functions. As argued throughout this thesis, beneath the surface of users' benign digital activities lies an immaterial but pervasive network where the information from these activities is aggregated in a way that will make it useful to governments and corporations. Time is a decisive factor in this process: the *Business Times* for instance espouses the virtues of a process called "predictive analytics", whereby users'

past behaviour and complex algorithms [are used] to anticipate future behaviour by customer segments in a way that cannot be accurately performed using human intuition (cited in Andrejevic, 2011, p.281).

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Predictive analytics can thus be seen as a commercial application and update of Wiener's Linear Prediction Code: In the same way that Wiener's code allowed the Allied Forces to target the future position of an aircraft, the predictive analytics software of software companies like IBM, SAP and Oracle is aimed at managing a future that does not yet exist.

Both Wiener's Linear Prediction Code and predictive analytics software are examples of the calculative approach towards the dimension of time that Heidegger argues is a fundamental characteristic of the scientific mindset. Both rely on the linear conception of time that makes it possible to "verify a calculation about it as past" (Heidegger, 1977a, p. 127). Only on this basis are calculations about the future possible. Heidegger argues that our understanding of time as a succession of moments, and its division into past, present and future, signifies a limited understanding of time. As he argues in *Being and Time*, temporality is infinitely more complex and can only really be understood from the perspective of human Being [Dasein's] own experience of the finitude of its existence, what Heidegger calls being-toward-death. It is one of the fundamentals that distinguishes human Being from other Beings, as only Dasein can experience this finality, and thus death in itself.

The success of Wiener's code, and of predictive analytics hinges upon the extent to which the actual future *corresponds* with its prediction. This is precisely the idea of truth as correspondence that Heidegger argues is characteristic of the modern scientific mindset, but which we have identified as a form of truth that blinds us to its own limitations, and which Heidegger instead labels *correctness*:

This objectifying of whatever is, is accomplished in a setting-before, a representing, that aims at bringing each particular being before it in such a way that man who calculates can be sure, and that means be certain, of that being. We first arrive at [modern] science ... when and only *when truth has been transformed into the certainty of representation*. (Heidegger, 1977a, p. 127).

6.5 Correct Calculations: How Digital Technology Seeks to Manage the Future

Heidegger, we noted earlier, challenges the objectivity of science, from which technology derives much of its legitimacy. Predictive analytics is an example of how the calculative logic of digital technologies that encapsulates this objectivity is in fact based on a fundamental misrecognition of truth as correctness.

The risks of a calculative mindset that eschews truth in favour of correctness became clear when in 2008 the collapse of the Lehmann Brothers investment bank brought on a global financial crisis. One of the main causes of the crisis, the effects of which are still being felt six years on, lies in the way that global financial markets work. As Curtis argues, our global economic system is premised on the computerised calculation of financial risk: “computers allowed banks to create complex mathematical models that could predict the risk of making any loan or investment” (Curtis, 2011). While risk in itself is something banks seek to avoid, its computerised prediction means “it can be balanced by hedging against it” (ibid.): this was the success model of the ‘New Economy’, an economy driven wholly by the logic of computer systems. The financial crisis of 2008 was the final one in a series of crises around the world that challenged our reliance on computerised models. All of these had catastrophic consequences for ordinary people, while the first duty of governments became the rescue of the financial sectors whose computers had calculated the models in the first place.

The enduring hold of correctness and the extent to which it eclipses alternatives is evidenced by the fact that these obvious failures of computerised banking have not led to a fundamental change in the system. As Curtis puts it,

we know that the promise of market stability has failed but we cannot imagine any alternative, the original promise of the Californian ideology was that the computers would liberate us from all the old forms of political control and we would become ... heroes in control of our own destiny ... instead today, we feel the opposite, that we are helpless components in global system, a system that is controlled by a rigid logic that we are powerless to challenge or to change... .
(Curtis, 2011)

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Heidegger points us towards a fundamental logic of calculation that is more far-reaching than the computers that operate according to its principles. It is in the very nature of the correct that it obscures the very limitations within which it applies - but it is the contours of these very limitations that, thanks to Heidegger's distinction between truth and correctness, are beginning to become more visible. Beyond these is the wider truth that the objectivity of science and technology derive from the scientific mindset that re-presents what it encounters, objectifies it and thereby seeks to gain control over it. These tendencies originate in the Western, subjectivistic metaphysical orientation towards the world, which Heidegger also refers to as the "world picture".

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'We get the picture' concerning something does not mean only that what is, is set before us, is represented to us, in general, but that what is stands before us ? in all that belongs to it and all that stands together in it - as a *system*.

Heidegger, 1977a, p. 129, emphasis added.

In German the term *world picture* [Weltbild] is in common usage, denoting a particular way of looking at the world. Heidegger's aim is to draw attention to the way this term has become naturalised and to expose its underlying assumptions. His point is that where this term is used, this usually happens to denote the ways of thinking that belong to a different culture or religion: it re-presents, and thus objectifies, the ways of thinking of an *Other*. For Heidegger, however, to speak of a *world picture* implies a certain way of looking at the world that is precisely foreign to most other cultures, such as that of Medieval Europe, or of Eastern Buddhism: having a world picture presupposes a person looking on and organising what he sees in such a way, that it *makes sense*. The very idea of a world picture, as Heidegger argues in the above quotation, is that "what is stands

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before us ... *as a system*” (ibid., emphasis added). Conceiving of the world as a system, however, is specific to the Western interpretation of the world, and goes back to the binary opposition between subject and object that forms its very basis. The essence of technology that is nothing technological reaches back to this original opposition, and forward to the binary logic of digital ICTs.

The modern interpretation of human Being is rooted in the metaphysics or ‘world picture’ of the French philosopher Ren Descartes (1596-1650). Schooled in mathematics, he sought to place philosophy once and for all on a firm, scientific footing by establishing a groundwork for the possibility of knowledge. These grounds, Descartes argued, lie in the *certainty that the thinking mind can have of its own existence*. Where everything else, including the phenomena in the outside world, including my own body, may be subject to doubt - my thinking mind is proof of its own existence. This is the meaning of his famous dictum “Cogito ergo sum”: I think, therefore I am.²² This proof derives from the certainty of the thinking mind, rather than from the more general deduction that whatever thinks must also exist. Human consciousness thus emerges as the condition for our ability to reflect on our own Being and that of others, or in other words: as the condition for knowledge about the world.

The problem, according to Heidegger, is that Descartes’ “cogito” supposes an “I”, a subject, that is external to the world it is reflecting upon (Heidegger, 2008, p. 363). Dasein, for Heidegger, is always already constituted by its *being-in-the-world*. The *Being-in-ness* that characterises Dasein’s mode of Being contrasts sharply with the positionality that emerges from the priority given to human consciousness by Western metaphysics: here we are dealing with a *Being-over-and-against-ness*. This positionality was again confirmed by the German philosopher Immanuel Kant’s emphasis on the human subject as a *thinking* sub-

²²Descartes argued that only the activity of thinking proved one’s own existence, walking for instance would not prove this in the same way as it could be merely an imagined activity. Similarly, the thinking being can only be proof of its own existence in the precise moment that thinking is reflected upon. The argument that “I only existed last week because I remember myself thinking last week” does not hold as this memory too could be a figment of the imagination.

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ject. Kant endorses the Cartesian “cogito” but takes the thinking and perceiving mind (it is perceptive in that it perceives itself) as proof of the existence of its surroundings, and the body it occupies, as much as of its own existence. Descartes on the other hand had argued that nothing in the phenomenological world could be certain but the existence of one’s own thinking mind (hence his earlier refutation of Aristotle, whose account of the world is eminently phenomenological). For Kant, the thinking mind accompanies everything that it encounters. For instance: if I say to someone, “there’s a tower” and the other person says “are you sure?”, I will say “yes I’m sure”, not because I am certain of myself thinking this thought, but because I am matching what I see against the images of other towers encountered in the past.²³ This mental process for Kant is what constitutes the logical subject.

From Heidegger’s perspective we can see two problems. Firstly, the mental process of matching that constitutes the logical subject is essentially an either/or decision: something is either the case, or it is not. Here lie precisely the origins of the grounding of modern, scientific logic in the correspondence theory of truth that Heidegger argues is not truth but correctness. Secondly, Kant’s “thinking subject? is still determined by the binary subject/object relationship. Heidegger sees Kant’s fundamental mistake in the failure to recognise that the thinking subject is “not just an ‘I think’, but an “I think *something*” (Heidegger, 2008, p. 367, emphasis added). The phenomena encountered by the thinking subject are for Kant what constantly reaffirms its own existence, but it is through this very role of reaffirming the subject, that they become objectified: the Being of the world is reduced to mere “presence-at-hand”, already prepared for the straight lines and shapes that the scientific mind uses to order all these phenomena into a *coherent system*.

It is thus clear why for Heidegger, Descartes and Kant mark crucial moments in the development of Western thinking. They set up the human as subject and the world as an object for his consideration:

²³This example is taken from Béatrice Longuenesse’s chapter on the difference between Descartes’ “I am a thing that thinks” vs. Kant’s “I think” (2008), which has been a great help in untangling the intricacies of this section.

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Man becomes the being upon which all that is, is grounded... the relational center of that which is as such. (Heidegger, 1977a, p. 128)

The essence of the modern age, and the essence of technology, are rooted in this process of the human being setting himself up as a conscious subject that is prior to, and separate from, the world it inhabits. By representing the world in this way it became knowable, and eventually, calculable. The mode of revealing that determines modern technology is grounded in this particular metaphysics, where “nature presents itself as a calculable complex” (Heidegger, 1977, p. 26): only set up in this way can it be the subject of the “correct determinations” of science and technology.

This explains why from Heideggerian perspective, it is a paradox to speak of contrasting “worldviews”. The very act of ‘viewing the world’ is only possible on the basis of a human subject forming a mental re-presentation of it, thus ordering it into a coherent whole: the very process which is constitutive of modern Western thought specifically. In the Middle Ages Being was a *divine* matter, never “in the realm of man’s knowing and of his having disposal” (Heidegger, 1977a, p. 130). Being meant being by the grace of God: the place of the human was firmly within this divine creation and both humans and things were oriented in their being towards this higher, divine entity. Ancient Greece, Heidegger points out, also had a different understanding of Being: here beings didn’t come into their being through being perceived by a human subject, rather, Being opens itself up or reveals itself to whoever is open to receive it - this is the original meaning of *alētheia* [truth]. As Heidegger says:

[t]hat which is does not come into being at all through the fact that man first looks upon it?. Rather, man is the one who is looked upon by that which is. (Heidegger, 1977a, p. 131)

Both Ancient Greek and Medieval thought placed the human being in a very different orientation towards the world than our own, scientifically oriented Western philosophy. These different orientations are easily illustrated in a simple di-

6.6 The World Picture: a Blueprint for the Digital Matrix

agram (figure 6.1), with the different coloured arrows representing the different metaphysical orientations:

- Medieval metaphysics: human is oriented towards the divine (green)
- Ancient Greek metaphysics: Being approaches/reveals itself to the human being (blue)
- Modern metaphysics: human subject approaches world as object (red)

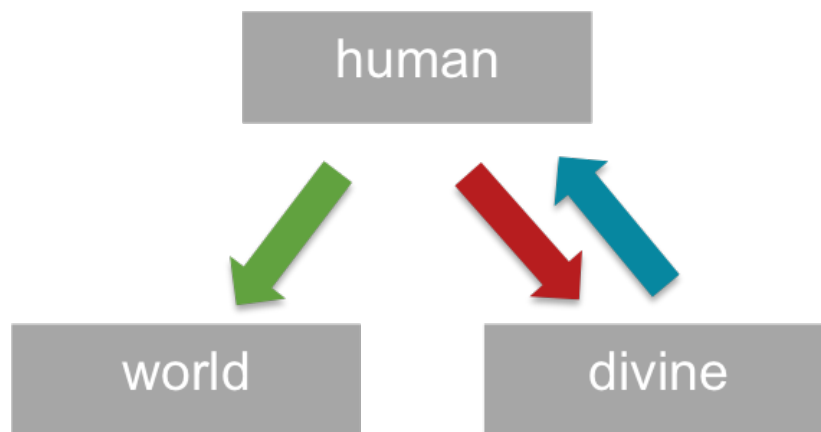


Figure 6.1: Different metaphysical orientations

The point is that only through the particular relationship between humans and the world that emerged from Western metaphysics, could the way of thinking develop that Heidegger argues is the essence of modern technology: the calculative approach to the world that conceives of it in terms of means and ends. By raising the human being to the status of subject, the world becomes an object for him to act upon. This binary relationship continuously reinforces itself:

the more extensively ... the world stands at man's disposal as conquered, and the more objectively the object appears, all the more subjectively ... does the subjectum rise up. (Heidegger, 1977a, p. 133)

Digital ICTs, by means of their binary logic, epitomise the objectivity that defines our modern metaphysical orientation towards the world and, at the same time, reinforce our status as subjects by their apparent neutrality. We have seen how governments and corporations reinforce our understanding of these technologies as neutral means to beneficial ends - in other words, as instruments that we are in control of. From Heidegger's perspective, however, this skewed understanding of technology is symptomatic of the more widespread misrecognition of the extent to which our understanding of our own Being-in-the-world is determined by technological thinking. By tracing the contours of the 'world picture', Heidegger helps us expose the contours of this technological thinking.

6.7 Summary

To go further with our reflections might just mean taking much less for granted about longheld distinctions ... [such as] the boundary between persons and things. Not only has this boundary been progressively blurred since Descartes and the ontology of the emergent sciences of the 17th century. We have accelerated the process insofar as *we take for granted that an instrumental attitude toward things as such, to all things, is normatively acceptable.* ... [T]he Kantian distinction between persons and things, ends and means, already concedes too much to this process *which cannot but bring about the thing-like instrumentalisation of human nature.*

Kompridis, 2009, p. 25, emphasis added

When Heidegger insists that the essence of technology is "by no means anything technological" (Heidegger, 1977, p. 4) he is referring to a technological way of thinking that has its origins in the Western philosophical tradition. Heidegger argues that it is the particular characteristic of Western thinking that it has turned the human subject into the centre of the universe, the important consequence being that everything else has been turned into an object for his consideration and has ultimately come to be at his disposal.

It is for us to make the link between these metaphysical origins of the essence of

modern technology laid out by Heidegger and our own information-technological environment, but the organisation of the world into a coherent *system* that defines modern metaphysics, is precisely the logic underlying digital technology: in the way that the former reduces the complexity of human being-in-the-world to a subject/object relationship, the latter reduces the complexity of the world and the inherent continuity of human experience to binary code. What Heidegger allows us to see is that rather than disparate phenomena, they merely constitute different points along a single trajectory of objectification: the ‘world picture’ thus forms a blueprint for our digital informational matrix.

In the final consequence, the trajectory of objectification however turns upon itself: objects lose their status as objects and become reduced to pure utility, or what Heidegger refers to as “standing reserve”. This is the fundamentally Heideggerian insight implicit in Kompridis above observation that we have normalised an “instrumental attitude towards things as such” (Kompridis, 2009, p. 25). We have reduced the world to something that can be calculated, manipulated, stored and called upon to yield productivity at our convenience. Kompridis argues that within the reign of instrumentality the “instrumentalisation of human nature” itself (ibid.) has become inevitable. In drawing the links between the metaphysical origins of the essence of modern technology laid out by Heidegger, and our own information-technological environment, we will see that within the digital matrix human beings are indeed becoming part of the “standing reserve”.

Chapter 7

The Gestell: ICTs and the Ultimate Consequences of Technological Thinking

7.1 Introduction

Tracing the rise of ‘technological thinking’ in the previous chapter has highlighted how the technological mode of revealing the world is never the *consequence* of our technologies - it is in every way *prior* to them. However, it is precisely the extent to which instrumental thinking has become “normatively acceptable”, as Kompridis (2009, p. 25) suggests, that prevents an appropriate questioning of our own technological environment and the kind of “collective deeper reflection” on what is “fundamental to our humanity” (ibid.) that are needed in the face of technological realities such as mass surveillance. Heidegger’s network ontology, traced in chapter five, exposed how the instrumental ideology of technology further prevents such reflection by being able to exploit the ontological “readiness-to-hand” of equipment: technological objects, in carrying out their purpose, acquire what Gunkel (2009) refers to as an “instrumental transparency” - they withdraw behind their immediate purpose. Behind the network of referentialities and its mutual

imbrications between humans and technological structures, the ontological depth of these structures withdraws, and so does their essence.

In this final section of the analysis, I want to focus on what it is that withdraws from our everyday engagement with our technological environment, precisely through our everyday, instrumental way of engaging with it. This is what Heidegger calls the hidden *essence* of technology that is “in itself nothing technological”. The preliminary definition we offered in the preceding chapter was of an attitude to the world driven by instrumentalist considerations. In this final part of our analysis of Heidegger’s thinking on technology I will focus on the concept of essence, which in modern technology emerges as pure instrumentality, stripped of any of the meaningful relationships that characterise authentic human being-in-the-world. This essence of instrumentality that turns out to be a deeper, more expansive instrumentality, is what Heidegger calls the ‘*Gestell*’.

Heidegger’s concept of the *Gestell* is key to his understanding of modern technology, but it has been criticised for being vacuous and fatalistic - like much of this thinking on technology, which I have tried to disprove. Heim for instance refers to it an “ominous and threatening” speculation, “an abstraction looming like a metaphysical sphinx, terrorizing thought with a puzzling lack of specificity” (1993, p. 57). I will argue, however, that it is precisely the abstract qualities of the concept of the *Gestell* that lend themselves so well to a critique of our current information-technological environment, situated as it is at the crossroads between the material and the immaterial, between tangible technological objects like smart phones and smart cards, and the data that flows invisibly between them. I will first discuss where the concept of the *Gestell* fits in with Heidegger’s overall account of technology, then we will turn our attention to the particular features of ICTs that it helps to illuminate.

7.2 The Gestell: the Revealing of Modern Technology

What is modern technology? It too is a revealing. Only when we allow our attention to rest on this fundamental characteristic does that which is new in modern technology show itself to us.

Heidegger, 1977, p. 14

Heidegger's concept of the *Gestell* is usually translated as 'enframing', I would argue however that this is an example of where the English translation evokes associations that are not present in the German original. The two most common meanings of 'Gestell' in German are a construction of wooden planks or metal bars, or a solid frame that might be part of a piece of machinery (others include the frame of a pair of glasses, or in the vernacular, a very thin person or in hunting, a clearing in a forest). In either case the term denotes an object of a structural nature, not a process, as Lovitt suggests in a footnote (Heidegger, 1977, p.19): the English 'enframing' foregrounds the act of 'framing something in' or 'enclosing' something, which is arguably much stronger. More importantly however, the English translation as 'enframing' misses the fact that the term *Gestell* shares etymological roots with "bestellen" ("to cultivate", in the agricultural sense) and 'stellen' ("to place"). This etymological connection is crucial, as it highlights that the Gestell and 'bestellen' are both modes of *revealing* - Heidegger's point is that the nature in which this revealing unfolds is different. In order to emphasise this I will use the original German 'Gestell', rather than its English translation of 'enframing'.

The essence of modern technology, it should be clear by now, is not to be found in technological artefacts and/or practices, but in the mode of engagement with the world around us that is expressed by that particular technological artefact or practice. This 'engaging with' is what Heidegger refers to as 'revealing', but in order to grasp the specific nature in which modern technology 'reveals' the world around us, and what this tells us about the nature of ICTs, we should first clarify

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what Heidegger actually means by ‘revealing’. Here Heidegger once again takes us back to the thinking of the Greeks, where the original meaning of things can often be found as yet uncorrupted by subsequent translations and modifications undertaken in the course of Western philosophy.

Where Heidegger uses the word ‘revealing’, he does so to emphasise that it is a process of ‘bringing something forth’ out of the hiddenness of its Being, out into the open so that it can be seen for what it truthfully and originally is. It rests upon the ontological premise that the true Being of things is hidden from our everyday knowledge and engagement with our surroundings and needs to be brought out of this concealed state. For instance, while the statue of Michelangelo’s ‘David’ might have been slumbering in the block of marble, it needed first to be brought-forth as such by the artist. Revealing, as Heidegger points out, is a form of the Ancient Greek concept of *poiēsis*, a “bringing-forth [that] brings hither out of concealment forth into unconcealment” (Heidegger, 1977, p. 11). The point that is important in the current context of thinking about technology, is that there are *various modes* of bringing-forth or *poiēsis*. The purest and most original form of revealing we find in nature (*physis*), which brings things like trees and flowers into being *out of itself*. In contrast to this, Heidegger argues

what is brought forth by the artisan or the artist ... has the bursting open belonging to bringing-forth not in itself, but in another (*en allōi*), in the craftsman or artist. (1977, pp. 10-11, emphasis in the original)

This kind of revealing that requires the involvement of a human actor, such as the artist who brings forth the statue out of a piece of marble, or the craftsman who carves a tool from a piece of wood, is what is meant by the Ancient Greek concept of *technē* (craft), the root of our word ‘technology’. Thus, because of this original connection between the bringing forth of the artist or craftsman and the bringing forth of nature, both being forms of *poiēsis*, Heidegger insists that “[t]echnology is ... no mere means. Technology is a way of revealing” (1977, p. 12).

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Revealing holds true for every kind of technology, from the most primitive chisel (used by the craftsman to create his marble statue) and the hammer (used by the carpenter to drive nails into planks of wood to build his table), through to the most sophisticated modern technological equipment - Heidegger's example is the hydroelectric power station, but we can just as easily substitute something we can more easily relate to, such as our own personal computer or smartphone. As Heidegger notes in the quote at the beginning of this section, modern technology "too is a way of revealing" - both the hydroelectric power station and our smartphone are ways of bringing-forth. At the same time, however, Heidegger acknowledges that there seems something very out of place about the idea that the work of the craftsman and modern high-tech processes like those we engage in via power plants or computers should be the same thing:

one can object that it [revealing] ... might apply to the techniques of the handcraftsman, but that it simply does not fit modern machine-powered technology. And it is precisely the latter and it alone that is the disturbing thing, that moves us to ask the question concerning technology... . (Heidegger, 1977, pp. 13-14)

This obstacle raised by Heidegger runs counter to a number of contemporary accounts of media and information technologies, and especially the internet, that seek to place these technologies within the very same domain as craftsmanship. Drawing on Ivan Illich's concept of 'tools for conviviality' and the ideas of the Arts and Crafts movement, Gauntlett (2011) for instance views the internet as a shared social space, thriving on the creativity of its many users who are creating and sharing content in much the same way that traditional craft activities have been bringing people together for centuries, through the simple process of 'making things'. Similarly Chris Anderson, one-time editor of Wired magazine, has diagnosed a movement of 'Makers' that are using the internet as a stepping stone towards a "Web-like future" characterised by "ever-accelerating entrepreneurship and innovation with ever-dropping barriers to entry" (cited in Morozov, 2014). While the growing number of online DIY forums and similar sites might seem to lend support to Gauntlett's argument, from a Heideggerian perspective the

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pointing to the proliferation of such groupings could be read as the triumph of the *correct* over the true. As Morozov points out, there is a short-sightedness to such fetishisation of tools and the faith placed in their ability to lead us towards a better society. Quoting the libertarian socialist Murray Bookchin, he suggests that it “doesn’t make sense to speak of ‘convivial tools’, ... without taking a close look at the political and social structures in which they [are] embedded? (ibid.).

While for Heidegger the fundamental process of making might connect online creative acts with earlier ways of making things, there is a fundamental difference in the way this making is carried out that we can understand by looking at his concept of revealing. The point for Heidegger is that even though modern technology is just as much as revealing as traditional handcraft technology, *the way in which* it approaches its object to bring forth into being its ultimate purpose, is fundamentally different, in that

the revealing that holds sway throughout modern technology does not unfold into bringing-forth in the sense of *poiēsis*. The revealing that rules in modern technology is a *challenging* [Herausfordern], which puts to nature the unreasonable demand that it supply energy that can be extracted and stored... . (Heidegger, 1977, p. 14, emphasis added)

The revealing that takes place through modern technology, Heidegger insists, is no longer a *poiēsis* and akin to the revealing that occurs in nature or at the hands of the craftsman or artist, but is described as a *challenging* approach and as such is alienated even from the original roots of technology in Ancient Greek *technē*.

In order to comprehend Heidegger’s juxtaposition between revealing as *bringing-forth* and revealing as *challenging*, let us imagine two contrasting scenes: first, let us imagine a farmer ploughing a field, the plough being dragged by a horse, with the farmer pushing along from behind. It is possible to imagine the snorts of the horse and the grunts of the farmer under their heavy labour, the boots of the farmer thick with mud and his shirt drenched with sweat. In our minds

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we can add more details to the scene, such as the smell of earth mingled with animal and sweat, and the blisters on the farmer's hands and his aching limbs after a day's work on the fields. If we imagine, on the other hand, a modern agricultural scene, many of these 'earthy' details will be missing: the farmer will still be there but he won't be trudging through the field but sat high above it, controlling the leavers of a modern agricultural vehicle. The smells of sweat and horse are replaced with diesel fumes. The yield of a day's labour will be much greater of course, but the point for Heidegger is that technological innovation has removed us from what we are engaging with. Thus the tall and imposing vehicles of modern agriculture that raise the farmer high above the field that is the source of his livelihood, are emblematic of the progressive distancing that characterises the course revealing has taken. Where a simple implement like a horse-driven plough or even a spade still allows for intimate contact between the human and the earth, modern agricultural equipment distances the human from his environment. The 'earthy' details described in the first scene (the mud and sweat) are emblematic of the harmonious nature of the relationships between humans and their surroundings and thus the first scene is in keeping with Dasein's mode of being as a being-in-the-world. The second scene on the other hand speaks of a severance of this original connectedness, marked by increasing instances of technological mediation.

Another way of marking this contrast is to consider the difference between the works of art below, the first being Van Gogh's well-known painting of a pair of peasant boots (figure 7.1), the second Andy Warhol's black and white print *Diamond Dust Shoes* (figure 7.2).

We can first contrast these works at the level of the medium in which they are executed. The first is an oil-painting, the singular presence of which in time and space imbues it with what Walter Benjamin refers to as 'aura' in his famous essay "The Work of Art in the Age of Technical Reproduction" (Benjamin, 2008 [1936]). Warhol's work on the other hand, *Diamond Dust Shoes* (1980) is precisely the opposite, a screenprint that is intended to be reproduced, preventing its unique existence in time and space. Thus multiple versions of the above exist in different colourings. Warhol's work exploits, albeit in a critical sense, the very

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Figure 7.1: Vincent van Gogh: A Pair of Shoes (1886)

idea of mass production that is the subject of Benjamin's essay on photography, a point that is heightened by the irony of its title. Warhol's shoes, in contrast to van Gogh's, are precisely not unique. They are devoid of any sense of their owner's identity, reduced to anonymous objects, echoing the theme of mass production that is at the heart of Warhol's work.

The depth of the contrast between Warhol's pile of anonymous shoes and van Gogh's peasant boots reveals itself when we consider the following passage from Heidegger's "Origin of the Work of Art" essay, where he describes the van Gogh's painting:

From out of the dark opening of the well-worn insides of the shoes the toil of the worker's tread stares forth. In the crudely solid heaviness of the shoes accumulates the tenacity of the slow trudge through the far-stretching and ever-uniform furrows of the field swept by a raw wind. On the leather lies the dampness and richness of the soil. ...



Figure 7.2: Andy Warhol: Diamond Dust Shoes (1980)

7.3 Withdrawal from Withdrawal: the “Connectivity” of ICTs

The shoes vibrate with the silent call of the earth... This equipment is pervaded by uncomplaining worry as to the certainty of bread, wordless joy at having once more withstood want, trembling before the impending birth, and shivering at the surrounding menace of death. This equipment belongs *to the earth...* . (1971c, p. 14, emphasis in the original)

For Heidegger, van Gogh’s peasant boots are full of reverberation of the fullness and complexity of the world wherein human Dasein is fully embedded. The shoes depicted in Warhol’s work, by contrast, are imbued with a sterile detachedness from their wearer and the context of their use, an anonymity that is augmented by its technical reproduction.

This point was also made by Jameson, for whom Warhol’s work epitomises the “depthlessness” of postmodernism, where the substance of works like van Gogh’s is hollowed out from within (Jameson, 1991). Arguably, however, today’s cultural logic suffers from an even more radical surface-level superficiality. The “Well Worn” line of the Converse lifestyle footwear brand presents an even more acute contrast to Heidegger’s peasant boots: here, a mass-produced object is artificially imbued with a sense of wornness - the very traces that, if authentic and not produced within the sterile environment of an assembly line - would make it unsellable. The stamp “Well Worn” constitutes a Baudrillardian simulacrum: a copy without an original, which by placing it side by side with van Gogh’s peasant boots and Warhol’s *Diamond Dust Shoes*, shows up the trajectory of progressive withdrawal that marks technological revealing.

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Both the juxtaposition of traditional peasant’s labour with modern-day agriculture, and that between van Gogh’s painting of the peasant boots with Warhol’s *Diamond Dust Shoes* and today’s example of Converse’s “Well Worn” range

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demonstrate that technological development has occurred along a trajectory of progressive distancing: Heidegger’s point is that wherever we use technology to engage with the world, we are doing so in an indirect way - in other words, technology might help us perform a task more effectively, but at the same time, it also removes us from what we are engaging with. This progressive distancing that occurs with the increasing sophistication of technology is what Heidegger refers to as *withdrawal* from authentic Being. This concept describes how human being-in-the-world changes when revealing begins to manifest itself in the shape of the Gestell, and is particularly useful for thinking about how media and communications technologies shape the process of communication, arguably a fundamental component of human being-in-the-world.

In the context of digital ICTs, withdrawal paradoxically manifests itself as the very *connectivity* that is fetishised by uncritical new media discourse. To understand this Heideggerian insight, it is useful to consider a simple example of technologically mediated communication: for instance, a conversation over the telephone is mediated in the sense that a technological implement has lodged itself between two human beings. While this device enables two people living at opposite ends of the globe to “connect” with each other, the complexity of the reality of human communication is compressed into a mediated exchange that either person can choose to terminate at his or her will by putting down the receiver. Media technologies, Heidegger notes, give us the impression of reducing distance, but leave us unaware of how they have changed our idea of what communication, that fundamental aspect of Dasein, is:

All distances in time and space are shrinking. Man ... now receives instant information, by radio, of events which he formerly learned about only years later, if at all. ... Distant sites of the most ancient cultures are shown on film as if they stood this very moment amidst today’s street traffic... . The peak of this abolition of every possibility of remoteness is reached by television, which will soon pervade and dominate the whole machinery of communication. Man puts the

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longest distances behind him in the shortest time. He puts the greatest distances behind himself and thus puts everything before himself at the shortest range. *Yet the frantic abolition of distance brings no nearness; for nearness does not consist in shortness of distance.* (Heidegger, 1971, p. 163, emphasis added)

The way in which Heidegger problematizes our ideas of distance poses an open challenge to McLuhan’s argument that electric media have brought about a ‘global village’, an argument that resonates in the optimistic accounts of the global connectivity of “social media”.

Of the buzzwords that accompanied the rise of Web 2.0, the concept of “social media” is one of the most ideological: a prime example of the “wholesale transfer of value systems” between academic and commercial discourses that characterises commentary on the internet more generally (Cavanagh, 2007, p. 6). By describing the rise of digital communication networks in terms of sociality, it reinforces the dichotomy between “old” and “new media”, suggesting a strange a-sociality in the case of the former and constructing a view of the latter as fundamentally inclusive and geared towards the communicative needs of their users. As Van Dijk argues, “the very word ‘social’ associated with media implies that platforms are user centered and that they facilitate communal activities, just as the term ‘participatory’ emphasises human collaboration” (2013, p. 11). The social networking site Facebook is an excellent example of the readiness of businesses to jump on the ‘connectivity bandwagon’: on its start page (figure 7.3), it promotes itself as “help[ing] you connect and share with the people in your life”:

By presenting itself as an *aid* in this way (note the use of the word “help”), Facebook is reinforcing its status as a tool, a neutral platform where its users can feed their desire for connectedness. However, what is being constructed here as a primordial human need, is in fact an invention of the ideological complex surrounding new media, where needs are created by technological innovation (Apple is another prime example) and fed by techno-evangelist rhetoric. From a Heideggerian perspective, the innate instrumentality of digital communication networks

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Figure 7.3: Facebook start page

arguably reverts connectivity into its opposite, in a way that is similar to how Converse’s “Well Worn” trainers relate to van Gogh’s peasant boots.

Social media like Facebook indeed allows us to form “connections” with people around the globe, giving us access to their status updates, photographs, and other material posted on their ‘walls’, and vice versa, at least to the extent that we have decided to make these available through our privacy settings. Referring to these connections in terms of “friendships” suggests they are extensions of previous forms of sociality, however, the actual content of our online activities demonstrates the extent to which the virtue of connectivity is a simulacrum: a copy without an original. For instance, the documenting of key stages in the lives of our children from the first scan is something that happens without their explicit permission, thus undermining their privacy and potentially affecting their future lives in as yet unforeseeable ways. The point is that social media have contributed to a fetishisation of “connectivity” that is ideologically grounded in a primary human connectedness - precisely Heidegger’s idea of Being-in-the-world. This fetishisation however obscures the innate instrumentality that underlies these forms of networked communication, and that is grounded not in Being-in-the-

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world but in its reduction to mere readiness-to-hand.

The extent to which our concept of connectivity is determined by instrumentality becomes apparent when considering another example: the dating app “Tinder” for smartphones. It connects with a user’s Facebook profile to be able to provide pictures for other users to view. As Tinder uses GPS, a registered user will only see the pictures of people registered in their geographical area. Figure 7.4 is a screenshot of the Tinder start page.

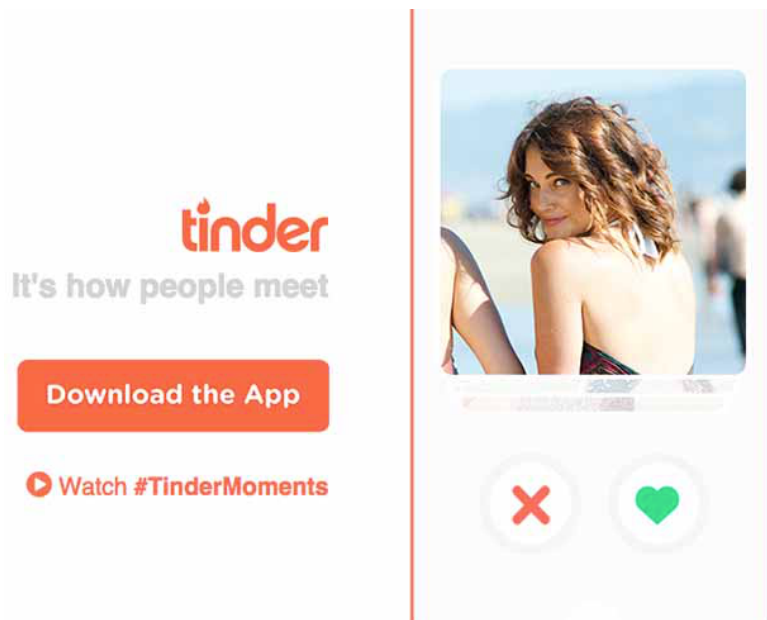


Figure 7.4: Tinder start page

A person registered on Tinder will be presented with a stream of pictures of other registered users that have been selected for compatibility, based on their geographical location, social networks and interests (all this data is collected from a user’s Facebook profile). The user can then sort the ‘candidates’ into two categories depending on whether they appeal at first sight or not, by ‘swiping’ them either to the left (where the red cross is located), or the right (where the green heart is located). Tinder’s slogan is “It’s how people meet”, but I would argue that the instantaneous sorting of human beings into categories similar to Facebook’s ‘like button’ (a ‘dislike’ button has been frequently requested but is

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as yet not available) amounts to a reduction of what Heidegger argues is distinct about human Being. To use a term we discussed at length in chapter five, the ease with which a person can be swiped into a pile of ‘possibles’ or ‘rejects’ signifies a reduction of humans to pure readiness-to-hand.

The problem with describing social media in terms of connectivity, a discourse that is reinforced by the marketing rhetoric used by the networks themselves is not just that they rely on a very limited, instrumental understanding of connectivity. A more serious consequence is that our general ideas of communication are being shaped by these limited, technologised parodies of Heidegger’s idea of human Being-in-the-world. For Heidegger, this is one of the dangers associated with the essence of modern technology: a blindness to the ways in which our thinking is already determined by the logic of instrumentality. Social media highlight how technological revealing is not a connecting, but rather its opposite: withdrawal. As Taylor and Harris (2005) argue, it is in the very nature of technological withdrawal from Being to obscure the extent of this withdrawal. So it happens, as we have seen in the examples of Facebook and Tinder, that precisely through fetishising connectivity digital ICTs achieve its opposite, or what we can be described as ‘withdrawal from withdrawal’.

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Heidegger emphasises that any kind of technology is a mode of revealing. At the same time, as we have seen, there are different modes in which revealing can take place. The ploughing of the field by traditional means and through use of modern agricultural machinery differ in the degrees of separation they incur between Dasein and the world. In the previous section we have seen how these instances of ‘withdrawal’ can be mapped onto media and information technologies to highlight how their emphasis on connecting people masks an underlying process whereby the meaning of connectedness itself is being called into question. The revealing that takes place through modern technology has another tendency however, and

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one that is of particular significance for digital media and information technologies and social networks in particular: what is revealed according to the logic of the Gestell is not revealed in order to expose its true Being, as for instance in the case of Michelangelo's David, which was revealed from the block of marble in the sense that his figure was already slumbering within it. Where revealing takes place according to the Gestell, it approaches its object according to a logic of exploitation, of minimum expenditure and maximum gain.

The concept of exploitation is one evoked by Karl Marx in his critique of capitalism, and is still used in this sense to denote the "extraction of unpaid, coerced, and alienated labour" (Andrejevic, 2011, p. 278). I will argue that Heidegger's critique of technology mobilises a similar concept, one that however is not exclusively aimed at the labour power of human beings and the alienation of human beings from the product of their labour. It is not limited to human beings at all but at the *world as a totality*. Heidegger's concept of exploitation is thus much broader than the Marxist conception of it, because it represents the ultimate consequences of an instrumentality that is grounded in the modern metaphysical interpretation of the world. From this perspective, Marx's concept of exploitation becomes *part of* the Heideggerian conception of exploitation, and in the following sections I will explore the ways in which the exploitation and surveillance in the informational economy can be understood within the frameworks of a Heideggerian notion of exploitation. Marxist approaches to the study of ICTs could thus benefit from engaging with Heidegger, as his ontological account of technology could bring to these approaches the kind of deeper understanding of the complexities of our technological reality that they frequently lack.

To ground a Heideggerian notion of exploitation in his critique of technological thinking, let us for a moment return to his comparison of traditional agricultural practices with modern, industrialised agriculture. This time Heidegger draws our attention to the way in which different modes of revealing act upon their object:

The field that the peasant formerly cultivated and set in order [bestellte] appears differently than it did when to set in order still meant to take care of and to maintain. The work of the peasant does not challenge

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the soil of the field. In the sowing of the grain it places the seed in the keeping of the forces of growth and watches over its increase. But ... the cultivation of the field has come under the grip of another kind of *setting-in-order*, which *sets upon* [stellt] nature. It sets upon it in the sense of challenging it. (Heidegger, 1977, p. 15).

The point that bringing-forth (*poiēsis*) and challenging are *two kinds of revealing* and as such emanate from the same source, as it were, but that they are at the same time so fundamentally different, is much more obvious in the German original: the peasant's 'setting in order' of the field is a *bestellen*, where the 'setting upon' of modern agricultural techniques is a *stellen* - the two concepts have the same etymology. This simultaneous convergence and divergence of the two modes of revealing is another example of the prime importance of etymology for Heidegger in revealing the true nature of phenomena. As I argued earlier, the common etymological root of *bestellen* and *stellen* emphasises that both are types of revealing. This common root gives to both processes a common grounding and origin, but at the same time opens up a space for exploring the different ways in which revealing can unfold, e.g. by means of exploitation, or what Heidegger also refers to as 'challenging' or 'setting upon'.

Where revealing takes place as a 'challenging', whatever is revealed also changes. For instance, the field ploughed by the peasant and the horse vs. the field ploughed through modern agricultural machinery are no longer one and the same field. The former is the source of the peasant's livelihood in the purest sense of the term, the site of his toil and sweat that as such commands that he treat it with respect, that he take care of it and maintain it, as Heidegger argues above. The field of the farmer in the modern agricultural scene on the other hand is a resource from which something of value is extracted, but what is extracted is not connected to the peasant in the same way as where it is the sweat of his manual labour that extracts it, rather it is already destined to be processed further so that its value may increase. The point for Heidegger is that wherever something is approached in the mode of 'challenging', it is hardly even still an 'object', as this suggests something that stands alone with intrinsic value.

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The examples Heidegger uses to make his point often strike us as archaic - which might lend support to criticisms that Heidegger harbours a desire for a return to pre-technological. The frequent references to peasant life do seem to indicate a tendency towards what Taylor (2014) describes as ‘völkitsch’, but as we saw earlier, Warhol’s pop art work Unique Shoes echoes and augments Heidegger’s point. The full extent of the de-objectification of the object that Heidegger argues is characteristic of the Gestell is arguably explored by Baudrillard in his concept of the totalitarian semiotic order. In the System of Objects he explains how in today’s heavily mediated environment, the commodity is no longer imbued with value in the Marxist sense, rather, it acts as a mere signifier in the semiotic sense but without a referent. For Baudrillard consumer society is devoid of real objects - what we have instead are simulacra, signifiers without a signified. The success of the Mac computer brand is an example of this semiotic order - what we consume is not the object but the brand, the latter “full of signification but empty of meaning” (Baudrillard, 2001, p. 17). Baudrillard’s semiotic order takes Benjamin’s point about technical reproduction and makes it total, and thus, can be understood as an updating of Heidegger’s ontologically grounded concept of the Gestell. These clear conceptual links show the depth of Heidegger’s insight when we see past its ‘völkitsch’ associations.

Thus returning to Heidegger, what is approached in the mode of the ‘challenging’ is not left to stand for or by itself to unfold whatever usefulness it might have, but is already ‘switched’ into a cycle of further processing. To emphasise the object-lessness of whatever is ‘switched’ into this cycle, Heidegger introduces the concept of the *Bestand*. This is usually translated into English as ‘standing reserve’, but what this translation passes over is the fact that *Bestand* contains the word ‘stehen’ - to stand, and thus harks back to the way in which humans and things *stand* in the world. An object, for instance, in German is ‘Gegenstand’, that which stands against us. Heidegger’s point that an object absorbed by the Gestell “no longer stands over against us as object”, it has a new kind of standing that is hardly even still a standing as this implies a degree of uprightness, of independence. Any such uprightness is however flattened or levelled by the Gestell:

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Everywhere everything is ordered to stand by, to be immediately at hand, indeed to stand there just so that it may be on call for a further ordering. Whatever is ordered about in this way has its own standing. We call it the standing-reserve. (1977, p. 17)

As Lovitt points out in his footnote on the translation of *Bestand* (Heidegger, 1977, p. 17), *Bestand* (standing-reserve) thus contrasts with explicitly with *Gegenstand* (object), a point that is lost in the English translation.

It is the principle of the Gestell that its revealing is a challenging, and in thus challenging whatever is revealed is revealed as standing-reserve. Heidegger provides a number of examples of how revealing as challenging changes the nature of the thing that is revealed. For instance, he argues that the Rhine river that is the topic of Hölderlin's poem is not the same as the Rhine that is "set upon" by being "dammed up into the power plant" (ibid, p. 16). Where the former reveals the river in the mode of *poiēsis* as an object of beauty, the latter reveals it as the source of water power. While Heidegger admits that in both cases "perhaps" the Rhine remains "still a river in the landscape" (ibid.), its ontological status has been fundamentally changed. It is already integrated into a cycle of processing and storage that functions according to the principle of efficiency, of minimum input and maximum output. The Rhine is part of a cycle of processing that involves the water power supplier, the plant they have built into the Rhine to extract from it the necessary energy and even the humans receiving the power - however, they are not readers of Hölderlin's hymn, admiring the flow of this great river but they have become consumers of the water's energy. The Gestell has thus changed the relationship between the river and *Dasein* from a respectful coexistence to one of pure utility:

The hydroelectric plant is set into the current of the Rhine. It sets the Rhine to supplying its hydraulic pressure, which then sets the turbines turning. This turning sets those machines in motion whose thrust sets going the electric current for which the long-distance power station and its network of cables are set up to dispatch electricity. In

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the context of the interlocking processes pertaining to the orderly disposition of electric energy, even the Rhine itself appears as something at our command. (Heidegger, 1977, p. 16)

Nature isn't approached as the habitat of Dasein within which it is *with* other beings according to its original and authentic mode of being, but instrumentally in that it constitutes a resource that can be mined for profitability. It is important, however, that where both the field that is ploughed using modern agricultural machinery and the Rhine that is mined for its capacity to supply water power have been rendered 'standing reserves' and "at our command" as the above passage suggests, this is not seen as the result of the innovations of the technological instruments that are used in either case. Rather, as I argue in the following section, the Gestell is the ultimate realisation of the technological thinking that emerged with the Western philosophical tradition, the effects of which Heidegger can help us trace in our current information-technological environment.

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Heidegger argues that "[w]hatever stands by in the sense of standing-reserve no longer stands over against us as object" (Heidegger, 1977, p. 17). We noted earlier Heidegger's agreement with the fact that both the river Rhine in Hlderlin's poem and the river Rhine that is 'set upon' by the water power company remain a river running its course through the landscape, so how does this sit with his insistence that the latter, rendered standing-reserve, loses its status as 'object'? This is an important question, because it links back to Heidegger's critique of the Western philosophical tradition which, as we argued in chapter 6, is based on its setting up of the world as 'object' for a human subject to engage with, understand and ultimately control.²⁴ The explanation is that the finitude of objects that is a

²⁴From the perspective of Heidegger, Western philosophy might have come to the agreement that the domain of the *noumenon* or the 'thing in itself' is unknowable as human experience is

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requirement of ‘objectification’ is transcended, as it were, by the tendency of the Gestell to switch whatever it approaches into a cycle of further transformation with the purpose of unlocking from it its maximum utility. As Heidegger argues,

The revealing that rules throughout modern technology has the character of a setting-upon, in the sense of a challenging-forth. That challenging happens in that the energy concealed in nature is unlocked, what is unlocked is transformed, what is transformed is stored up, what is stored up, in turn, distributed, and what is distributed is switched about *ever anew*. (Heidegger, 1977, p. 16, emphasis added)

Where objects are “switched about ever anew” in a cycle of transformative processes to unlock from them their utility, they lose their status as object and become standing-reserve.

Here again we can draw links to Baudrillard’s ‘system of objects’ - for Baudrillard modern consumer society has ceased to unlock even ‘utility’ from objects - they have been reduced to mere signifiers. Baudrillard uses the example of the car to explain how what we purchase is no longer an object that serves our needs as individuals, but a category of object that reinforces our belonging to a particular social category: objects, he argues, have become “categories of objects which quite tyrannically induce categories of persons” (Baudrillard, 2001, pp. 16-17). The SUV is a piquant case in point: SUVs are purchased as symbols of power and invincibility, which is evidenced by the fact that post 9/11, there was a dramatic rise in the sales of SUVs. However, as pointed out in the recent BBC documentary *The Men Who Made us Spend*, the particular design of SUVs in fact means they are twice as likely to roll-over as a standard car.

The production of cars might at first seem far removed from that of computers; however, placing such seemingly disparate examples side by side and viewing them through the prisms of Heidegger’s concept of the standing reserve and Baudrillard’s system of objects, allows us to see the pervasiveness of a mindset where

limited to the senses, but it is characterised by its persisting efforts to overcome these limitations.

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truth has been replaced by correctness: the theme that runs throughout Heidegger's thinking and this thesis to point out instances where our thinking has become so overly rationalized that it displays irrational tendencies (exemplified by the above example of the SUV).

Apple advertises the Macbook Pro as “environmentally friendly”, with the product website emphasising the inclusion of a

highly efficient power supply that reduces the amount of power wasted when bringing electricity from the wall to your computer. Lower power consumption reduces energy bills and lessens the environmental impact of greenhouse gas emissions from power stations. (Apple, 2014)

The fact that Apple decided to include a sealed battery in the Macbook like those already included in the iPod and iPhone, however belies this emphasis on environmental friendliness, as it prevents the user from exchanging the battery in order to prolong the life of his device. The reasoning behind this technical choice is that the user will thus be compelled to buy a completely new device as soon as the battery performance becomes noticeably weaker. This ‘planned obsolescence’ illustrates how Apple’s propagation of an environmentally friendly image, as seen in figure 7.5 “Apple and the Environment” from their website, amounts quite literally to a signifier without a signified in the Baudrillardian sense.



Figure 7.5: Apple and the Environment (Apple, 2014)

Apple has a very rapid cycle of innovation that is designed to tie in with the lifecycle of its products. For instance, the performance of an iPhone will begin to noticeably deteriorate around the time that its successor model is launched, a

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phenomenon that has been referred to as the “Apple trap” (Rampell, 2013): the phone’s software becomes slower to respond and its battery drains much faster. The phone owner is then left with the choice of either investing in a new battery, or purchasing the new model of iPhone that will come in at a fraction of the cost. Customers are thus locked into the “Apple trap”, which is exacerbated by an intricate system of compatibilities and incompatibilities designed to maximise customer loyalty. This is a germane illustration of Heidegger’s point of how the Gestell strips objects of any intrinsic and lasting value, as they are quite literally “switched about ever anew” in a process of constant upgrades.

Heidegger is also very clear that this switching about does not follow random paths, rather, it is characteristic of the Gestell that it manages this process and steers it according to the principle of utility or minimum energy expenditure, maximum productivity. This is what characterises the systemic and totalizing tendencies of the Gestell:

Unlocking, transforming, storing, distributing, and switching about are ways of revealing. But the revealing never simply comes to an end. Neither does it run off into the indeterminate. The revealing reveals to itself its own manifoldly interlocking paths, through regulating their course. This regulating itself is, for its part, everywhere secured. Regulating and securing even become the chief characteristics of the challenging revealing. (Heidegger, 1977, p. 16)

The drive towards objectification that is characteristic of the Western philosophical tradition thus culminates, somewhat ironically, in the loss of objects. As argued earlier Baudrillard’s semiotic order is aimed at a similar “objectlessness”, but what Heidegger offers is an understanding of how this de-objectification must be seen within the context of the tradition of Western thought and how, following on from this first point, technologies must be seen as a manifestation, rather than a cause, of this de-objectification.

Heidegger’s approach allows us to see that, even where it exhibits the Gestell’s systemic, exploitative tendencies in the most drastic way, what manifests itself is

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not a destructive force of technology itself, but the essence of technology that is nothing technological. In fact only if we recognise that the Gestell is the culmination of the modern scientific mindset that is rooted in Western metaphysics does it become fully clear what Heidegger means when he says that the “essence of technology is by no means anything technological” (Heidegger, 1977, p. 4). The essence of modern technology is the Gestell, rooted in the scientific approach to the world:

Modern science’s way of representing pursues and entraps nature as a calculable coherence of forces... The modern physical theory of nature prepares the way first not simply for technology but for the essence of modern technology... Modern physics is the herald of enframing...
(1977, p. 21)

The Gestell is the consequence of the Western metaphysical tradition that gives rise to modern science because in this approach to understanding the world (setting up the world as what Heidegger refers to as ‘world picture’, a notion with particular relevance to technology that we explored in chapter 5), control is already inherent.

It follows that the Gestell, the cyclic or systematic exploitation of nature as resource, cannot be a *consequence* of modern technology: in the same way as the craftsman’s chisel did not give rise to revealing as *poiēsis*, modern technology did not provoke a revealing that is a challenging (as a modern phenomenon challenging, of course, has no Ancient Greek equivalent expression). Rather, the reverse is true:

Particular kinds of technology in the ordinary sense of gadgets and tools and machines only *respond* to this enframing [of the Gestell] - they are the consequence, not the cause, and, as such, help reveal things as standing reserve. (Leverette 2008, p. 345, emphasis added)

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The importance of this point cannot be emphasised enough as where technology is seen as the cause of the exploitative approaching of the world that we witness in numerous contexts, it is easy to frame one's critique along Luddite lines where technology itself becomes the object of critique. A current example that stems not from the field of ICTs but illustrates the difference between a critique that is aimed at the technological vs a critique that is aimed at the essence of technology is the much hyped extraction of natural gas from the earth by the process of hydraulic fracturing or 'fracking'. This is a controversial practice as it is necessary to drill deep pipelines into the earth and to fill these with toxic fluid in order to be able to fracture the shale rock and release the gas. The risks of surrounding earth being contaminated by the fracking fluid, combined with the enormity of resources needed to drill the underground pipelines are emblematic of an approaching of the earth as 'raw material' in the exploitative sense of the Gestell. Thus, the millions of tons of water needed for the drilling process are 'switched' into the cycle of processes needed for the extraction of gas. Where criticisms of 'fracking' frequently focus on fracking as a technological process, emphasising the "dangers of fracking", from a Heideggerian perspective the problem is not a technological one but rooted in the exploitative mindset for which the fracking technology is only a vehicle. This demonstrates once again that Heidegger's perspective is not compatible with a demonisation of technology, as technology is only the visible manifestation of its deeper underlying essence that is in itself "nothing technological" (Heidegger, 1977, p. 4)

To demonstrate even more clearly how the systemic, totalising tendencies of the Gestell map onto our current information-technological environment the next section will look at some more specific examples. As I have sought to emphasise throughout this thesis, it is the interconnectedness of all digital data-processing entities, the existence of an *immaterial* matrix of data flows beneath the *material* manifestations of these technologies that calls for the urgent attention of critical thinking, as they enable the surveillance and commercial exploitation user's online activities. I argue that a critique drawing on the abstract tendencies of philosophy of technology is particularly suited to such a project, as it does not

get too distracted by particular devices or applications but retains its focus on the unifying features of these technologies.

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Criticisms of Heidegger's thinking on technology mostly centre on the claim that he is overly abstract, making only very infrequent references to specific technological objects. Verbeek for instance argues that Heidegger is out of touch with "technology itself" (2005, p. 62), and Feenberg is deeply critical of what he sees as Heidegger's conflation of the complexity of modern technology to simple instantiations of the essence of the Gestell (Feenberg, 1999 and 2000). In response to such critiques I would argue that Heidegger's ontology of technology is by definition, and deliberately, general: it was not developed as a critique of a particular technological phenomenon. The fact that he spends so little time analysing examples of technological objects is necessitated by his critique of mainstream thinking on technology and the distinction that he offers in replacement of this, that between the realm of the "merely technological" and its deeper underlying essence. He is trying to steer us away from what he sees as "correct" determinations towards the *unifying* features of modern technologies.

To remind ourselves of what is meant by "correct determinations" we can consider the "celebratory claims of rupture and transformation" (Andrejevic 2009:36) that have accompanied the steady rise of social media. In academic circles, political discourse and the mainstream media, social networks like Twitter and Facebook have been construed as the most powerful tool for protest in the 21st century, whether for spreading democracy through the Arab world or for organising anti-government riots like the Tottenham riots in London in 2011. However, as Andrejevic (2009) has argued, there is a danger that amidst all this emphasis on change, we might lose sight of the structures of power and capital underlying these user activities that have remained intact and which largely determine the extent and directions user activities can take. Where critical theories of the media and ICTs are already zeroing in on these questions, I argue that Heidegger's

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approach adds a new dimension to this understanding by allowing us to situate practices like surveillance and the exploitation of user data in the context of wider tendencies united by their adherence to the logic of technical rationality, or, in Heidegger's words, the logic of the 'Gestell'.

Rather than being a hindrance, I argue that the abstract tendencies of this concept allow us to consider the unifying features of such diverse phenomena as social networking sites, CCTV surveillance systems and smart cards. In line with Heidegger's emphasis that the essence of technology is not to be found in technology itself but in the logic that it articulates, it becomes possible to see how beneath a surface of benign everyday user activity - the data produced via this activity combines with its conversion into economic or political value in a single informational system. As Gehl argues:

In a typical Web 2.0 site, there is a surface, where users are free to produce content and make affective connotations, and there is a hidden depth, where new media capitalists convert user-generated content into exchange-values. (Gehl, 2009, p. 25)

At the perhaps least disturbing end of the spectrum lies the commercial exploitation of the data created by users' everyday wired activities. The data created by users on social networking sites for instance - through posts, comments on other people's posts and supposedly personal messages - is collected and categorised in order to maximise the profits from the sale of targeted advertising, which will then appear on the user's profile. Similarly, by using the "free" services of the internet giant Google (search engine, email, office software, etc.) users are giving the company permission to collate this data and sell it on to advertisers. The point is that users' online activities are translated into "patterns of interaction, movement, transaction, and communication" (Andrejevic, 2007, p. 296) and rendered commercially productive.

This illustrates the surface/hidden depth structure of online activities noted by Gehl, but from a Heideggerian perspective we can distinguish between these layers in terms of the correct and the true: on the surface we have the convenience

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of the technological functionalities - but Heidegger reminds us that it is precisely the well-oiled running of the machine that should make us alert:

Everything functions. That is exactly what is uncanny. Everything functions and the functioning drives us further and further to more functioning. (Heidegger, 1993 [1966])

The monetisation of our convenient usage of these technologies is not just an exploitation of a technological opportunity, but part of a more general technological rationality.

It is within this context that we also need to place our understanding of the increasingly sophisticated strategies adopted by marketers. The importance of correlating information about a user from different sources is becoming increasingly important in order to construct a detailed profile of this person's interests and habits - a practice that is facilitated by the fact that data created by the user in one context (e.g. via his activities on social networks or an online search) is no longer retained in this context but can be accessed and combined with other data, a process Marwick & Boyd (2010) refer to as the "content collapse". Thus, an online search for a flight from Munich to Athens will lead to a related ad being posted on the user's Facebook profile, a browse through a department store's sale section will lead to the products viewed being offered again on the dictionary website Leo.org. A poignant example that is by now well-known is the case of a father who discovered his teenage daughter's pregnancy through the coupons for baby clothing that the US retail giant Target sent in the post, based on her previous purchases. Offline and online activities are combined and become searchable for marketers looking for

combinations of past behaviour, location, demographics, and temperament, that make individuals more likely to be influenced by a finely-pitched marketing appeal. For this new hype of marketing no detail of an individual's life is irrelevant: all contribute to the generation of correlation-based patterns. (Andrejevic, 2009b)

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The activities of users from which this kind of information can then be mined has been referred to by Critical Theory approaches as “digital labour”, “exploited” by corporations (Andrejevic, 2011), and it is worth exploring these arguments in a little more detail as this will show how Marxist critique, despite the widespread antagonism most Marxist thinkers hold towards Heidegger, does indeed fit within Heidegger’s more general critique of technological rationality.

As noted earlier, the Marxist notion of exploitation requires this labour to be “unpaid, coerced, and alienated” (2011, p. 278). The activity performed by Facebook users is certainly unpaid in that no financial remuneration is involved - they are users of a so-called “free” service, and are creating data as part of the communicative activities the service offers them - posting about themselves and responding to the communications of others. When it comes to the question whether this activity is coerced, meaning that users have no choice but to perform these activities, some might argue that there is no obligation to use the services offered by Facebook & co., that users are entering into an agreement with Facebook of their own accord and are thus accepting Facebook’s terms of use. In Facebook’s Data Use Policy, how the data collected from user activities will be utilised is clearly outlined, thus it might be said that users are fully aware of the commercial use of their data:

We may put together your current city with GPS and other location information we have about you to, for example, tell you and your friends about people or events nearby, or offer deals to you in which you might be interested. We may also put together data about you to serve you ads or other content that might be more relevant to you.
(Facebook, 2014)

Utilizing Etienne De La Boetie’s near 500 year-old concept of ‘voluntary servitude’, which argues that the rule of a tyrant is only possible by the submission of the people, it could be argued that the users of Facebook willingly contribute to their surveillance and the commercial exploitation of their data. We can draw a comparison with the notion of ‘informed consent’, borrowed from medical ethics,

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which is often invoked in the context of political surveillance (The Economist, 2013). The argument is that the user has been given the chance to make an informed *choice*, and that by agreeing to the terms of use of the given device or service, also agrees to the consequences of this use.

However, in the case of Facebook the question of ‘informed consent’ or even ‘choice’ is highly problematic. With Facebook being the most popular social networking site worldwide (Fuchs, 2014) and counting two thirds of UK internet users amongst their user base, there is arguably an element of coercion in that no other network can offer users similar coverage - joining other networks would come as a significant disadvantage. Further to this, even though Facebook outlines, however sketchily, how it will use the data from its users, and even though it emphasises that their privacy policy gives users the power to “decide what and how much [they] share”, most users are unlikely to go through this information. As Fuchs points out, “the policy’s complexity and length makes it unlikely that users read it in detail”, and further, that no privacy settings exist that would allow users to disable advertising on their profiles. So taking into account Facebook’s dominant status, the unlikeliness that the user is fully aware of how his data is being used, and the fact that he cannot opt out of advertising strongly suggest an element of coercion.

Finally, Andrejevic argues that labour is exploited where it is alienated, in Marxist terms this means that the labourer is ‘alienated’ from the product of his labour in that he has no use of it, rather it is turned back on him for purposes of control. In the case of Facebook, the value of the ‘labour’ undertaken by Facebook users is indeed something they are alienated from in that the value extracted from their online activities is uncoupled from the original purpose of the activity: users have no ultimate benefit of the sale of their information other than being able to use the service.

I have pointed out how new media are on the one hand portrayed as ‘tools of conviviality’ and on the other, as facilitators of governmental surveillance and commercial exploitation. Alienation arguably occurs precisely because these two

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perspectives coincide. Beneath the material manifestation of Facebook as a technology or application that users engage with, lies an immaterial matrix of commercial and governmental interests, or, as Andrejevic puts it, a

virtual construct that allows us to defy the laws of physics by gossiping globally, but one that is subject to manipulation by those who control the infrastructure. (2011, p. 280)

It is precisely this inherent ambiguity that Heidegger's ontological approach is suited to exploring. His concept of the *Gestell*, criticised by many as abstract, makes it possible to expose the deeply rationalising tendencies that ICTs exhibit but which precisely cannot be pinned down to any particular form of usage. It captures the multi-layered and inherently contradictory nature of the digital informational system: both the benign user activities that constitute its surface and the instrumentalisation of this data by governments and corporations underlying these activities.

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In contrast to most celebratory mainstream accounts of ICTs I have sought to emphasise that we need to beware of one-sided accounts that dissociate the emancipatory potential of these technologies from an awareness of the processes of surveillance and the commercial exploitation of users' personal data that run parallel to users going about their 'emancipatory' online activities. It is worth reminding ourselves, however, why a continued emphasis on this underlying dimension matters - what are its implications for the individual and society? Critiques of surveillance have largely been framed in terms of the infringement of individual and collective privacy, but more recently the argument has been made by Critical Theory that critique must not be restricted to questions of privacy, but must also take into account larger issues of power and control (Andrejevic, 2011). The question is, what can Heidegger offer in terms of a critical evaluation of our communicative infrastructure that isn't already problematized by Critical

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Theory approaches, and what would the advantage of such a critique be? This section will briefly address the problem of limiting critique to matters of privacy, before answering the question as to the explicitly critical dimension in Heidegger's thought that lends itself to a critique of power and control in the informational infrastructure.

The case of the Target customer whose father discovered her pregnancy after a number of vouchers for pregnancy-related items had arrived in the post is a poignant illustration of how debates around the commercial use of user data have centred around invasions of privacy. The punch line of the story was the fact that the retailer had 'overstepped a mark' by violating a customer's privacy. A representative of the American retailer admitted that

[i]f we send someone a catalog [sic] and say, 'Congratulations on your first child!' and they've never told us they're pregnant, that's going to make some people uncomfortable... even if you're following the law, you can do things where people get queasy. (cited in Hill, 2012)

The point is that where people feel their privacy to be invaded, they might make their feelings known. In cases such as this they have the option of complaining against the offending party (as it happened in the case of Target), in other cases however there is only the option of complying with the invasion of one's privacy, or being denied access to a service or product. This is the case with airport security, for instance, where travellers need to subject themselves to random searches of their luggage, pass through security scanning equipment and have their bodies searched for forbidden goods. Should they object to such treatment, they will not be permitted to board their plane.

A further complication is that what one person might consider an invasion of his/her privacy, might be admissible for another person. What is seen as 'private', theorists like Helen Nissenbaum for instance argue, depends on the context (Nissenbaum, 2010). However, it is risky to rely on a person's subjective assessment of whether they are feeling violated, as the further development of the Target example shows as companies learn from expressions of subjective feelings

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of violation and adjust their tactics accordingly. As the Forbes journalist relates, in order to pre-empt the feeling of ‘spookiness’ that was a sign that the customer’s privacy had been violated, Target “got sneakier about sending the coupons”:

instead of sending people with high pregnancy scores books o’ coupons [sic] solely for diapers, rattles, strollers, and the “Go the F*** to Sleep” book, they more subtly spread them about. (Hill, 2012)

A Target employee was cited as admitting how

we started mixing in all these ads for things we knew pregnant women would never buy, so the baby ads looked random. We’d put an ad for a lawn mower next to diapers. We’d put a coupon for wineglasses next to infant clothes. That way, it looked like all the products were chosen by chance... we found out that as long as a pregnant woman thinks she hasn’t been spied on, she’ll use the coupons. She just assumes that everyone else on her block got the same mailer for diapers and cribs. As long as we don’t spook her, it works. (Hill, 2012)

Privacy remains an important issue, in particular for the subjective experience of the human being concerned. However, what this example shows is that critiques of surveillance practices must not be *limited* to critiques of privacy invasion as that way, as long as corporations remain within the legal boundaries of privacy legislation, they are free to continue with customer surveillance for marketing purposes. As Andrejevic argues, it is vital that debates about privacy should not

come to stand in for discussions that might more directly address the question of who controls the information infrastructure and for what ends - questions, in other words, of the power that both shapes the use of new media technologies and the ways in which these uses in turn reproduce existing power relations. (2011, p. 279)

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Andrejevic argues that the use corporations make of the data collected from their customers needs to be analysed in terms of the Marxist concept of ‘exploitation’ in order to “invoke questions of power and control” (ibid.). So the question, as noted at the beginning of this section, is what Heidegger can offer that isn’t already problematized by Critical Theory approaches? Is it possible to distil a critique of power and control in this infrastructure from Heidegger’s philosophy of technology, and is there an advantage of this critique over other approaches?

I argue that although Heidegger’s network ontology does not contain an explicit critique of the concept of power, we can distil such a critique, in terms of the interaction between humans and technology, from his ontological approach, by recalling what contrasts Heidegger’s network ontology from Latour’s ‘network metaphysics’. Heidegger offers us an ontological understanding of technological objects that allows us to conceive of them as nodes in a network of material and immaterial forces. In this network, both animate beings and inanimate objects interact in a way that is similar to the ‘network metaphysics’ of Bruno Latour. However, unlike Latour, who places humans and things on the same ontological plane, Heidegger reserves a privileged position for human being, which he marks with the specific title of DASEIN. Despite the fact that Dasein’s mode of Being is a Being-with, rather than the Being-over-and-against that emerges from the Cartesian subject, it is distinguished by its having an understanding of its own Being. Heidegger is very clear that this is a property that is characteristic of Dasein and that belongs to no other kind of Being.

This special position of Dasein is moreover evident from the place it occupies in Heidegger’s network ontology - which is organised around spatial relationships. Even the most banal piece of equipment *approaches* Dasein through this readiness-to-hand. Where Western metaphysics has elevated the human subject above the world he inhabits, Heidegger acknowledges the fundamental impossibility of this task. His concept of Dasein is an attempt to understand Being in terms of the mutual imbrications between the human and his surroundings. What this means for our understanding of our own information-technological environment is that efforts to put these technologies to more ethical uses will not extricate us

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from the fundamentally technologised forms of Being that characterise our Being-in-the-world. However, the point is that Dasein has a fundamental capacity for recognising these forms of Being.

It has been argued that a critical theory of ICTs requires a normative concept of power (Fuchs, 2014) - meaning it must take a political standpoint against the abuse of power and condemn all behaviour and activity that is based on or contributes to its abuse. Latour's actor network theory doesn't allow for a normative critique of power within the network of human-technology interaction because power is merely conceived of in terms of one actor's capacity for affecting another actor in the network. In fact he argues that an understanding of power in the network of human and non-human entities (which include technological objects) has no need of "stable actors, ... stable statements [or]... a stable repertoire of beliefs and interests" (Latour, n.d., p. 129), rather he advocates a view of society that is without a fixed point of view. Ultimately, Latour seems to be advocating the precise opposite of what Horkheimer sees as the defining characteristic of a theory that is 'critical', in the sense that it is aimed at not only analysing, but *changing* the status quo. Latour argues that all that (social) science can, and ought to do, is describe - it cannot explain and it does not allow of any judgements that "transcend the situation" (ibid., p. 130) - meaning that are external to the network. The point is, however, that in Heidegger's network ontology there is no need for a judgement external to the network because as the only being that has an understanding of its own Being Dasein forms part of the network and is endowed with the capacity to reflect on its own conditions of existence.

So although Heidegger is not part of the notion of Critical Theory in the way Horkheimer originally conceived it, his concepts can help us formulate a critique of issues in the field of ICTs that so far have been framed in Marxist terms, such as the 'exploitation' of digital labour. Heidegger doesn't use the notion of 'exploitation' as such, and his concept of the *Gestell* as a challenging revealing that no longer approaches objects as objects but only ever as "standing-reserve" appears in the first instance aimed at the natural world:

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The revealing that rules in modern technology is a challenging [Herausfordern], which puts to nature the unreasonable demand that it supply energy that can be extracted and stored as such. (Heidegger, 1977, p. 14)

We can understand the ‘challenging’ of nature as its reduction to mere raw material, and this is precisely what the river Rhine has become by being switched into the cycle of processing for the extraction of water power. In our own earlier example water, rock and other materials are set upon for the extraction of shale gas from the earth through the process of fracking. Yet we know that it is never the technologies themselves that are responsible for the challenging setting upon nature to extract from it its maximum yield. Humans are involved in this process of challenging, both as consumers of the energy that is exploited, and as active agents in the process of exploitation - from the worker driving the machinery, the managerial staff of the company through to the politicians that decide on how a country’s energy supply is met.

Heidegger is clear, however, that the revealing that manifests itself as a challenging under the logic of the Gestell, though it might be *executed* by human beings, is not under their control:

Who accomplishes the challenging setting-upon through which what we call the real is revealed as standing-reserve? Obviously, man. To what extent is man capable of such a revealing? Man can indeed conceive, fashion, and carry through this or that in one way or another. But man does not have *control over unconcealment itself*... (1977, p. 18, emphasis added)

While revealing in the way of the Gestell occurs not “beyond human doing”, it does not occur “exclusively in man, [n]or decisively through man” (ibid., pp. 23-24) either. The reason is that “[o]nly to the extent that man for his part *is already challenged* to exploit the energies of nature can this ordering revealing happen” (ibid., p.18).

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This is an absolutely crucial point: for Heidegger, the setting-upon nature to extract from it its maximum utility is not a process that human beings have control over, in the sense of giving the original impetus for it and having the capacity to call a stop to it at any given time. What he is saying is that human beings are themselves subject to the same challenging setting-upon that they then exercise over their surroundings, in other words, the *Gestell* is not a purely human activity of control over nature, rather it is something that takes hold of human beings themselves and treats them in the manner of standing-reserve. Where we witness the exploitation of nature's natural resources, this exploitative approach to our environment is neither a result of the technologies used, nor is it within our command as humans because it has already claimed us in a way that shapes our thinking. As Heidegger argues,

when man, investigating, observing, ensnares nature as an area of his own conceiving, he has already been claimed by a way of revealing that challenges him to approach nature as an object of research, until even the object disappears into the objectlessness of standing-reserve. (1977, p. 19)

Here we see again the continuity that Heidegger sees existing between the basic tenets of Western philosophy and modern technology. The setting up of the world as object that is characteristic of Western metaphysics manifests itself in modern science as much as it does in modern technology, both being modes of revealing that objectify and seek to bring under control. From this perspective, the *Gestell* emerges as the ultimate consequence of this trajectory that has ended in the de-objectification of objects, rendering them mere standing-reserve.

The precarious consequence for human beings that Heidegger sees as a result of this process is that human beings themselves, where they no longer stand as subjects over and against objects, that in this general 'objectlessness' the difference between human beings and inanimate objects is eradicated:

As soon as what is unconcealed no longer concerns man even as object, but does so, rather, exclusively as standing-reserve, and man in

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the mist of objectlessness is nothing but the orderer of the standing-reserve, then he comes to the very brink of a precipitous fall; that is, he comes to the point where he himself will have to be taken as standing-reserve. (Heidegger, 1977, pp. 26-27)

Where Heidegger's ontology is defined by its upholding of the ontological difference between Dasein and other beings, it is the catastrophic effect of the Gestell that this difference is threatened, and human beings themselves are rendered worse than objects, namely standing-reserve. From this perspective, Latour's ontological levelling of humans and objects emerges as Heidegger's worst fear as it obliterates the privileged status of human Being that is evidenced by its own ontological category as the only being that has an understanding of its own being, in a way similar to the Gestell.

It can thus be said that the defining characteristic of the Gestell is the de-objectification of objects and the de-humanization of humans, reducing both to the status of standing-reserve. Rather than being just an ontological catastrophe, however, the consequences of this ontological reduction manifest themselves in the everyday in a very real and concrete manner. Heidegger for instance argues that the "current talk about *human resources*, about the *supply of patients* for a clinic" (Heidegger, 1977, p. 18, emphasis added) is evidence of this tendency. Where corporations conceive of their employees as human resources, these employees are not approached as human beings amongst human beings in line with Dasein's authentic being-in-the-world as a being-with, but in the manner of raw material. This reduction of human beings to the status of standing-reserve, or resource material, I would argue, manifests itself in today's information-technological infrastructure to an even greater extent, with the commercial exploitation of user data created via their activities on social networking sites like Facebook being a case in point. These issues have been raised by Critical Theorists who draw on the ideas of Adorno and Horkheimer, but where there could be a fruitful dialogue with Heidegger's ideas to gain an even greater understanding of the processes of rationalization and instrumentalisation, there is a blind spot.

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Another example that is particularly apposite to this thesis, and which is currently mainly analysed from the position of Marxist critique, is the production of consumer electronics. Fuchs (2014) relates how extensive foreign direct investment has created an ICT industry in China that employs millions of labourers mostly from extremely poor, rural areas. The work undertaken by the mostly female workforce is characterised by low wages, low job and social security, low skills, repetitive and laborious work, long working hours as well as work that poses risks to the employees' health. Apple²⁵ products, including the iPhone and the iPad, the world's most popular smart phone and tablet pc respectively, are manufactured in a network of factories in southern China, including the Taiwanese supplier Foxconn, who, with more than 1 million employees, is the largest private sector employer. Though not the only company that has come under scrutiny, a number of occurrences at this particular site over recent years highlight the extent to which the production of affordable consumer electronics for the West relies on the dehumanization of people in developing countries. A report by the *New York Times* outlines the harsh conditions under which these consumer goods are manufactured:

the workers assembling iPhones, iPads and other devices often labor in harsh conditions... Employees work excessive overtime, in some cases seven days a week, and live in crowded dorms. Some say they stand so long that their legs swell until they can hardly walk. (Duhigg & Barboza, 2012)

These poor working conditions are exacerbated by the high risks working environments created by a lack of attention and concern for employee safety. The report relates an instance where

137 workers at an Apple supplier in eastern China were injured after

²⁵Apple is not the only electronics company doing business within a troubling supply system. Bleak working conditions have been documented at factories manufacturing products for Dell, Hewlett-Packard, I.B.M., Lenovo, Motorola, Nokia, Sony, Toshiba and others.

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they were ordered to use a poisonous chemical to clean iPhone screens.
(ibid.)

In 2011, two explosions at Chengdu production sites of the iPad injured 77 people and killed four, despite Apple having been alerted to the hazardous conditions at the site (ibid.). These occurrences highlight the real human cost that lies behind the immateriality and airlight rhetoric of companies like Apple. Apple's characteristic design of its consumer electronics in spotless white belies the dark and sinister materiality underlying their production. The gleaming, near-translucent appearance of these products allows them to withdraw into complete readiness-to-hand: what withdraws is the essence of these technologies, the Gestell, which reduces human beings to raw material or standing-reserve. Thus a young man disfigured in an explosion at the Foxconn plant in 2012 was merely "one of the millions of human cogs powering the largest, fastest and most sophisticated manufacturing system on earth" (Duhigg & Barboza, 2012). The abstract systemic nature of the Gestell that renders human being-in-the-world a *being-in-order-to*, a being that has become instrumentalised, is manifest in the opposition between corporate interests and the welfare of the individual characteristic of large corporations. The above examples illustrate in horrific clarity the impact of the rule of instrumentality on the experience of the individual, a phenomenon also described by Marcuse in his work *One-Dimensional Man* (1991 [1964]). What I am trying to show is how this critique can be, and in Marcuse's case very probably was, grounded in Heidegger's critique of instrumentality.

I have repeatedly emphasised the cyclical nature of the Gestell: what it is approached in the manner of the Gestell is "switched about ever anew" in "manifoldly interlocking paths" (Heidegger, 1977, p. 16). This interconnectedness is precisely evident in the consumer electronics supply chain, as even companies like Foxconn rely on other companies for smaller parts and/or the supply of raw materials. The latter are mined in African countries like the Congo and Rwanda, where conditions of labour are often extremely precarious and workers often suffer the threat of grievous bodily harm. The NGO "The Enough Project" for instance has ranked the worlds' leading manufacturers of consumer electronics according

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to their efforts to reduce ‘conflict minerals’ from Congo in their production. Apple was ranked 9th amongst the companies who

have taken proactive steps to trace and audit their supply chains, pushed for some aspects of legislation, exercised leadership in industry-wide efforts, started to help Congo develop a clean trade. *But they can still dig deeper in their supply chains and outreach.* (Raise Hope for Congo, 2014)

Samsung and Sony on the other hand are ranked distinctly lower, as companies who

have taken some steps to investigate their supply chains, and are members of industry-wide efforts. But more commitment and action on tracing, auditing, certification, and legislative efforts is required of them (ibid.).

The mobile phone manufacturer HTC on the other hand has been ranked second to last as a company that has done

next to nothing to shift their practices toward conflict-free from Congo. They are not members of industry-wide efforts, have not taken the proper steps to investigate their supply chains, have said nothing about legislation, and are not actively engaged with other stakeholders. (ibid.)

What is clear from the above is that the exploitation of one actor in the ICT supply chain relies on the exploitative practices of another actor higher up in the chain. Thus emerges a cycle of exploitation that shows great similarities to Heidegger’s theory of the Gestell as a cycle of setting upon nature following the principle of efficiency (i.e. minimum input, maximum output). By understanding these exploitative practices in terms of an ontological concept like the Gestell

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such critiques acquire a philosophical grounding that moves them beyond merely correct interpretations of technology.

A question that presents itself is whether it would be possible for a company to produce an electronic device like a mobile phone outside this cycle of exploitative processes that would thus ‘spring open’ the logic of the Gestell. In 2013, production of the ‘Fairphone’ began with an initial production size of 25,000. Based in the Netherlands, Fairphone is a social enterprise aimed at producing an ethical smart phone using “conflict-free, fair resources that put people first” (Fairphone, 2014).

At first glance, this ‘ethically produced’ piece of technology could be seen as realising the hopes harboured by traditional Marxism that technology could be freed from the grip of negative rationalizing forces and turned towards positive aims. As Marcuse writes:

The classical Marxian theory envisages the transition from capitalism to socialism as a political revolution: the proletariat destroys the political apparatus of capitalism but retains the technological apparatus, subjecting it to socialization. There is continuity in the revolution: technological rationality, freed from irrational restrictions and destructions, sustains and consummates itself in the new society. (Marcuse, 1991 [1964], p. 31)

Similarly, current Critical Theory approaches are looking to alternative social networking sites like Diaspora, which in a clear effort to distance itself from commercially oriented sites like Facebook, claims that “Diaspora will never sell your social life to advertisers, and you won’t have to conform to someone’s arbitrary rules or look over your shoulder before you speak”. As Seignani points out, Diaspora’s data storage and management is not centralised like it is with Facebook and Google+, and that effectively, it “protects its users and their personal data from exploitation” (Seignani, 2012, p. 611). However, Diaspora cannot guarantee its users protection from surveillance, as the immateriality of the digital data flows forecloses all possibilities of such a guarantee.

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A closer analysis of the production of the Fairphone shows in a very similar way how the systemic nature of ICTs interferes with the hopes for a socialization of ICTs, a nature that is captured by Heidegger's concept of the *Gestell*: while the Fairphone contains specific components made of tantalum and tin from conflict-free mines in Congo, these in all likelihood amount to no more than 1 gram of the device (Beschke, 2014). The origins of the larger section of raw materials utilised in the production of the phone is unknown. Another point made is that "conflict-free" is not identical with "fair" based on the fact that the certifications of the Congo mines, whilst ruling out extreme practices like child labour, are not exhaustive. Further to this, the remuneration of workers at the A'Hong factory in China where the phone is produced is such that it covers the minimum wage plus overtime compensation, but it is less than the living wage, defined as the wage "needed by a small, young family to eat and live". Thus, the shortening of the working week might even work against the interests of workers who desire to work longer hours to balance their low wages.

What these structural problems illustrate is the complexity and interdependence of the various stages in the consumer electronics supply chain, so that even where one element is singled out and made 'fair', it still relies on processes further up in the chain that might not be, and further along in the chain it might become part of processes that are again exploitative in their nature. Thus, in the final instance, even if it were possible to single out the production of the 'Fairphone' in the way I have just argued it is not, the computer mouse used by the person placing an order for the phone is likely to have involved precisely the exploitative processes they are looking to condemn by their purchase.

The above examples demonstrate the depth of Heidegger's insight, illustrating the systemic, highly interconnected and exploitative tendencies of the *Gestell*:

the revealing that rules throughout modern technology has the character of a setting-upon... That challenging happens in that the energy concealed in nature is unlocked, what is unlocked is transformed, what is transformed is stored up, what is stored up is, in turn, distributed, and what is distributed is switched about ever anew. Un-

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locking, transforming, storing, distributing, and switching about are ways of revealing. But the *revealing never simply comes to an end*. Neither does it run off into the indeterminate. The revealing reveals to itself its own manifoldly interlocking paths... . (Heidegger, 1977, p. 16)

The increasing use made by corporate entities and governmental actors of data created by users' activities online have been criticised in Marxist terms as the exploitation of digital labour and described as a surveillance-industrial complex (Fuchs, 2013). With very few exceptions (such as the work of Andrew Feenberg, more recently also the work of Paul Taylor and David Gunkel), Critical Theory approaches to ICTs have been resistant to engaging with the thought of Martin Heidegger. However, the discussion we have just undertaken shows that the conceptual frameworks Heidegger employs in his critique of modern technology strike at the very same tendencies that are subject of Marxist critique, namely the exploitation of human labour in the capitalist system. Though Heidegger does not mount an explicit critique of capitalism, this critique is more than implicit in his critique of the realities of our thoroughly technologised environment, as the following example makes clear:

The forester who, in the wood, measures the felled timber and to all appearances walks the same forest path in the same way as did his grandfather is today commanded by *profit-making* in the lumber industry, whether he knows it or not. (Heidegger, 1977, p. 18, emphasis added)

Where Heidegger's *Gestell* reduces everything to raw material, Marx argues the market reduces everything to a commodity. In both cases, Andrew Feenberg argues, we are dealing with "totalizing schemas of a kind of uncontrollable and inhuman force overtaking traditional forms of life" (Feenberg, 2012).

7.8 Summary

This chapter has focused attention on Heidegger's concept of the Gestell: *his* account of the rationalizing forces of modernity, which for Heidegger is inseparable from the development of a Western subjectivity. I have emphasised that this concept is Heidegger's account, as I have aimed to show where looking at contemporary issues in information and communication technology through the lens of his thinking, we encounter the critiques of other thinkers, in particular that of the Frankfurt School of Critical Theory. There are other theories of technological modernity, and in the next chapter I will engage with that of the Polish sociologist Zygmunt Bauman, but as much current critique of ICTs takes its cue from Marx's critique of capitalism, I have attempted to bring Critical Theory and Heidegger in dialogue with one another where this dialogue can shed light on urgent issues such as surveillance and the exploitation of our online activities. It is important to emphasise, however, that I see Heidegger's ontological account of technology as a valuable supplement to existing critiques, in line with philosophy's tendency to "make things simple", in the words of John Durham Peters (Peters, 2008).

As such I hope to have opened up a space for more sustained dialogue between philosophy and technology and Critical Theory of ICTs, and in particular I hope to have made an argument for why Heidegger's thinking deserves special attention. The possibility of a fusion between Heidegger's phenomenology and Marx's critique of capitalism has been explored by a number of thinkers, notably Herbert Marcuse and Andrew Feenberg (2005). It must be said, however, that this project has suffered, and continues to suffer, from Heidegger's problematic political biography. It is for this reason that most current critiques of ICTs and the informational economy that position themselves in the Critical Theory tradition are antagonistic towards Heidegger. Hence the next chapter, which forms the penultimate chapter of this thesis before I draw my conclusions, addresses the issue of Heidegger's politics. There are a number of events in Heidegger's biography that, for some, seem to demonstrate his affinity with National Socialist thought. A detailed exploration of all of them would be beyond the scope of

this thesis, but as Fried (2012) argued, “how one deals with Heidegger and the political, is in itself political”. I will limit myself to a brief summary of the biographical facts and comment on some instances where these have been, whether intentionally or not, misconstrued. However, the real significance of what Wolin (1993) and O’Brien (2010) have referred to as the “Heidegger controversy” is in the context of the question concerning technology: I will argue that some of the statements that have been construed as proof of his alignment with Nazi ideology offer another dimension to our understanding of the most extreme consequences of technological thinking. In other words, I will argue that Heidegger’s politics need to be read as techno-logics.

Chapter 8

The ‘Heidegger Controversy’: From Politics to Techno-Logics

8.1 Introduction

The best of what Heidegger wrote - indeed the best of philosophy in general - is not an injunction to agree with a proffered opinion, but a plea to all of us to make our thinking more thoughtful.

Rée cited in Oltermann, 2014

Much has already been said and written on the thorny subject of Heidegger’s politics: about what to make of his membership of the National Socialist party, about the fact that Heidegger never explicitly clarified his own position in relation to their ideology and deeds, and the extent to which Heidegger’s earlier writings, *Being and Time* in particular, contain elements of this ideology. The recent publication of Heidegger’s Black Notebooks have caused the so-called ‘Heidegger controversy’ (Wolin, 1993) to flare up again, with fresh allegations about a “profound antisemitism” at the core of Heidegger’s philosophy (Oltermann, 2014). The ongoing nature of the debate is strongly suggestive of two things: it points to ambiguities in the “Heidegger controversy” (Wolin, 1993), but also

to the existence of profound truths in Heidegger's thinking that even his most severe critics cannot disengage themselves from. One of Heidegger's translators has referred to the issue of Heidegger's politics as a "ghost that comes back to haunt us every 20 years" (Fried, 2012). With the publication and translation of Heidegger's works still ongoing,²⁶ it is unlikely that this "ghost" will be laid to rest any time soon.

It is not the purpose of this thesis to offer a definitive assessment of the "Heidegger controversy". As mentioned above, there is no lack of material exploring these matters, for instance the highly critical *Heidegger: The Introduction of Nazism into Philosophy* by Emmanuel Faye (2009), which presents Heidegger as one of the "main propagators of Nazism in the life of letters", subtly continuing to disseminate the ideologies of Nazism through thought and ideas after Hitler's military defeat (Faye, 2009, p. xxiii). Faye's book follows on from Victor Farias' equally censorious *Heidegger and Nazism* (1989), Richard Wolin's slightly more tempered *The Politics of Being: The Political Thought of Martin Heidegger* (1990) and Julian Young's *Heidegger, Philosophy, Nazism* (1997). Most of the factual information presented within these works is indisputable (some of which I recount in the following section), and every reader of Heidegger must decide for himself whether Heidegger is more culpable than others at the time who failed to predict the worst of the Nazi war crimes. However, what is argued here is that accounts that stop at these indisputable facts are culpable of privileging the correct over the true: they are precisely the "correct determinations" that Heidegger names as the signs of technologically determined thinking.

Thus some of the most outspoken denunciations in the above works are based on the very misconstruction of Heidegger's thinking that this thesis has aimed to refute: that it presents a nave hankering after a pre-technological way of life. Farias, for instance, claims to have unearthed from Heidegger's work evidence of

a thought process nourished in traditions of authoritarianism, anti-semitism, and ultranationalisation that sanction the homeland in its

²⁶Part of the *Gesamtausgabe*, for which Heidegger dictated the order of publication himself, is as yet unavailable even in German.

most local sense. (Farias, 1989, p. 4)

Farias is one of many who take the “Völkitsch” in Heidegger’s writing (recall his description of van Gogh’s peasant boots) as evidence of a deeper affiliation with Nazi ideology as from there it seems only a small leap to Hitler’s nostalgic visions, depicted in the Nazi propaganda images of healthy blond and blue-eyed families pursuing healthy, countrified lives. It is on the point of such fundamental misreadings of Heidegger’s account of technological modernity that this thesis seeks to intervene in the debate around the ‘Heidegger controversy’: they reduce the profoundness and complexity of his account to a simple binary of optimism/pessimism. Heidegger’s observation that “pessimism and optimism are positions that fall too short of the realm we are attempting to reflect upon” (1993 [1966]) we could thus easily apply to the short-sightedness of the approaches of Farias et al.

The point is that in Heidegger’s ontology there lies a far more radical politics than in the superficial readings that accuse him of lacking precisely in this quality: Heidegger’s concept of the *Gestell*, the heading under which he gathers the totalising and instrumental features of modern technologies, is not a technological concept in the strict sense, in that it is aimed at a critique of a technological reality. Rather, the technological rationality embodied in the *Gestell* is such that it evidences itself in a *variety of modern phenomena*, a spectrum at the most extreme end of which stands the most horrific of modern catastrophes, the Holocaust. It is in this context, that Heidegger’s controversial remarks that have prompted accusations of anti-Semitism need to be examined - as part of a continuum that encompasses both overtly destructive technologies like bombs (to use one of Heidegger’s own examples), but also far more covertly inhumane technological complexes like the digital informational matrix that is the subject of this thesis.

This chapter is structured as follows: I will begin by briefly sketching the ‘case’ against Heidegger. The problem at the core of the Heidegger controversy is Heidegger’s unwillingness to account for what some see as the condoning, others as the outright support of Hitler’s politics whilst in a position of responsibility and

influence as Professor and Rector at Germany's prestigious University of Freiburg. I will present the core facts unapologetically, as this unwillingness on Heidegger's part was never explained, and has come to be referred to emblematically as "the silence" (Lyotard, 1990). One who voiced his resentment at Heidegger's reticence in very clear terms was Jürgen Habermas, who in 1953 published a damning article on Heidegger in the German broadsheet *Frankfurter Allgemeine Zeitung*, accusing him of having drawn a curtain over his association with the Nazi regime. Habermas' outspoken critique, which arguably cemented the problematic relationship between Heidegger and the tradition of Critical Theory, was preceded by a much more direct and personal rift: that between Heidegger and his former student Herbert Marcuse. I will explore this for two reasons: firstly, as it gives insight into some of the reasons why Critical Theory today, with very few exceptions, shirks Heidegger's thinking even in matters of technology. Secondly, because unlike Habermas' critique, Marcuse's accusations went beyond political polemics: they were grounded in what he saw as Heidegger's betrayal of philosophy, a failure to offer a concrete alternative to the current historical situation.

We have seen that "abstractness" is one of the most commonly voiced criticisms of Heidegger's account of technology. However, it is precisely the abstract terms in which Heidegger mounts his critique of technological modernity, transcending any concrete technological reality, that make it so useful for illuminating how the effects of the same instrumental tendencies can be found at different times and in different places. His notion of the *Gestell* allows us to highlight the abstract systemic tendencies at work in our current information-technological system, which ontologically is based upon abstraction from specific conditions: the binary logic of digital ICTs sets up/sets upon [*stellt*] human activity within this system in such a way that it can be collected, stored, tracked and commercially exploited.

By adding the rationalizing tendencies of the digital matrix to Heidegger's enumeration of manifestations of the essence of modern technology, which includes modern industrialised agriculture and the war atrocities committed by the Nazis, it is important to note that no comparison is being drawn - neither a moral one, nor one of scale. All of these phenomena are singular in innumerable ways,

but share a sameness that we ignore at our peril. Recovering thus from Heidegger’s work a covert but nevertheless unmistakable politics, these final pages will fundamentally challenge any claim as to an inherently apolitical nature of philosophy.

8.2 The “Case” against Heidegger

Despite efforts to prove Heidegger’s hopes for a National-Socialist redemption of a Western culture in the grips of the rationalising forces of modernity were already evident in his early thinking, and in particular the genesis of *Being and Time*, it is the time period from 1928, when Heidegger first came to Freiburg to take the Chair that Edmund Husserl had vacated, until his resignation from the Rectorate in 1934, that forms the most contentious period in his biography. Heidegger had managed to secure the post at Freiburg thanks to Edmund Husserl’s recommendation and the publication of *Being and Time*(1927) - which was dedicated to him “in friendship and admiration”. In 1933, the year in which Hitler became Germany’s Chancellor, Heidegger accepted the post of Rector of the University of Freiburg, and shortly afterwards became a member of the National Socialist party, of which he remained a member until the end of the war. Following this appointment it appears Heidegger broke off all contact with Husserl and famously removed the dedication from all subsequent editions of *Being and Time*.

Heidegger’s inaugural address as Rector, entitled “The Self-Assertion of the German University”, given on the 27th of May 1933, has occupied a central place in the controversy. It is worth some attention as it illustrates some of the problems underlying accusations of anti-Semitism and Nazi ideology in Heidegger’s work. The address formed part of the evidence that led to Heidegger’s post-war trial and conviction by the university denazification commission, the same committee that also banned Heidegger from teaching at any German university, a ban that remained in place until 1949. The ways in which the address has become an instrument against Heidegger are a good example of the weaknesses that run

8.2 The “Case” against Heidegger

through much of the anti-Heidegger polemic: they invent some elements and misrepresent others.

Robert Steck’s review of Faye’s book for instance confidently asserts that the address included “three ‘Heil Hitlers’”, and the declaration that the “Führer himself and he alone is German reality and law, now and for the future”²⁷ (Steck, 2010). While the address does refer to the “splendour and greatness of this departure”²⁸ (Heidegger, 1985 [1933], p. 480, trans. modified) and appeals to what Heidegger outlined as the three duties of the German student - labour, military and knowledge service (though the latter is often omitted in critiques, c.f. (Wolin, 1993)²⁹ it does not contain the declarations Steck alleges to have found - nor does it make any reference to Hitler as “The Führer”. The noun “Führer” appears only in the plural, where it means “leaders” more generally, never in the singular and politically laden sense preceded with the definite article. Despite the evidence to the contrary, a range of sources assert that the “Führer-declaration” mentioned above forms part of the address.

These examples should be sufficient to suggest that some of the arguments instrumentalised by the ‘case’ against Heidegger lack a solid foundation. They merit critical interrogation also because Heidegger gave this address, and a number of other lectures, before their vocabulary - which from today’s vantage point stands out in its archaicism and invites comparison with Hitler’s own nostalgia-ridden rhetoric - had been co-opted by Nazi ideology. The German term “Volk”, for instance, is easily translatable as “nation”, or “people”, but in some English editions of the inaugural address has intentionally been left untranslated (e.g. W.

²⁷As Heidegger argued in the Spiegel Interview, this sentence was not part of his address but in a Freiburg student paper.

²⁸In the *Spiegel* Interview it was suggested Heidegger was referring explicitly to the new political direction he felt Germany was taking on Hitler’s appointment as Chancellor, which Heidegger did not deny.

²⁹According to Wolin, Heidegger’s emphasis on the three-partite nature of the service a student owes his country contrasts starkly with Ernst Jünger’s focus on the “war front” and the “labor [sic] front” - Wolin argues that the presence of ‘knowledge’ service in Heidegger’s argument demonstrates the strong emphasis he placed on this particular aspect (Wolin, 1993, p. 212).

8.3 Don't "Just do it": Heidegger, Marcuse and the Virtues of Abstract Thought

S. Lewis' translation in Wolin, 1993).³⁰ These are not merely questions of accuracy but deeply political ones: translations like that of Lewis contribute to the idea of a profound conservatism at the core of Heidegger's work in light of which his account of technology can be dismissed as ideological and misguided.

8.3 Don't "Just do it": Heidegger, Marcuse and the Virtues of Abstract Thought

Those who are most sympathetic to Heidegger in "the controversy" often invoke the undisputable fact of the philosopher's profound influence on his Jewish students. Why would thinkers like Hannah Arendt, who, as it is by now well-known, even entertained a romantic relationship with Heidegger (Maier-Katkin & Maier-Katkin, 2007), and who referred to him as "the uncrowned king of the empire of thought" (Steiner, 1995) allow themselves to be affected by a thinking that is anti-Semitic? Amongst these thinkers it is Herbert Marcuse whose relationship with Heidegger is of particular interest, as the nature of the hopes shattered that led to their alienation is immediately relevant to the subject-matter of this thesis: it concerns what many see as Heidegger's eschewing of the concrete in favour of abstraction - a tendency which, as I have consistently argued, is precisely what makes his approach to technology so suited to a critical analysis of ICTs. It is aimed at the unifying features these technologies display across a variety of devices and applications, and which is embodied in the principle of the digital itself. Marcuse and Heidegger were separated by the concrete/abstract divide, but even though Heidegger's thinking might not be overtly political, the links he draws between abstract technological tendencies and concrete catastrophes of

³⁰ Thus Heidegger's argument that the "*dritte Bindung der Studentenschaft ist die an den geistigen Auftrag des deutschen Volkes*" reads very differently in the respective translations. Harries translates: The third bond of the student body binds it to the spiritual mission of the German people (Heidegger, 1985 [1933], p. 476). Lewis, on the other hand, translates: The third bond is the one that binds the students to the spiritual mission of the German Volk (Wolin, 1993, p. 35).

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modernity, such as the Holocaust, contain a hidden but all the more profound politics.

Prior to joining the Frankfurt Institute of Social Research, Herbert Marcuse spent four years at Freiburg, writing his Habilitation (the German higher academic qualification needed to obtain a professorship) under Heidegger's direction. Like his contemporary Arendt, Marcuse was convinced that critical interpretation must always be aimed towards political praxis, and what he was hoping for from Heidegger was a kind of concrete philosophy that would lead to a political plan of action. Wolin locates the attraction of Heidegger's work for Marcuse in the "hermeneutical point of departure" in *Being and Time*, "the fact that human Being or Dasein occupies center stage in Heidegger's "existential analytic":

Marcuse ... reveres this philosophical approach as an *Aufhebung* [abolishing] of the static, quasi-positivistic aspects of bourgeois philosophy and social science, whereby humanity is viewed predominantly as an object of scientific scrutiny and control, rather than as an *active and conscious agent of change and historical becoming*. By identifying Dasein as ... 'that Being for which its very Being is an issue for it' - Heidegger's thought displays a potential for the constructive transcendence of the traditional (bourgeois) philosophical antinomy between thought and being, *res cogitans* and *res extensa*, and - ultimately - theory and practice. (Wolin, 1993, pp. 154-155, emphasis added)

The centrality of this aspect of Heidegger's thinking has already been discussed in this thesis, for instance in the comparison between Heidegger's privileging of human experience to Latour's ontologically levelled cosmology of objects and relations in chapter 5. Thus Critical Theory's *normative* orientation towards effecting social change, which Horkheimer's programmatic essay nominated as its primary and most important goal, is indeed able to ground itself in Heidegger's ontology of care, never however in Latour's clinical universe where the relationship between one human being and another can claim no experiential precedence over the relationship between a human being and an object. This privileged locus of Being in Dasein without a doubt beckoned to Marcuse as a plane from

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which the *individual* could perform the "radical act" that would lead to his own actualization, liberation and ultimately the overturn of the existing social order. Classical Marxism did not cede this possibility to the individual.

The failure of Marcuse's plan to integrate Marxism and existentialism however was a failure to find, in Heidegger, instruction as to how exactly human Dasein should escape from the "inauthentic" Being of conformism, of the masses, to authentic Being that acts upon its own historical situation. From Marcuse's perspective, the concreteness of Heidegger's phenomenology of Being was a "pseudo-concreteness", as a philosophy that

was just as abstract and just as removed from reality, even avoiding reality, as the philosophies which at that time had dominated German universities. (Marcuse cited in Kellner, 1984, p. 36).

The "original phenomenological promise" (Wolin, 1993, p. 156) - the transcending of the lethargy of traditional "bourgeois" philosophy with which Marcuse had hoped Heidegger would redeem philosophy as a whole - was thus seen as unfulfilled. These disappointed hopes still resonate in current critiques of Heidegger; Feenberg (2005, p. xii) for instance argues that Heidegger's account of technology "leaves the question of action in the air".

However, as remarked upon by Žižek in the quotation at the beginning of this thesis, it is precisely today's emphasis on action over thought that is problematic. This tendency is exacerbated by our ubiquitously ready-to-hand communication technologies and the discourses that espouse their virtues as short-cuts to social change. Heidegger's philosophical account of technology is an antidote to the ubiquitous imperative "just do it", as per the Nike slogan. It presents what we might call a "phenomenology of abstractness", the very advantages of which are that it avoids the lure of attaching itself too closely to a particular state-of-the-art, thus missing the immaterial structures of our technological experience that are all the more powerful for their immateriality. As we saw in the previous chapter, behind the ethereal outer of our consumer electronics, Apple being a particularly telling example, lies hidden the very real, material cost of human life. This is

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what Heidegger's "phenomenology of abstractness", encapsulated by his concept of the *Gestell*, allows us to see.

As I argued at the beginning of this chapter, the passages in Heidegger's work that have caused the most controversy are those we need to look to for his insights into the reign of technological rationality. The meaning of these passages has been, if not deliberately misconstrued, then at least received and interpreted with a degree of negligence that is proportional to the damage it has caused to Heidegger's name. The passage we will be focusing on is where Heidegger appears to liken modern industrialised agriculture to the mass extermination of Jews in the Nazi concentration camps. These remarks have caused great offence even amongst those who have engaged very closely with Heidegger's work, and who should have understood that they do not constitute a moral judgement, but rather a critique of the devastating consequences of where the most extreme technological rationality holds sway.

In making this argument I will draw on the account of the Holocaust given by the Polish sociologist Zygmunt Bauman. Amongst Bauman's closest family there are survivors of the Holocaust, thus Bauman is connected to this historical period in a very intimate way, and it is fair to assume that his perspective does not contain the kind of bias that some argue pervades Heidegger's thinking. I propose that it is possible to read Bauman's account of the Holocaust through Heidegger's notion of the *Gestell*: Bauman argues that the Holocaust is the result of the rationalistic tendencies of a thoroughly technologised modernity, and that as such it would be fateful to conceive of it as an historical aberration. Rather, the real horror of the Holocaust lies in the 'efficiency' with which it was executed, an efficiency that is concomitant with modern bureaucratic societies. Heidegger's notion of the *Gestell* has allowed us to expose some of the effects of this hyper-rationality in the context of our current information-technological landscape, where the exploitation of labour in the digital supply chain or the surveillance of our private communications both constitute instances where what it means to be human is put in danger. Nevertheless, the point is that both contexts share a root in the logic of instrumentality, efficiency and rationality that, as we have seen, has sprung naturally from the tradition of Western thought.

8.4 The Gestell: Similarities are not Equivalences

In this sense, the current cultural context is one that at once stems from, and reinforces, the rationality of ICTs.

8.4 The Gestell: Similarities are not Equivalences

Agriculture is now a mechanized food industry, in essence the same as the production of corpses in the gas chambers and extermination camps, the same as the blockading and starving of countries, the same as the production of hydrogen bombs.

Heidegger, 2012 [1994], p. 27

Heidegger’s “agriculture remark”, as it has come to be known, stems from a talk entitled “Das Gestell”³¹ - a clear sign of the fact that it needs to be understood in the context of his critique of the essence of modern technology. Nevertheless it has caused deep and widespread uneasiness: Lacoue-Labarthe for instance has referred to it as “scandalous and lamentably inadequate” (cited in Elden, 2001, p. 77). I would argue, however, that interpreting Heidegger’s remark as a moral judgement on the Holocaust represents either a fundamental failure to recognise the basic tenets of Heidegger’s account of technology, or a lamentable misconception that passes over the depth of insight Heidegger’s concept of the Gestell can offer in terms of analysing our own technological environment. In

³¹The lecture formed part of a cycle of lectures given at the University of Bremen in 1949, *Insight Into That Which Is*, Heidegger’s first speaking engagement after his ban from teaching. The lectures have only recently been translated into English (by Andrew Mitchell, published in 2012), hence the frequency with which the “agriculture remark” has been cited in English is somewhat surprising, although its incendiary effects, given the fact that it could only be taken out of context, less so. Mitchell translates Heidegger’s concept of the Gestell as “positionality”, a translation I find problematic in that its main emphasis is relational. While I have emphasised that Heidegger’s ontology is fundamentally spatial, the term “positionality” privileges these spatial qualities over the fact that in German the term “Gestell” is closely related to “stellen” and “bestellen”. As already argued, this shared etymological root is important as it denotes how even the Gestell is a kind of *revealing*.

8.4 The Gestell: Similarities are not Equivalences

bringing these developments into proximity with each other Heidegger was not pronouncing a moral judgement, relativising the horrors of the Nazi war crimes, but pointing out that in all of them he saw the same destructive forces of rationality at work, articulated both by the machineries of mass-scale agriculture and by the horrific efficiency of the systematic extermination of Jews in the gas chambers. It is this interpretation that allows, or even demands of us, to add the rationalising tendencies of the digital informational matrix to the list.

The point is that parallels must not be confused with equivalences. In the context of this thesis we have discussed two common dominant narratives concerning the role and social impact of ICTs. In the first instance, I gave examples of the argument that social media are fostering creativity, community and constitute a force for social and political change. Elsewhere and in a very different narrative, ICTs are seen from the perspective of the growing corporate exploitation of user data and governmental surveillance. Considered in isolation, each narrative suffers from a privileging of the correct over the true, in that it makes some “correct determinations” about our information-technological infrastructure. In the case of the former, it is correct to say that social media have facilitated the coordination of protest actions. In the latter case, it is a correct observation that the increasingly pervasive networked CCTV systems are symptomatic of a wider trend towards growing government scrutiny and control.

However, it is only when considered side by side that the intrinsically contradictory nature of the digital informational system becomes visible. These contradictions call for an adequate theorisation, but we must then not be afraid to *let this concept do its work*. In the present context, a fear of being accused of drawing distasteful equivalences between Nazism and more general points about technological dis-empowerment seems to have stopped thinkers from making legitimate parallels. The value of Heidegger’s concept of the Gestell is that it draws attention to the process of technological withdrawal in all its forms without attaching to it the label of optimism and pessimism, which is precisely why there is no value judgement attached to his listing modern industrial agriculture and the Nazi genocide in one sentence.

8.5 Dasein and Temporality: Only Humans Can Die

The reactions to Heidegger’s agricultural remark might be read as symptomatic of a different intellectual malaise, namely a bias towards the concrete over the abstract. In listing “the production of corpses in gas chambers”, “the blockading and starving of countries” and the “production of hydrogen bombs”, Heidegger was drawing a parallel based on the *underlying essence* that he saw at work in each of these phenomena. This relates directly to our earlier point about how Heidegger doesn’t single out specific technologies for discussion at a material level, but is more interested in pointing out the immaterial, structural parallels that exist between seemingly highly diverse phenomena. A deep scepticism towards parallels that derive their validity from a single underlying essence, rather than from concrete existence, is the reason behind Heim’s reference to Heidegger’s Gestell as a “metaphysical sphinx” that “terrorizes thought” (Heim, 1993, p. 57), as much as for Feenberg’s remark that “he [Heidegger] literally cannot discriminate between electricity and atom bombs, agricultural techniques and the Holocaust” (Feenberg, 1999, p. 187).

8.5 Dasein and Temporality: Only Humans Can Die

The misconstructions of Heidegger’s agriculture remark are echoed in the similarly outraged responses to another passage from the third lecture in the series *Insight Into That Which Is*, entitled “The Danger”, where a superficial reading might suggest he is denying that millions died at the hands of the Nazis. However, it is necessary to place this passage in the context of Heidegger’s concept of Dasein - from this perspective, it emerges as a poignant testament to the extreme consequences of technological rationality:

Hundreds of thousands die in masses. Do they die? They perish. They are put down. Do they die? They become pieces of inventory of a standing reserve for the fabrication of corpses. Do they die? They are unobtrusively liquidated in extermination camps. ... To die, however,

8.5 Dasein and Temporality: Only Humans Can Die

means *to endure death in its essence*. To be able to die means to be capable of this *endurance*. ... But in the midst of these innumerable dead, the essence of death remains disguised. (Heidegger, 2012 [1994], p. 53, translation modified, emphasis added)

Is Heidegger trying to deny the historical reality of one of humanity's darkest hours, the systematic killing of millions in concentration camps? He is not, and it is mainly thanks to the absurd misconceptions of Holocaust deniers like Ernst Zndel that such a possibility even haunts the public imagination (which, as the Polish sociologist Zygmunt Bauman asserts, “only seem, if inadvertently, ...to add to the public awareness of the Holocaust through the sensational headlines they provoke” (Bauman, 1989, pg.x).

What Heidegger is arguing, is that Being towards Death is the unique possibility of human Dasein. It is part of the unique experience of time, or temporality, that characterises the essence of human Being. In order to understand what Heidegger is saying, we need to free ourselves from our banal, everyday understanding of time, which is defined by the passing of fixed units like hours and seconds - precise entities that we take for granted in their scientific objectivity as we do other physical categories such as weights or measures: they are part of the ‘fixed ground plan’, the matrix according to which science orders our understanding of the world. The ubiquitous presence of clocks and watches as well as our tendency to comments like “I only have five minutes” are emblematic of the present-to-hand nature of our understanding of time.

For Heidegger, time is indeed fundamental to human Being-in-the-world, but not as an “abstract container” for “clock-time” (Blattner, 2005, p. 311). Rather, it is the very condition upon which our limited conception of ‘clock-time’ can at all be experienced:

whenever Dasein tacitly understands and interprets something like Being, it does so with time as its standpoint. Time must be brought to light - and genuinely conceived - as the horizon for all understanding

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of Being and for any way of interpreting it. (Heidegger, 2008, p. 39, emphasis in the original)

Dasein's ability to experience this more fundamental temporality is what marks it out from other beings. The temporal framework within which Being understands itself, is fundamentally determined by its finitude - what Heidegger calls Being-toward-Death. This is why Heidegger's phrasing is important - he says that to die "means *to endure death in its essence*" " Mitchell's translation as "carrying out death in its essence" misses the temporal aspect of "endurance".

The profound danger of the essence of technology is that at its most extreme, it rids us of the capacity of this experience: Dasein is reduced to mere presence-at-hand. This ultimate technological rationality is what Heidegger sees manifested in the Holocaust: his point is that long before Nazis exterminated the Jews in their gas chambers they had already rid them of their existence as Dasein, and thus of the possibilities one can only claim as a human being - including death. In other words: only human beings can die, and Heidegger sees the victims of the gas chambers as having been stripped of all that makes them human even before their death, it is for this reason that Heidegger can claim that they 'did not die'.

Hence it is important to note that what has rid the victims of the gas chambers of the possibility of death, abandoning them into an un-Dasein-like, dehumanized, existence, is not the *singular monstrosity of Hitler's mind*, but the reduction of human Being-in-the-world to its technical manifestation, the ultimate rationalization of all things that permitted the monstrosity of his mind to be administered in such an "efficient" way. As Hemming puts it, Heidegger's question "do they die?" is really the question of

what kind of danger lurks in the advent of the total domination of technology such that death itself (a most sacred moment in a life) can be deprived of its sacrality and transmuted into the exercise of mechanised and massified technique? (Hemming, 2011, p. 4)

8.6 Echoes of Heidegger's Critique of Technological Rationality

Heidegger's argument that the victims of the camps did not die thus, as Cohen has suggested, becomes the "utmost condemnation of the Nazi regime, ... a radical critique of what man can do to man" (2012).

The themes explored in this thesis relate to our current information-technological environment. Apple's consumer electronics, for instance, are not marketed as gadgets or devices but as the key to a human life worth living. A recent advert for its flagship laptop, the Macbook Air, for instance quotes from Walt Whitman's poem "O Me! O Life!":

O me, O life of the questions of these recurring. Of the endless trains of the faithless. Of cities filled with the foolish. What good amid these, O me, O life? Answer: that you are here. That life exists and identity. That the powerful play goes on, and you may contribute a verse. (cited in Vella, 2014)

For Heidegger, poetry is a domain of truth that is beyond the technological modes of revealing. Apple's co-opting of Whitman's words however shows the extent to which what constitutes *life*, or Dasein, is increasingly dictated by technological modes of Being. In the same way as Heidegger's controversial question "Do they die?" forces us to acknowledge the ways in which Dasein has become the victim of technological rationality, we should be turning this question onto the ways in which our own Being-in-the-world is determined by technological rationality - albeit in infinitely more subtle ways. In light of the above Apple advert we might thus perhaps ask "Do they live?"

8.6 Echoes of Heidegger's Critique of Technological Rationality

This penultimate section seeks to illustrate the strength of Heidegger's critique of modern rationality further by drawing parallels to other thinkers like Bauman and Derrida - parallels conveniently ignored by those who seek to label Heidegger's

8.6 Echoes of Heidegger's Critique of Technological Rationality

thinking a “scandalous and lamentably inadequate” (cited in Elden, 2001, p. 77) critique of the errors of technological modernity. In her book *Eichmann in Jerusalem: The Banality of Evil* Hannah Arendt considers the trial of Adolf Eichmann, one of the major perpetrators in the Nazi war crimes. Arendt was heavily criticised for the subtitle in her book, which appeared to trivialise the horrific crimes committed by the defendant, to the extent that she later apologised for her choice of words. Arendt was trying to express the inexpressible, the contrast between Eichmann's calm demeanour during the trial and the crimes he was being tried for.

Thus,

[t]he uncanny nature of the Holocaust stems from the fact that this most egregious episode in humankind's cruelty involved such a mind-numbing number of victims not primarily because of the blood lust of the sort of killers witnessed in other historical genocides, but rather, because personifications of calmness like Eichmann were able to oversee, with exemplary levels of bureaucratic efficiency, processes that were highly “reasonable” in so far as one is able to forget the specific tasks to which those processes were applied. (Taylor, 2014, p. 91)

Eichmann's calm exterior becomes representative of the bureaucratic efficiency of modernity and its dehumanizing tendencies. From this perspective, the truly shocking aspect of the Holocaust is not the shrunken faces of the victims of the concentration camps - confrontation with images such as these will lead to the appropriate reaction, which is that of shock and horror - but the cold serenity of its executors. In a paradoxical way, the failure to recognise this difference is a failure to recognise the singularity of the event itself - a failure that nevertheless remains pervasive, and that Arendt repeatedly addressed. Bauman recounts how Hannah Arendt

was shouted down by the chorus of offended feelings when she suggested that the victims of an inhuman regime might have lost some of their humanity on the road to perdition. (Bauman, 1989, pg.x)

8.6 Echoes of Heidegger's Critique of Technological Rationality

Heidegger's argument, which we find echoed in Arendt's suggestion above, can be illuminated further if we consider the historical concept of the outlaw. Agamben (1998) tells of the "homo sacer", a human being who under Ancient Roman Law had lost his status as citizen, and who could thus be killed by anyone without fear of recrimination: someone whose death had no sacrificial value. Outlaws in Norse and Viking cultures were similarly unprotected. This reduction of a person to non-personhood is, as Žižek argues, not historically specific but specific to the technological rationality with which the West maintains its status of dominance around the world:

Today, as a term denoting exclusion, it can be seen to apply not only to terrorists, but also to those who are on the receiving end of humanitarian aid (Rwandans, Bosnians, Afghans), as well as to the Sans Papiers in France and the inhabitants of the favelas in Brazil or the African American ghettos in the US. Concentration camps and humanitarian refugee camps are, paradoxically, the two faces, 'inhuman' and 'human', of one sociological matrix. (Žižek, 2002)

Žižek's argument that "concentration camps and humanitarian refugee camps are ... two faces ... of one sociological matrix" is characteristically radical of the thinker, but it is another means of expressing Heidegger's earlier argument about modern technologised agriculture, the atomic bomb and mass extermination being expressions of a single essence of rational, technologised modernity. Even more importantly, it echoes precisely the inherently paradoxical, two-faced nature of the information-technological matrix that is the subject of this thesis.

This is the argument Bauman makes in his account of the Holocaust. Bauman argues that, rather than an "interruption in the normal flow of history, a cancerous growth on the body of civilized society, a momentary madness among sanity" (Bauman, 1989, p. viii)

[t]he Holocaust was born and executed in our modern rational society, at the high stage of our civilization and at the peak of human

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cultural achievement, and for this reason it is a problem of that society, civilization and culture. (Bauman, 1989, pg. x, emphasis in the original)

The way in which the global imagination has absorbed the Holocaust, for Bauman, represents a danger - the danger that one singularly horrific impression might conceal the way in which connections can be drawn from this event to the structural features of Modernity:

These pictures ... represent only an extreme manifestation of a tendency which may be discovered in all bureaucracies, however benign and innocuous the tasks in which they are currently engaged. I suggest that the discussion of the dehumanizing tendency, rather than being focused on its most sensational and vile, but fortunately uncommon, manifestations, ought to concentrate on the more universal, and for this reason potentially more dangerous, manifestations. (Bauman, 1989, p. 102)

We find a very similar argument made by Jacques Derrida, when he states that

Nazism was not born in the desert... And even if, far from the desert, it had grown like a mushroom in the silence of a European forest, it would have done so in the shadow of big trees, in the shelter of their silence or their indifference but in the same soil. I will not list these trees which in Europe people an immense black forest, I will not count the species. ... In their bushy taxonomy, they would bear the names of religions, philosophies, political regimes, economic structures, religious or academic institutions. In short, what is just as confusedly called culture, or the world of spirit. (Derrida, 1987, pp. 109-110)³²

³²For this quote I am indebted to Mahon O'Brien's paper on the "Heidegger Controversy" (O'Brien, 2010)

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However, in Bauman's argument that the Holocaust needs to be seen in the context of our thoroughly modern, rational society, Adorno's idea of the 'totally administered society' clearly resonates: Adorno who so vociferously opposed Heidegger's ideas. Both Adorno and Horkheimer saw a conformist society emerging in Europe that had no room for the individual, but where everything was streamlined and institutionalized with a thoroughness that constituted a new kind of totalitarianism. Adorno saw the greatest threat to man emanating from "organized mankind" (quoted in Bernstein, 2001 [1991], pg.4) and, as Bernstein suggests in his introduction to *The Culture Industry*, for Adorno and Horkheimer it wasn't socialism that constituted the triumph of reason - but fascism, in that it "continued reason's work of domination through integration and unification" (ibid.). This is further evidence in support of my argument that Heidegger's concept of the totalising Gestell is compatible with a Marxist critique of society, and validates my suggestion that these meeting points merit further exploration.

Finally, it is interesting to note that more recently Bauman has conceived of another phenomenon in the context of rational modernity - one that is much closer to the immediate concerns of this thesis than the Holocaust. Nevertheless, there is much to be learned from the parallels that Bauman draws: he speaks of 'liquid surveillance', ³³ as the modern-day "regimes of in/visibility characterised by data-flows, mutating surveillance agencies and the targeting and sorting of everyone" (Lyon, 2010, p. 325). Liquid surveillance denotes a surveillance system that is no longer confined to traditional, visible and hierarchical structures of control, but that is dispersed into the bureaucratic infrastructure. As such, it no longer seeks to control, a goal which panoptic surveillance pursued via confinement, but through *exclusion* (Bauman & Lyon, 2013, p. 64). The surveillance mechanisms that best embody this new principle, as Bauman argues, are the CCTV cameras around gated communities, shopping malls and the forecourts of supermarkets (ibid., p.63). Another example would be how state securitization

³³ The term 'liquid surveillance' was not originally coined by Bauman, but was coined by David Lyon as a result of his conversations about the current state of surveillance, which have been published as a book under the title *Liquid Surveillance* (Bauman & Lyon, 2013). The adjective 'liquid' references Bauman's earlier sociological works, e.g. *Liquid Modernity* (2000) and *Liquid Fear* (2006)

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works increasingly through keeping people out, rather than keeping people in - 'undesirable' persons are expelled, deported or refused entry, the latter easily achievable through adding that person to a 'no-fly list' that is easily administered via a database connecting international law enforcement agencies. The global informational infrastructure enables a system of surveillance that doesn't rely on material structures of control, but that is 'liquid' in its dispersed centres of control and its functioning via flows of information.

The English translation of Heidegger's concept of the *Gestell* as 'enframing' suggests a rigid structure that does not immediately lend itself to thinking about the 'liquid' tendencies of contemporary digital surveillance - we need to recall, however, that the crucial aspect of this concept is an *immaterial* one, in that it denotes a form of technological revealing. In this sense it is particularly suited to helping us explore the forms of technical rationality that underlie surface-level changes in the ways surveillance is administered. As noted earlier, however, there is a danger that the tendency towards new in ICT discourse, of which 'liquid surveillance' is an example, might lead us to lose sight of the hierarchical power structures that have remained in place.

A crucial point Bauman makes is that in this modern surveillance system, the surveilled are, wittingly or unwittingly, participating in and facilitating their own surveillance. Employee performance for instance, Bauman argues, is no longer enforced from above but "contracted out', 'outsourced' or 'hived off' laterally and judged according to a seller-buyer pattern rather than a boss-subordinate relationship" (ibid., p.59). To bring an example, we can think of the CCTV surveillance of the employees of the German supermarket chain Lidl, which was not undertaken by the managers, but outsourced to a private security firm (Stern, 2008). On a wider scale and at the same time an example that pertains to each of us, the use of a smart phone, social networking sites and store cards can all be considered as ways in which we as individuals contribute to and facilitate our own surveillance. Using the apt metaphor of the snail carrying its home, Bauman thus argues that

the employees of the brave new liquid modern world must grow and

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carry their personal panopticons on their own body. Employees and every other variety of the subordinated have been charged with full and unconditional responsibility for keeping them in good repair and assuring their uninterrupted operation (leaving your mobile or iPhone at home when you go for a stroll, and thereby suspending the state of being constantly at a superior's beck and call, is a case of serious misdemeanour. Tempted by the allure of consumer markets and frightened by the new freedom of the bosses to vanish, together with the jobs on offer, subordinates are so groomed to the role of self-watchers as to render redundant the watchtowers in the Bentham/Foucault [panopticon] scheme. (Bauman & Lyon, 2013, p. 59)

In a recent interview the whistleblower Edward Snowden made a similar point, arguing that established metaphors for the surveillance state, such as those that draw on George Orwell's book 1984 miss how surveillance today is driven by the cooperation of those under surveillance:

They talked about things like microphones implanted in bushes and cameras in TVs that look back at us. But now we've got webcams that go with us everywhere. We actually buy cellphones that are the equivalent of a network microphone that we carry around in our pockets voluntarily. Times have shown that the world is much more unpredictable and dangerous [than Orwell imagined]. (Rusbridger & MacAskill, 2014)

Evoking Hegel's master-slave dialectic, according to which a power relationship between two parties requires mutual recognition, or in other words, the party exercising power requires the other to yield to it, the modern surveillance system has perfected the technique of enlisting the victim of surveillance into his/her own surveillance.

Linking Bauman's ideas of liquid surveillance to his account of the Holocaust and the possibility of reading this account through Heidegger's concept of the

Gestell, it is interesting to note Bauman's suggestion that a precedent, if needed, for the 'voluntary servitude' exhibited by members of today's surveillance society, lies in the Jewish prisoners in the Auschwitz concentration camp who threw themselves against the high-voltage barbed wire (ibid., p.56). Here it again becomes clear that Bauman views the Holocaust not as a unique moment in history, but as an extreme manifestation of modernity's bureaucratic rationality. Bauman demonstrates that parallels between such disparate phenomena such as the Holocaust and modern-day bureaucratic surveillance can indeed be drawn, and what is more, drawing these parallels is in fact necessary. It allows us to see the wider causes of such phenomena, which would otherwise escape us in their immateriality, rooted as they are in the modern rationalist mindset that, as Heidegger has shown us, is in itself not a modern phenomenon but rooted in the development of Western thought. Heidegger's notion of the Gestell articulates the essence of such diverse phenomena as modern industrialised agriculture, famines and mass extermination, as Heidegger listed them in his 'agriculture remark', and allows us to expose the same totalising, de-humanizing tendencies where they are at work in our own techno-bureaucratic environment.

8.7 Summary

To conclude this section, I would suggest that Heidegger's "silence" emerges from an awareness of how easily the truth is misplaced by correct determinations. Accusations of revisionism (Fried, 2012) need to be balanced against the clear echoes of Heidegger's thought that we have seen in the work of other profoundly influential thinkers. Bauman's argument that the Holocaust does not form a singular "picture on the wall" of history, separated from the rest of an otherwise cheerful aspect by its singularly dark shades, could thus also be taken as referring to Heidegger's concept of the Gestell: through it,

one can catch a rare glimpse of many things otherwise invisible. And the things one can see are of the utmost importance not just for the perpetrators, victims and witnesses of the crime, but for all those

who are alive today and hope to be alive tomorrow. (Bauman, 1989, pgs.vii-viii)

One could argue that the critics' passing over of the notion of 'essence' in Heidegger's argument that the Holocaust and modern industrialised agriculture or the hydrogen bomb are 'in essence' the same, is precisely what Heidegger's argument is aimed at exposing as deeply problematic: the persistent failure to recognise truth amidst an abundance of correctness.

Cohen's (2012) reading of Heidegger's remarks brings to them a level of sensitivity, maturity and insight that is lacking in most other treatments. Cohen suggests that in the "sameness" implied by Heidegger's enumeration in the "agriculture remark", lies an invitation to recognise and reflect on the *singularity* of the *effect* of this sameness. Cohen links Heidegger's 'silence' to the work of memory and mourning that doesn't pass over the singularity of the effect of that sameness. He suggests Heidegger's silence is a response brought on by the recognition that to name, would be the ultimate violence of Auschwitz. Once, Cohen argues, the horror it is articulated, it is inscribed into a technique of commemoration and its singularity is passed over. (Cohen, 2012).

Chapter 9

Conclusions

9.1 Three Problems with the Question Concerning Technology

This thesis sought to address the question of how Martin Heidegger’s philosophy, and in particular his work on technology that is contained within his essay “The Question Concerning Technology”, and his main work *Being and Time*, can help us gain a better understanding of the ubiquity and implications of information and communications technologies. In drawing the final conclusions, rather than straightforwardly recounting the successive themes in Heidegger’s thinking that have been investigated and summarised at the end of each chapter, I will take a different approach: over the following paragraphs I will recount some of the problems that usually characterise inquiries into how certain technologies impact on social life, and how a philosophical approach, and in particular Heidegger’s emphasis on rigorous questioning as explored in the present thesis, provides a solution to some of these problems.

Questioning the ‘impact’ of information and communication technologies on social life, one has to contend with three main challenges. The first is the risk of making simplistic assessments of the role technology plays in shaping social

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life, assessments that suggest it acts quasi-autonomously and that its influence is uniform and certifiable. The dominant narratives in academic, policy and popular discourse, for instance that we live in an ‘Information Society’ (Webster, 2002 and 2006), a ‘Knowledge Society’ (UNESCO, 2005) or a ‘Network Society’ (Castells, 2000) are all culpable of such reductionism. They are what Francois Lyotard referred to as ‘grand narratives’, or ‘metanarratives’, like ancient myths or fairy-tales they imbue a succession of events with *meaning* (Lyotard, 1984). As a result of a desire to make sense of what is happening, a single idea or morale takes hold, whose first purpose was to explain a historical period, but it also ends up shaping it. The way the idea that we inhabit an ‘Information Society’ has taken hold in policy discourse is a very tangible example: the European Union’s ‘Directorate General for the Information Society and Media’ and the European Commission’s ‘Information Society Newsroom’ are evidence of policy that is “driven by ideological assumptions rather than knowledge in... [its] efforts to direct or regulate technical practices” (Scharff & Dusek, 2003, p. 383). Grand or metanarratives impose a simple cause-and-effect dynamic that the realities of technology adoption and dispersion have again and again refuted.

Another problem we encounter specifically with attempts to conceptualise the impact of information and communication technologies, is the proliferation of competing narratives. In recent years the idea of the ‘Surveillance Society’ has become popularised, painting a more sinister picture of the ubiquity of information and information-processing devices than that offered by the older ‘Information Society’ or ‘Network Society’ narratives. Yet they persist as parallel monologues, obscuring the fact that the surveillance and exploitation of user data can only occur after this data has been created ? and it is created in the very contexts of self-expression, sharing and global connectivity that drives techno-utopian narratives. It might be helpful to recall Gehl’s argument that

[i]n a typical Web 2.0 site, there is a surface, where users are free to produce content and make affective connotations, and there is a hidden depth, where new media capitalists convert user-generated content into exchange-values. (2009, p. 25)

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The final problem with accounts that seek to make statements about the impact of technology on human life I wish to raise, and that which weighs heaviest, is that they claim to be able to offer an outside perspective, a transcendental plane from which judgment can be reached. However, it was Marshall McLuhan who famously argued that “whoever discovered water, certainly wasn’t a fish” (cited in Taylor, 2010, p. 9), which is another way of saying that it is difficult to see something clearly for what it is when one is surrounded by it. The overwhelming immediacy of our information-technological environment arguably makes this distance very difficult, if not impossible, to achieve - as noted in chapter seven, the tendency of equipment to withdraw into readiness-to-hand is amplified by digital technologies: they do not only represent a withdrawal, but a *withdrawal from withdrawal*. We are thoroughly immersed in this environment, but ironically, scholarship on the media still suffers from an anxiety that it is still not being immersed enough. In the debate around the need to ‘upgrade’ Media Studies in view to keep up with ‘Web 2.0’, Merrin (2008) for instance expressed uneasiness about being “being a media studies lecturer when your students know more about media than you do”:

Now there’s a whole world of P2P music, film and TV; video-clips; home-made mobile porn; customised avatars; graffiti, funwalls and superwalls; tagging, texting, messaging, sheep-throwing, bitch-slapping and virtual penguins that we’re struggling to keep up with. (ibid.)

The problem is that from this immersion we short-circuit straight through to ‘grand narratives’ about how these new technologies are shaping society. The argument around the democratising power of social media is an example of this kind of short-circuiting - a flurry of activity on Facebook leads straight to grand conclusions about social media-driven revolutions, and thought is passed over in the process.

In arguing for the need to consider Martin Heidegger’s thinking in seeking to understand what the ubiquity and pervasiveness of ICTs means for social, political, cultural or economic life, I am not suggesting that Heidegger can give us

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the ‘definitive’ response. Of the problems I have just outlined that follow the question of ‘technology’s impact’ around like its shadow, the problem of a transcendental viewpoint remains steadfast, a problem from which the philosopher is not exempt. Philosophers have always relied on information and communication technologies, which led Kittler to point out the irony of the fact that “[m]ore than any other theorists, philosophers forgot to ask which media support their very practice” (Kittler, 2009, p. 23). For Kittler it is Heidegger who first developed this kind of consciousness. Despite being an unusual philosopher in this sense, Heidegger is a true philosopher in the most important sense, which is his own awareness of what philosophy is for and what it can achieve. Thus he begins his essay “The Question concerning Technology” with the words “in what follows we shall be *questioning* technology. Questioning builds a *way*” (Heidegger, 1977, p. 3, emphasis added). What I have tried to show in the present thesis is that Heidegger’s thinking can ‘open up’ some of the issues that cause problems when thinking about technology and, to use a wiser term than ‘impact’, its *interaction* with the social.

One of the problems in accounts of the relationship between technology and the social, as I mentioned earlier, is that they are prone to falling into the trap of technological determinism. In chapter three I showed how Heidegger’s own thinking on technology is frequently reduced to his idea of the Gestell as a totalising force that leaves no room for human agency, thus offering a “bleak diagnosis” of mankind’s technological future (Verbeek, 2005, p. 4). However, closer engagement with Heidegger’s argument shows that his distinction between the realm of the “merely technological” and the “essence of technology” (Heidegger, 1977) in fact prohibits a simple deterministic account of ‘technological effects’. What characterises the majority of narratives about information and communication technologies is a fetishisation of technological instruments - the idea of an ‘Information Society’ for instance is largely premised on the ubiquity of information and of the devices for processing it, which, as Webster has argued, merely amounts to “describing our age in terms of its most palpable features” (Webster, 2002, p. 22).

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Further insight into the vacuous nature of most debates around technological determinism comes from engaging with what I have called Heidegger's 'network ontology'. This ontology contains the directive to think technologies not as self-contained objects, but as complex structures the being of which is dispersed across a network of both inanimate and animate nodes in a network. For Heidegger, no technological object can be reduced to inanimate matter, as it always involves a sociality both in terms of its making and its use. This not only disproves the argument that Heidegger is a technological determinist, it dismantles the grounds on which the simple technological determinism of the kind that still haunts media and communications studies in the shape of the spectres of Harold Innis and Marshall McLuhan, is based. One might argue that the battle with technological determinism has already been fought and won by the social constructivist argument as put by Bijker (1995). What Heidegger adds to this and similar accounts is an ontological understanding of the nature of the interaction between technological objects and human beings. Critics might argue that such an ontological account is provided with much more panache, simplicity and relevant real-life examples by Bruno Latour and his actor-network theory. As I have argued in chapter seven however, what is problematic in Latour's network metaphysics is that human being is granted no ontological priority over other beings, where Heidegger retains the centrality of human experience. Put bluntly, if the question of technology matters, it needs to matter for *someone* - otherwise the question is not worth asking.

As mentioned above, another challenge that opposes attempts to generalise the 'impact' of ICTs on the social has to do with what constitutes ICTs - as we have seen, various narratives co-exist, cherry-picking from the wealth of information and communicational devices, applications, activities and processes. In this thesis I have deliberately avoided the term 'media' where possible, as it seems to exclude technologies like smart cards and CCTV cameras, and have given preference to the term ICTs as more representative of the 'informational system' we are dealing with - which comprises any kind of artefact that is capable of processing data. Heidegger's account of technology, we have seen, is frequently accused of being overly abstract and lacking in references to specific technologies (Heim 1993,

Feenberg 1999 and 2000, Verbeek, 2005). Aside from the argument that needs to be kept in mind that an ontology (which is what Heidegger is trying to achieve) is by definition general, what I have tried to argue is that it is precisely this non-specificity that makes Heidegger so suitable for thinking about the features that characterise our information-technological system as a whole. His notion of the ‘Gestell’ is aimed at the unifying features of modern technological systems in their tendency towards objectification as well as those instances where technological rationality has gone beyond objectification toward an overall ontological levelling of all things but especially the eradication of human being’s special status as being that is Dasein.

Thus, Heidegger allows us to see that it is not the ubiquity of our technological devices that marks this age as technological, but the pervasiveness of a technological rationality that has its origins in the tradition of Western thought. He has been much criticised for leading us away from concrete technological realities towards an abstraction that “terrorizes thought with a puzzling lack of specificity” (Heim, 1993, p. 57), but I have aimed to show that this abstraction allows us to see concrete technological realities in the wider context of an ongoing trend towards rationalization. It allows us to connect seemingly disparate phenomena - and where Žižek’s strategy is to consider “relationship[s] between phenomena that are normally incomparable in order to create through theory an ‘*impossible short circuit*’, (Taylor, 2010, p. 9, emphasis in the original), I would argue that Heidegger creates a seemingly impossible short circuit between concrete phenomena to build theory, or rather thinking, the very step that short-hand narratives like the ‘Information Society’ have omitted.

9.2 A Saving Power?

I argued early on that next to the accusation of being a technological determinist, the other accusation that is frequently made against Heidegger is that he is a

Luddite who would like to return from the exploitation of the earth,

consumerism, and mass media to the world of the pre-Socratic Greeks or the good old Schwartzwald peasants. (Dreyfus, 2009, p. 26)

I hope to have shown why this is equally untrue, as Heidegger's concern is not the concrete technological reality but the technological mindset underlying these realities. As Heidegger argued in his famous interview with *Der Spiegel*, “[p]essimism and optimism are positions that fall too short of the realm we are attempting to reflect upon” (1993 [1966]). It is for this reason that from a Heideggerian perspective, Luddism represents a misrecognition of reality in the ideological sense. Where social evil is concentrated in technology, the solution appears deceptively simple: in order to deal with the evil caused by technology, the solution is to either do away with this technology, or to produce better technology. This is precisely the technological thinking that is the real heart of Heidegger's critique of technology, the truth that is displaced by an abundance of correctness in the shape of the ongoing emphasis on problems created by concrete technologies.

Writing about the insight that art can give into the nature of the present, McLuhan stressed in particular the ability of the artist “to sidestep the bully blow of new technology of any age, and to parry such violence with full awareness” (McLuhan, 2001). Thus the British Turner Prize winner Damian Hirst's work, entitled “In This Terrible Moment We Are All Victims of an Environment That Refuses to Acknowledge the Soul” is deeply evocative of Heidegger's point about technological thinking. The work consists of rows and rows of narrow shelves mounted on a wall, each shelf bearing a row of meticulously arranged pills and tablets. Hirst's point is that we are living in an environment that assumes it can provide a treatment for every illness, where the illness is often a direct result of the environment itself (we might think of stress-related headaches for instance). We might also draw parallels with Žižek's analogy of the ‘chocolate laxative’, which, he argues, denotes

a kind of pseudo-Hegelian immediate coincidence of opposites: action and reaction should coincide; the very thing that causes damage should already be the remedy. The ultimate example is arguably a

chocolate laxative, available in the USA, with the paradoxical injunction: do you have constipation? Eat more of this chocolate! (that is, of the very thing that causes constipation). (Žižek, 2003, p. 97)

Both Hirst and Žižek echo Heidegger's point, the irony of finding a technological solution to the problem of technology. Heidegger, as Dreyfus points out, is not supplying a recipe for getting technology under control so that it may serve our rationally chosen ends. For Heidegger technology is neither the problem, nor the solution: the problem is the reduction of Being to instrumentality, which merely finds expression in technology:

What is dangerous is not technology. There is no demonry of technology, but rather there is the mystery of its essence. The essence of technology... is the danger ... where Enframing reigns, there is danger in the highest sense. (Heidegger, 1977, p. 28)

Given Heidegger's emphatic denial of the possibility of a technological solution to the problems of technology, it might seem puzzling then that Heidegger should suggest that a 'saving power' emanates from the dangers posed by technological 'enframing'. Yet, at the end of his essay on "The Question Concerning Technology", Heidegger once again quotes the poet Hölderlin in saying that "where the danger is, grows [t]he saving power also". Despite the fact that instrumentality has become the dominant mode of Being - to the extent that even human beings are approached in this way, and in some extreme cases counting even less than a means to an end (where they are exterminated en masse for instance, deprived even of the capacity of dying a human death) - Heidegger insists that there is a "saving power" that originates in the very source of the Gestell. In order to comprehend this seemingly absurd point it is necessary to remind ourselves that despite its totalising tendencies that seemingly remove it from all that is good and truthful, the Gestell is still a mode of *revealing*. As such, it still confronts us with Being, but we need to become aware of the particular way in which Being confronts us through the Gestell. It is from this recognition that the saving power emerges, and it emerges in the shape of giving us the chance to realign

the ontological structures that shape how we engage with the world. For Heidegger, we not only have the capacity to shape how revealing takes place, we have a responsibility to do so. This is what Heidegger refers to as “the highest dignity of [man’s] essence”. It is worth quoting from his “Letter on Humanism” to emphasise that Heidegger is really speaking of a responsibility towards other beings, not a right -

Man is rather ‘thrown’ ... into the truth of Being, so that ... he might guard the truth of Being, in order that beings might appear in the light of Being as the beings they are. Man does not decide whether and how beings appear, whether and how God and the gods or history and nature come forward into the clearing of Being, come to presence and depart. *Man is the shepherd of Being*. (Heidegger, 1978, p. 159, emphasis added)³⁴

From the specific nature of human Being as a being that has an awareness of its own Being, Heidegger argues emerges a responsibility: in other words, Dasein’s ability to reflect on its own situation is as much a responsibility as it is a privilege.

For Heidegger, technology harbours a saving power because it shows up the extent of the danger. The threat that emanates from the rule of the Gestell is that technological thinking and Being might become the only way of thinking and Being to the exclusion of alternatives, or what Heidegger calls ‘authentic’ Being. It is the realisation of this threat that brings with it the potential for alternatives. However, this potential depends on whether we are aware of the dangers currently affecting our being-in-the-world, our awareness of the threat that emanates from instrumental ways of thinking and Being. Hence Heidegger is clear that

[e]verything ... depends upon this: that we ponder this arising [of the saving power] and that, recollecting, we watch over it. How can

³⁴In *Being and Time* Heidegger elaborates on the specifics of Dasein, arguing that an essential characteristic of human Being that transcends pure presence is the attitude of ‘care’ (Heidegger, 2008).

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this happen? Above all through our catching sight of what comes to presence in technology, instead of merely staring at the technological. So long as we represent technology as an instrument, we remain held fast in the will to master it. We press on past the essence of technology. (Heidegger, 1977, p. 32)

This is Heidegger at his most urgent, cautioning us not to get distracted by the realm of the technological, and especially not to give ourselves up to the ease with which we can see technology as a mere means to an end. Faced with the ubiquity of information and communication technologies that has been the subject of this thesis, Heidegger's plea could not be more timely. Our instrumental understanding of technology blinds us everywhere to the ways in which they articulate the hyper-rationality that is the logic of the Gestell, and this is reinforced by the rhetoric used by governments and corporations to legitimise the expansive surveillance measures that infringe on the privileges that define human Being.

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Repressive intolerance toward a thought not immediately accompanied by instructions for action is founded in fear. ... An aged bourgeois mechanism with which the men of the Enlightenment of the eighteenth century were very familiar displays itself anew but unchanged: suffering caused by a negative condition ... turns into anger toward the person who expresses it... . Pseudo-activity is allied with pseudo-reality in the design of a subjective position; an activity that overplays itself and fires itself up for the sake of its own publicity... Within absolutized praxis, only reaction is possible and for this reason the reaction is false. ... When the doors are barricaded, it is doubly important that thought not be interrupted.

Adorno, 2001 [1991], p. 200.

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Questioning is then no longer a preliminary step, to give way to the answer and thus to knowledge, but questioning becomes itself the highest form of knowing.

Heidegger, 1985 [1933], p. 474

In terms of our present situation, the purpose of Heidegger's overall conceptualisation of technology, which I have explored in this thesis in its relevance to the current technological actuality, is to contribute to this awareness. The problems that are symptoms of this reality, such as mass surveillance and the exploitation of personal information, do not require a technological solution. They are not grounded in technological reality itself, but in an underlying way of thinking that puts technology to use according to the essence of modern technology, the *Gestell*. Hence it is awareness and thinking that are needed most urgently, because it is thought that lays the foundations for our ontological orientation towards the world, which determines how we engage with other beings in both unmediated and mediated ways. As Heidegger argues,

Human activity can never directly counter this danger. Human achievement alone can never banish it. But human reflection can ponder the fact that all saving power must be of a higher essence than what is endangered, though at the same time kindred to it. (1977, pp. 33-34, emphasis added)

Here we encounter what disappointed Marcuse and many others in Heidegger, namely precisely the lack of recommendations for a concrete course of action that would lead to an alternative historical situation. For Heidegger, however, the understanding of thought as 'theory' and its concomitant opposition to praxis, is rooted in Ancient philosophy, as he argued in his *Letter on Humanism*. The result, Heidegger points out, we can still witness today in philosophy's ongoing attempts to justify its existence before the 'sciences'. For Heidegger, thinking is action in its purest and most original form. It does not require an externally verifiable change in the physical composition of the universe. This is what the sciences retrospectively analyse, as a result of which thinking in Heideggerian

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terms is then “judged by a standard that does not measure up to it” (ibid., p.148). For Heidegger,

Thinking does not become action only because some effect issues from it or because it is applied. Thinking acts insofar as it thinks. Such action is presumably the simplest and at the same time the highest, because it concerns the relation of Being to man. (ibid., p.147)

Despite Adorno’s well-documented antipathy towards Heidegger, Adorno’s insistence that “when the doors are barricaded, it is doubly important that thought not be interrupted”, quoted at the beginning of this section, echoes Heidegger’s point with even greater urgency.

The last of Marx’s “Theses on Feuerbach” famously takes issue with philosophy on the grounds that “philosophers have only interpreted the world, in various ways; the point is to change it”, an argument that even today is frequently invoked to articulate an opposition between thinking and doing. Heidegger was very familiar with the argument, and responded in a 1969 interview on German television that

when this statement is cited and when it is followed, it is overlooked that changing the world presupposes a change in the positing of the world. A positing of the world can only be won by adequately interpreting the world. (cited in Ward, 1995, p.130)

In the same way that Marx was not challenging the fundamental purpose of philosophy, Heidegger’s response should not be read as an antagonistic towards Marx. Rather, it stresses Heidegger’s point that thought in itself constitutes action.

9.4 Limitations of the Present Work and Recommendations for Further Research

This thesis has sought to make a contribution to current debates on the significance of ICTs for social, cultural and political life, by arguing for philosophy of technology and in particular the work of Martin Heidegger to be taken into account. It has been written from the perspective of Media & Communications Studies, and as such constitutes a venturing out of this field into the field of philosophy to show the great benefits a closer dialogue between the two disciplines can yield in questions of technology. My aim was to open up new insights into productive ways of thinking about technology to Media & Communications Studies, as well as the growing field of Surveillance Studies, outside the debates that are already ongoing about social media in particular and which are often constrained by a limiting concept of technology. Here I have sought to show how thinking about technology in ontological terms can sidestep some of the traps questions about the social significance of technology can often fall into, such as excessive optimism or pessimism, and the unhelpful generalisations that come with the simplistic technological determinism.

In writing this thesis I have not only had to familiarise myself with Heidegger's work, but to an extent also with other periods in the history of philosophy and the thinkers that have shaped these periods where Heidegger argues that these have been crucial to the way we think about, and engage with, technology today. For instance, Heidegger's argument that modern metaphysics has set up the world as a 'world picture' required me to delve even deeper into questions of basic ontology that are usually far beyond the remit of the study of Media & Communications. Much of this has taken place through my engagement with Heidegger's own work, as he is a meticulous historian of Western thought, and his thinking takes place in ongoing conversation with, and critique of, the ideas of those who have gone before. To nevertheless make these questions understandable for non-philosophers and to show their value for thinking about information and communications technologies, I have simplified at times, and used examples

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that allow the easy transfer of ideas from these to our more complex current technological reality (hence my frequent return to the example of the hammer). The aim of this thesis has been to show how much of *Heidegger's* work, a thinker who is rarely mentioned in current debates about the significance of ICTs, is useful for thinking about questions of the social significance of these technologies, e.g. regarding the issue of surveillance. I have not argued that Heidegger's approach should replace all that we currently know, but that his work can offer valuable insights to supplement and enrich our understanding. In particular, I have sought to present ways in which current critical approaches to ICTs that work in the tradition of Critical Theory could be enriched by the ontological framework offered by Heidegger, which places the issues raised by Critical Theory in the context of the cultivation of a mode of thinking that is reigned by instrumentality. The advantage of this approach is that it also puts within our grasp the opportunity to take stock of our thinking, because in this reflectiveness, according to Heidegger, lies the possibility of developing non-instrumental ways of thinking.

In Marcuse's reflections on modern *One-dimensional Man* he points out that classical Marxism sees the potential for technology to be freed from the grip of negative rationalizing forces and turned back upon these forces:

The classical Marxian theory envisages the transition from capitalism to socialism as a political revolution: the proletariat destroys the political apparatus of capitalism but retains the technological apparatus, subjecting it to socialization. There is continuity in the revolution: technological rationality, freed from irrational restrictions and destructions, sustains and consummates itself in the new society. (Marcuse, 1991 [1964], p. 31)

The perspective drawn up by Heidegger's thinking is at the same time more pessimistic, and more optimistic: pessimistic, because from a Heideggerian perspective today's information-technological system cannot be dissociated from the immaterial power relationships underlying its material manifestations. At the same time, however, we might say that for Heidegger there is no problem that

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requires a technological solution - the means are within a much closer reach as they lie in the cultivation of our own critical awareness and thinking.

Even though Heidegger's thought is not overtly political, I have sought to argue that it has deeply political ramifications. This thesis could only consider a number of meeting points between the critique offered by Heidegger and that offered by Critical Theory. These merit further exploration, in particular with a view to inquiring how these linkage points could further illuminate our understanding of our current technological landscape. Feenberg has attempted such a project in his work *Heidegger and Marcuse: the Catastrophe and Redemption of History* (2005), but Feenberg's misreading of Heidegger in a number of points merits the continuing of the conversation he has started. In this sense I hope to have contributed, to phrase it in Heideggerian terms, to a 'clearing' where such a dialogue can take place.

Finally, the question might be raised whether, in pursuing the aim of making Heidegger's insights accessible and productive for debates about the significance of ICTs for social and cultural life, I am not culpable of the instrumentalisation that is at the very heart of Heidegger's critique of technology. In other words: in drawing out from Heidegger's thought a critique of ICTs, have I not used his thinking as a means to an end, when it is precisely the 'means/ends' thinking that, for Heidegger, is at the heart of the essence of technology? Perhaps this claim is justified. Lacan argued that language itself is violent, and we might recall from the last chapter how Joseph Cohen interpreted Heidegger's silence on his politics: as an acknowledgement that to name, would be the ultimate violence to Auschwitz. However, I would argue that the value of Heidegger's thinking for a critique of our contemporary information-technological landscape is such that to pass it over in silence, so as to avoid the violence of instrumentalisation, is no real alternative. One of the fundamental assets of Heidegger's thinking is that he is ever-conscious of the constraints within which it operates - and this is the task of all thinking that wants to call itself critical. It must not be afraid to turn critique upon itself. In this sense, I would argue that my project is in keeping with Heidegger's overall aim, which is to make our thinking more thoughtful.

References

- Metropolis*. 1927. [Film] Directed by Fritz Lang. Great Britain: Eureka Video.
2002. Sleeping Policeman (Road humps / Speed bumps), [Online] Available at: http://www3.lgm.gov.my/irpec/prd_sleep.html [Accessed: July 10, 2014].
2005. Towards Knowledge Societies, [Online] Available at: <http://unesdoc.unesco.org/images/0014/001418/141843e.pdf> [Accessed: September 28, 2014].
2007. NASA Fact Sheet, [Online] Available at: <http://www.nasa.gov/vision/earth/everydaylife/jamestown-water-fs.html> [Accessed: September 29, 2014].
- Article 12: Waking up in a Surveillance Society*. 2010. [Film] Directed by Juan Manuel Biaiñ. United Kingdom: Junco Films.
- Abrahams, R., 2014. Can Facebook's Microphone Feature Get Hijacked? Probably YES! (Huffington Post: The Blog), [Online] Available at: http://www.huffingtonpost.com/rebecca-abrahams/can-facebooks-microphone_b_5417395.html [Accessed: 31 03 2014].
- Adorno, T., 1973. *Jargon of Authenticity*. Evanston, Ill: Northwestern University Press.
- Adorno, T., 2001 [1991]. *The Culture Industry: Selected Essays on Mass Culture*. London and New York: Routledge.

REFERENCES

- Agamben, G., 1998. *Homo Sacer: Sovereign Power and Bare Life*. Stanford, CA: Stanford University Press.
- Airport, M., 2013. Body Scanners, [Online] Available at: <http://www.manchesterairport.co.uk/manweb.nsf/Content/X-Ray-Scanners-Public-Information> [Accessed: July 17, 2013].
- Althusser, L., 1971. Ideology and Ideological State Apparatuses. *Lenin and Philosophy and Other Essays*. London: NLB.
- Andrejevic, M., Surveillance in the Digital Enclosure. *The Communication Review*, 10 (2007)(4), p. 295-317.
- Andrejevic, M., Critical Media Studies 2.0 an Interactive Upgrade. *Interactions: Studies in Communication and Culture*, 1 (2009)(1), pp. 28-40.
- Andrejevic, M., 2009b. Privacy, Exploitation and the Digital Enclosure, [Online] Available at: <http://amsterdamlawforum.org/article/view/94/168> [Accessed: June 26, 2014].
- Andrejevic, M., Surveillance and Alienation in the Online Economy. *Surveillance & Society*, 8 (2011)(3), pp. 278-287.
- Andrejevic, M., 2013. *Infoglut: How Too Much Information Is Changing the Way We Think and Know*. New York; London: Routledge.
- Anonymous, ????. Egypt's Facebook Revolution, [Online] Available at: http://cla.calpoly.edu/~lcall/354/Facebook_Revolution.jpg [Accessed: October 10, 2012].
- Apple, 2014. Macbook Pro and the Environment, [Online] Available at: <https://www.apple.com/uk/macbook-pro/environment/> [Accessed: July 30, 2014].
- Ball, J., 2012. Google privacy policy: a stranglehold most users are happy to be held in, [Online] Available at: <http://www.theguardian.com/technology/2012/mar/01/google-privacy-policy-analysis> [Accessed: September 20, 2014].

REFERENCES

- Barthes, R., 1972. *Mythologies*. London: J. Cape.
- Baudrillard, J., 2001. The System of Objects. In: Poster, M. (ed.). *Jean Baudrillard: Selected Writings*. Cambridge: Polity, pp. 13–31.
- Bauman, Z., 1989. *Modernity and the Holocaust*. Cambridge: Polity.
- Bauman, Z., 2000. *Liquid Modernity*. Cambridge: Polity.
- Bauman, Z., 2006. *Liquid Fear*. Cambridge: Polity.
- Bauman, Z. & Lyon, D., 2013. *Liquid Surveillance: A Conversation*. Cambridge: Polity.
- BBC, 2012. Draft Communications Data Bill could lead to ‘police state’, [Online] Available at: <http://www.bbc.co.uk/news/uk-politics-20045818> [Accessed: October 10, 2012].
- Bell, D., 1979. The Social Framework of the Information Society. *The Computer Age: A Twenty Year View*. Cambridge, MA: MIT Press, pp. 163–211.
- Benjamin, W., 2008 [1936]. *The Work of Art in the Age of its Technological Reproducibility and other Writings on Media*. Cambridge, MA; London: Belknap Press of Harvard University Press.
- Bernstein, J., 2001 [1991]. Introduction. *The Culture Industry: Selected Essays in Mass Culture*. London; New York: Routledge, pp. 1–28.
- Beschke, S., 2014. Fairphone: An Unfulfilled Promise, [Online] Available at: <http://blog.faire-computer.de/fairphone-an-unfulfilled-promise/> [Accessed: August 2, 2014].
- Bijker, W., 1995. *Of Bicycles, Bakelights and Bulbs: toward a theory of sociotechnical change*. Cambridge, MA; London: MIT Press.
- Billerbeck, L. V., 2013. “Überlegungen zum Judentum, die eindeutig antisemitisch sind”: Günter Figal im Gespräch mit Liane von Billerbeck, [Online] Available at: <http://www.deutschlandradiokultur.de/>

REFERENCES

- umstrittender-philosoph-ueberlegungen-zum-judentum-die.954.de.html?dram:article_id=272402 [Accessed: July 11, 2014].
- Blattner, W., 2005. Temporality. *A Companion to Heidegger*. Malden, MA: Blackwell, pp. 311–324.
- Bolt, B., 2011. *Heidegger Reframed: Interpreting Key Thinkers for the Arts*. London: Tauris.
- without Borders, R., 2014. Sudan: Scoring High in Censorship, [Online] Available at: <http://12mars.rsf.org/2014-en/author/afrique/> [Accessed: July 30, 2014].
- Bourdieu, P. & Wacquant, L. W., 1992. *An Invitation to Reflexive Sociology*. Cambridge; Oxford: Polity Press.
- Bowes, A. D. P. & Church, H. N., 1993. *Food Values of Portions Commonly Used*. Lippincott Williams & Wilkins.
- Boyne, R., Post-Panopticism. *Economy and Society*, 29 (2000)(2), pp. 285–307.
- Brown, M., 2012. Draft of email-snooping ‘Draft Communications Data Bill’ published online, [Online] Available at: <http://www.wired.co.uk/news/archive/2012-06/14/communications-bill> [Accessed: October 10, 2012].
- Bullas, J., 2014. 35 Mind Numbing YouTube Facts, Figures and Statistics Infographic, [Online] Available at: <http://www.jeffbullas.com/2012/05/23/35-mind-numbing-youtube-facts-figures-and-statistics-infographic/> [Accessed: September 29, 2014].
- Bunge, M., Technology as Applied Science. *Technology & Culture*, 7 (1966)(3), pp. 329–347.
- Castells, M., Materials for an Exploratory Theory of the Network Society. *British Journal of Sociology*, 51 (2000a)(1), pp. 5–24. <http://red.pucp.edu.pe/ridei/files/2011/08/33.pdf>.

REFERENCES

- Castells, M., 2000b. *The Rise of the Network Society*. Oxford; Malden, MA: Blackwell.
- Castells, M., 2012. *Networks of Outrage and Hope: Social Movements in the Internet Age*. Cambridge: Polity.
- Castells, M., 2013 [2009]. *Communication Power*. Oxford: Oxford University Press.
- Cavanagh, A., 2007. *Sociology in the Age of the Internet*. Maidenhead: Open University Press.
- CCTV, N., ????. The Case against - Reports, [Online] Available at: <http://www.no-cctv.org.uk/caseagainst/reports.asp> [Accessed: May 23, 2013].
- Chandler, D., 2000. Technological or Media Determinism, [Online] Available at: <http://www.aber.ac.uk/media/Documents/tecdet/tdetold.html> [Accessed: July 30, 2014].
- Clarke, R., ????. Plato: Overview, [Online] Available at: <http://www.rlwclarke.net/courses/lits2306/2011-2012/02PlatoOverview.pdf> [Accessed: September 29, 2014].
- Cochrane, L., 2013. David Lyon: Watching the Watchers, [Online] Available at: <http://www.queensu.ca/research/societies/lyon> [Accessed: May 30, 2014].
- Cohen, J., 2012. "The Silence". Talk given at a workshop on Heidegger and the Political at University College Dublin, November 2012. Dublin.
- Coleman, S., The New Media and Democratic Politics. *New Media & Society*, 1 (1999)(1), pp. 67–74.
- Commission, E., 1995. Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data, [Online] Available at: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31995L0046:en:HTML> [Accessed: July 2, 2014].

REFERENCES

- Commission, E., 2011. COMMISSION REGULATION (EU) No 1141/2011, [Online] Available at: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:293:0022:0023:EN:PDF> [Accessed: October 30, 2012].
- for Congo, R. H., 2014. 2012 Conflict Minerals Company Rankings, [Online] Available at: <http://www.raisehopeforcongo.org/content/conflict-minerals-company-rankings> [Accessed: June 26, 2014].
- Curtis, A., 2011. All Watched over by Machines of Loving Grace, [Online] Available at: <http://thoughtmaybe.com/all-watched-over-by-machines-of-loving-grace/> [Accessed: January 11, 2014].
- Dallmayr, F., Adorno und Heidegger: Untersuchung Einer Philosophischen Kommunikationsverweigerung by Hermann Mörchen. *Diacritics*, (1989)(19), pp. 82–100.
- Derrida, J., 1987. *Of Spirit: Heidegger and the Question*. Chicago: Chicago University Press.
- Dijk, J. V., 2012. *The Network Society*. London: Sage.
- Dijk, J. V., 2013. *The Culture of Connectivity: A Critical History of Social Media*. Oxford; New York: Oxford University Press.
- Doyle, A., 1998. ‘Cops’: Television Policing as Policing Reality. In: Fishman, M. & Cavender, G. (eds.). *Entertaining Crime: Television Reality Programs*. New York: Aldine de Gruyter, pp. 95–116.
- Dreyfus, H., 1995. *Being-in-the-World: A Commentary on Heidegger’s Being and Time*. Cambridge, MA; London: M.I.T. Press.
- Dreyfus, H., 2009. *Heidegger on Gaining a Free Relation to Technology*. Lanham; Plymouth: Rowman and Littlefield, pp. 25–33.
- Dreyfus, H. & Wrathall, M., 2009. Who was Martin Heidegger?, [Online] Available at: <http://www.beingintheworldmovie.com/ph-heidegger.html> [Accessed: June 4, 2014].

REFERENCES

- Duberman, M., 1966. *James Russell Lowell*. Boston, MA: Houghton Mifflin.
- Duhigg, C. & Barboza, D., 2012. In China, Human Costs Are Built Into an iPad, [Online] Available at: <http://www.nytimes.com/2012/01/26/business/ieconomy-apples-ipad-and-the-human-costs-for-workers-in-china.html?pagewanted=all&r=0> [Accessed: June 26, 2014].
- Eagleton, T., 1991. *Ideology*. London: Verso.
- Ecologies, M. & Activism, D., 2011. Castells and Social Media and Revolution, [Online] Available at: <http://mediaecologies.wordpress.com/2011/02/23/castells-on-social-media-and-revolution/> [Accessed: July 28, 2014].
- Economist, T., Secrets, Lies and America's Spies: A government's first job is to protect its citizens. But that should be based on informed consent, not blind trust. *The Economist*, (2013). <http://www.economist.com/news/leaders/21579455-governments-first-job-protect-its-citizens-should-be-based-informed-consent>.
- Elden, S., 2001. *Mapping the Present: Heidegger, Foucault and the Project of a Spatial History*. New York; London: Continuum.
- Euractiv, 2012. Interoperability of ICT Systems, [Online] Available at: <http://www.euractiv.com/infosociety/interoperability-ict-systems-links dossier-188408> [Accessed: October 12, 2012].
- Facebook, 2014. Data Use Policy - Information we receive and how it is used, [Online] Available at: <https://www.facebook.com/about/privacy/your-info> [Accessed: June 26, 2014].
- Fairclough, N., 2001. *The Power of Language*. Harlow: Pearson.
- Fairphone, 2014. Together we can change the way products are made, [Online] Available at: <https://www.fairphone.com/> [Accessed: June 29, 2014].
- Farias, V., 1989. *Heidegger and Nazism*. Philadelphia: Temple University Press.

REFERENCES

- FastTopTen, 2011. Top Ten Reasons Why Vinyl Is Better than Digital, [Online] Available at: <http://www.fasttopten.com/list/top-ten-reasons-why-vinyl-is-better-than-digital> [Accessed: December 13, 2013].
- Faye, E., 2009. *Heidegger: The Introduction of Nazism into Philosophy in Light of the Unpublished Seminars of 1933-1935*. New Haven: Yale University Press.
- Feather, J., 2008. *The Information Society: A Study of Continuity and Change*. London: Facet.
- Feenberg, A., 1991. *Critical Theory of Technology*. New York: Oxford University Press.
- Feenberg, A., 1999. *Questioning Technology*. London: Routledge.
- Feenberg, A., 2000. From Essentialism to Constructivism: Philosophy of Technology at the Crossroads. In: Higgs, E., Light, A. & Strong, D. (eds.). *Technology and the Good Life?* Chicago: University of Chicago Press, pp. 294–315.
- Feenberg, A., 2002. *Transforming Technology: A Critical Theory Revisited*. Oxford: Oxford University Press.
- Feenberg, A., 2003. What is philosophy of Technology, [Online] Available at: <http://www.sfu.ca/~andrewf/komaba.htm> [Accessed: May 10, 2013].
- Feenberg, A., 2005. *Heidegger and Marcuse: The Catastrophe and Redemption of History*. New York; London: Routledge.
- Email, May 2012*. 2012. [Film] Directed by .
- Fired, T. F., 2014. The Facebook Fired, [Online] Available at: <http://www.thefacebookfired.com/> [Accessed: September 25, 2014].
- Food, T. C.-O., ???? Go Contactless at the Co-operative Food, [Online] Available at: <http://www.co-operativefood.co.uk/Contactless/> [Accessed: July 8, 2014].

REFERENCES

- Foreman, A., Stay silent and soon Amazon will be telling the world what it can read. *The Sunday Times*, (2014).
- Foucault, M., 1991. *Discipline and Punish: The Birth of the Prison*. London: Penguin.
- Fried, G., 2012. "Heidegger, Politics, and Us". Talk given at a workshop on Heidegger and the Political at University College Dublin, November 2012. Dublin,.
- Fuchs, C., A Contribution to the Theoretical Foundation of Critical Media and Communications Studies. *Javnost-The Public*, 16 (2009)(2).
- Fuchs, C., Social Media, Riots & Revolutions. *Capital & Class*, 36 (2012a)(3), pp. 383–391.
- Fuchs, C., 2012b. Why Social Media Research Matters for Occupy, [Online] Available at: <http://occupynewsnetwork.co.uk/why-social-media-research-matters-for-occupy/> [Accessed: March 5, 2013].
- Fuchs, C., 2013. PRISM and the Social Media-Surveillance-Industrial Complex, [Online] Available at: <http://fuchs.uti.at/920/> [Accessed: July 3, 2013].
- Fuchs, C., 2014a. *Digital Labour and Karl Marx*. New York and Abingdon: Taylor & Francis.
- Fuchs, C., 2014b. *Social Media: A Critical Introduction*. London, Thousand Oaks, New Delhi and Singapore: Sage.
- Furedi, F., 2006. *Culture of Fear, Revisited*. London; New York: Continuum.
- García, G. I. & Sánchez, C. G. A., Psychoanalysis and Politics: The Theory of Ideology in Slavoj Žižek. *The International Journal of Žižek Studies*, 2 (2008)(3).
- Gauntlett, D., 2011. *Making is Connecting: The social meaning of creativity, from DIY and knitting to YouTube and Web 2.0*. Cambridge; Malden, MA: Polity.

REFERENCES

- Gehl, R., 2009. A Cultural and Political Economy of Web 2.0, Unpublished dissertation, George Mason University., [Online] Available at: http://www.robertwgehl.org/text/gehl_diss_full.pdf [Accessed: September 28, 2014].
- Gellman, B. & Poitras, L., 2013. U.S., British intelligence mining data from nine U.S. Internet companies in broad secret program, [Online] Available at: http://www.washingtonpost.com/investigations/us-intelligence-mining-data-from-nine-us-internet-companies-in-broad-secret-program/2013/06/06/3a0c0da8-cebf-11e2-8845-d970ccb04497_story.html [Accessed: July 28, 2014].
- Graham, S. & Wood, D., Digitizing Surveillance: Categorization, Space, Inequality. 23 (2003)(2), pp. 227–248.
- Gray, M., Urban Surveillance and Panopticism: Will we recognize the facial recognition society? *Surveillance & Society*, 1 (2003)(3), pp. 314–330.
- Grocer, T., 2013. Tesco dismisses NFC payments as ‘past sell-by date’, [Online] Available at: <http://www.thegrocer.co.uk/home/topics/technology-and-supply-chain/tesco-dismisses-nfc-payments-as-past-sell-by-date/343175.article?redirCanon=1> [Accessed: July 8, 2014].
- Gunkel, D., Beyond Mediation: Thinking the Computer Otherwise. *Interactions: Studies in Communication and Culture*, 1 (2009)(1), pp. 53–70.
- Gunkel, D. & Taylor, P., 2014. *Heidegger and the Media*. Cambridge; Malden MA: Polity.
- Haggerty, K. D. & Ericson, R. V., The Surveillant Assemblage. *British Journal of Sociology*, 51 (2000)(4), pp. 605–622.
- Hammer, R. & Kellner, D., 2009. From Communications and Media Studies Through Cultural Studies: An Introduction and Overview. In: Hammer, R. & Douglas, K. (eds.). *Media/Cultural Studies: Critical Approaches*. New York: Peter Lang, pp. ix–xivii.

REFERENCES

- Harman, G., 2002. *Tool Being: Heidegger and the Metaphysics of Objects*. Chicago: Open Court.
- Hasler, L., 2004. Der Gründer der Ding-Dynastie, [Online] Available at: <http://www.weltwoche.ch/weiche/hinweisgesperrt.html?hidID=52425> [Accessed: October 10, 2012].
- Heidegger, M., 1966. *Discourse on Thinking*. New York: Harper and Row.
- Heidegger, M., 1971a. Language. *Poetry, Language, Thought*. New York: HarperCollins, pp. 185–208.
- Heidegger, M., 1971b. ...Poetically Man Dwells... *Poetry, Language, Thought*. New York: HarperCollins, pp. 209–227.
- Heidegger, M., 1971c. The Origin of the Work of Art. *Poetry, Language, Thought*. New York: HarperCollins, pp. 15–86.
- Heidegger, M., 1971d. Building Dwelling Thinking. *Poetry, Language, Thought*. New York: HarperCollins, pp. 141–160.
- Heidegger, M., 1971e. What Are Poets For? *Poetry, Language, Thought*. New York: HarperCollins, pp. 87–140.
- Heidegger, M., 1971f. The Thing. *Poetry, Language, Thought*. New York: Harper Perennial, pp. 161–184.
- Heidegger, M., 1976. *What is called Thinking?* New York: Harper Perennial.
- Heidegger, M., 1977. The Question Concerning Technology. *The Question Concerning Technology and other Essays*. New York and London: Harper & Row, pp. 3–35.
- Heidegger, M., 1977a. The Origin of the World Picture. In: Lovitt, W. (ed.). *The Question Concerning Technology and other Essays*. New York and London: Harper & Row, pp. 115–154.

REFERENCES

- Heidegger, M., 1977d. Science and Reflection. *The Question Concerning Technology and other Essays*. New York; London; Toronto; Sydney: Harper Perennial, pp. 155–182.
- Heidegger, M., 1978. Letter on Humanism. In: Krell, D. F. (ed.). *Basic Writings*. London; New York: Routledge, pp. 147–182.
- Heidegger, M., The Self-Assertion of the German University and The Rectorate 1933/1934: Facts and Thoughts, trans. Karsten Harries. *The Review of Metaphysics*, 38 (1985 [1933])(3), pp. 467–502.
- Heidegger, M., 1988 [1975]. *Basic Problems of Phenomenology*. Bloomington: Indiana University Press, 2nd edition.
- Heidegger, M., 1993 [1966]. “Only a God can Save us”: Der Spiegel’s Interview with Martin Heidegger. In: Wolin, R. (ed.). *The Heidegger Controversy: A Critical Reader*. Cambridge, MA: MIT Press, pp. 91–116.
- Heidegger, M., 2008a. On the Essence of Truth. In: Krell, D. F. (ed.). *Basic Writings*. Toronto: Harper Perennial, pp. 113–141.
- Heidegger, M., 2008b. *Being and Time*, trans. John MacQuarrie and Edward Robinson. Malden, MA; Oxford; Victoria: Blackwell.
- Heidegger, M., 2010 [1953]. *Being and Time*, trans. Joan Stambaugh. Albany: State University of New York Press.
- Heidegger, M., 2012 . Positionality. *Bremen and Freiburg Lectures: Insight into that Which is and Basic Principles of Thinking*. Bloomington; Indianapolis: Indiana University Press, pp. 23–43.
- Heidegger, M., 2012a. Insight Into That Which Is: Bremen Lectures 1949. *Bremen and Freiburg Lectures: Insight into that Which is and Basic Principles of Thinking*. Bloomington: Indiana University Press, pp. 3–64.
- Heidegger, M., 2012b. The Danger. *Bremen and Freiburg Lectures: Insight into that Which is and Basic Principles of Thinking*. Bloomington; Indianapolis: Indiana University Press, pp. 44–63.

REFERENCES

- Heim, M., 1993. *The Metaphysics of Virtual Reality*. Oxford: Oxford University Press.
- Hemming, L. P., 2011. Introduction. In: Hemming, L. P., Costea, B. & Amiridis, K. (eds.). *The Movement of Nihilism: Heidegger's Thinking after Nietzsche*. London; New York: Continuum, pp. 1–7.
- Hilfer, T., 2003. *The New Hegemony in Literary Studies: Contradictions in Theory*. Evanston, Illinois: Northwestern University Press.
- Hill, K., 2012. How Target Figured Out A Teen Girl Was Pregnant Before Her Father Did, [Online] Available at: <http://www.forbes.com/sites/kashmirhill/2012/02/16/how-target-figured-out-a-teen-girl-was-pregnant-before-her-father-did/> [Accessed: September 28, 2014].
- Horkheimer, M., 2001 [1937]. Traditional and Critical Theory. *Critical Theory: Selected Essays*. New York: Continuum, pp. 188–243. <https://www.sfu.ca/~andrewf/hork.doc>.
- Ihde, D., 2003. Heidegger's Philosophy of Technology. In: Scharff, R. & Dusek, V. (eds.). *Philosophy of Technology: The Technological Condition, An Anthology*. Malden, MA; Oxford: Blackwell, pp. 277–292.
- Innis, H., 2007. *Empire and Communications*. Toronto, ON: Dundurn.
- Jameson, F., 1991. *Postmodernism, or, the Cultural Logic of Late Capitalism*. Durham, NC: Duke University Press.
- Jenkins, H., 2006a. Confessions of an ACA-Fan: The Official Weblog of Henry Jenkins, [Online] Available at: http://henryjenkins.org/2006/06/welcome_to_convergence_culture.html [Accessed: 12 6, 2013].
- Jenkins, H., 2006b. *Convergence Culture: Where Old and New Media Collide*. New York and London: New York University Press.

REFERENCES

- Jhally, S., 1997. Stuart Hall: Representation & The Media, [Online] Available at: http://www.mediaed.org/assets/products/409/transcript_409.pdf [Accessed: November 29, 2013].
- Kaiman, J., Gangnam Style, The Ai Wei Wei Way. *The Guardian*, (2012).
- Kellner, D., 1984. *Herbert Marcuse and the Crisis of Marxism*. Berkeley: University of California Press.
- Khong, L., Actants and Enframing: Heidegger and Latour on Technology. *Studies in History and Philosophy of Science*, 34 (2003), pp. 693–704.
- Kittler, F., 1995. There is no Software, [Online] Available at: <http://hydra.humanities.uci.edu/kittler/software.html> [Accessed: June 4, 2014].
- Kittler, F., 1997. Protected Mode. In: Johnston, J. (ed.). *Literature, Media, Information Systems*. Amsterdam: G+B Arts International, pp. 156–168.
- Kittler, F., 1999. *Gramophone, Film, Typewriter*. Stanford: Stanford University Press.
- Kittler, F., Number and Numeral. *Theory, Culture & Society*, 23 (2006)(7-8), pp. 51–61.
- Kittler, F., Towards an Ontology of Media. *Theory, Culture & Society*, 26 (2009)(2-3), pp. 23–31.
- Kochan, J., Latour’s Heidegger. *Social Studies of Science*, 40 (2010)(4), pp. 579–598.
- Kochhar-Lindgren, G., 2011. *Philosophy, Art, and the Specters of Jacques Derrida*. New York: Cambria.
- Kompridis, N., Technology’s Challenge to Democracy: What of the Human? *Parrhesia*, (2009)(8), pp. 20–33.
- Koskela, H., ‘Cam Era’ - The Contemporary Urban Panopticon. *Surveillance & Society*, 1 (2003)(3), pp. 292–313.

REFERENCES

- Kotsko, A., 2012. How to Read Žižek, [Online] Available at: <http://lareviewofbooks.org/article.php?id=897&fulltext=1> [Accessed: May 15, 2013].
- Kozinets, R., Technology/Ideology: How Ideological Fields Influence Consumers' Technology Narratives. *Journal of Consumer Research*, 34 (2008)(6), pp. 865–881.
- Kracauer, S., 1995 [1963]. *The Mass Ornament: Weimar Essays*. Cambridge, MA; London: Harvard University Press.
- Lama, D. & Cutler, H., 1999. *The Art of Happiness*. London: Coronet.
- Lanier, J., 2011. *You are not a Gadget*. London: Penguin.
- Lash, S., 2002. *Critique of Information*. London: Sage.
- Latour, B., 2002. Technology is Society made Durable, [Online] Available at: <http://www.bruno-latour.fr/sites/default/files/46-TECHNOLOGY-DURABLE-GBpdf.pdf> [Accessed: June 27, 2014].
- Latour, B., 1988. *The Pasteurization of France*. Cambridge, MA: Harvard University Press.
- Latour, B., 1999. *Pandora's Hope: Essays on the Reality of Science Studies*. Cambridge, MA: Harvard University Press.
- Latour, B., Can We Get Our Materialism Back Please? *Isis*, 98 (2007)(1), pp. 138–142.
- Latour, B., Harman, G. & Erdlyi, P., 2011. *The Prince and the Wolf: Latour and Harman at the LSE*. Winchester and Washington: Zero.
- Leverette, M., Spiritis in a Material World: Hauntology, Historical Materialism, and Phenomenological Medium Theory. *Western Journal of Communication*, (2008)(71), pp. 336–358.

REFERENCES

- Liberties, L. P. C., ????. What are Human Rights?, [Online] Available at: <http://www.liberty-human-rights.org.uk/human-rights/what-are-human-rights> [Accessed: May 31, 2014].
- Liberty: Protecting Civil Liberties, P. H. R., ????. No Snooper's Charter, [Online] Available at: <http://www.liberty-human-rights.org.uk/campaigns/no-snoopers-charter/no-snoopers-charter.php> [Accessed: November 1, 2012].
- Lodge, J., 2010. Quantum Surveillance and Shared Secrets: A Biometric Step too Far?, [Online] Available at: http://aei.pitt.edu/15108/1/Lodge_on_Quantum_Surveillance_e-version12.pdf [Accessed: October 20, 2012].
- Lodge, J., 2012. The Dark Side of the Moon: Accountability, Ethics and New Biometrics. *Second Generation Biometrics: The Ethical, Legal and Social Context*, volume 11. Houten: Springer Netherlands, pp. 305–328.
- for London, T., ????. Oyster card, [Online] Available at: <http://www.tfl.gov.uk/termsandconditions/12321.aspx>. [Accessed: October 4, 2013].
- Longuenesse, B., 2008. Kant's "I think" versus Descartes' "I am a thing that thinks". *Kant and the Early Moderns*. Princeton, NJ; Oxford: Princeton University Press, pp. 9–31.
- Lovitt, W., 1977. Introduction. *The Question Concerning Technology*. New York: Harper & Row, pp. xiii–xxix.
- Lyon, D., 2001. *Surveillance Society: Monitoring Everyday Life*. Buckingham and Philadelphia: Open University Press.
- Lyon, D., Liquid Surveillance. (2010a)(4), pp. 325–338.
- Lyon, D., Liquid Surveillance: The Contribution of Zygmunt Bauman to Surveillance Studies. *International Political Sociology*, (2010b)(4), pp. 325–338.
- Lyon, D., 2013. Watching the Watchers, [Online] Available at: <http://www.queensu.ca/research/societies/lyon> [Accessed: September 25, 2014].

REFERENCES

- Lyotard, J.-F., 1984. *The Postmodern Condition: A Report on Knowledge*. Manchester: Manchester University Press.
- MacKinnon, R., 2012. We're losing Control of our Digital Privacy, [Online] Available at: <http://edition.cnn.com/2012/01/26/opinion/mackinnon-sopa-government-surveillance/> [Accessed: March 4, 2014].
- Maier-Katkin, D. & Maier-Katkin, B., Hannah Arendt, Martin Heidegger and the Politics of Reconciliation. *Human Rights Quarterly*, 28 (2006)(1), pp. 68–119.
- Maier-Katkin, D. & Maier-Katkin, B., Love and Reconciliation: The Case of Hannah Arendt and Martin Heidegger. *Harvard Review*, (2007)(32), pp. 34–48.
- Marcuse, H., Contributions to a Phenomenology of Historical Materialism. *Telos*, 1969 (1969)(4), pp. 3–34.
- Marcuse, H., 1991 [1964]. *One-Dimensional Man*. London: Routledge.
- Marcuse, H., 2005. Herbert Marcuse: Correspondence with Martin Heidegger 1947-48, [Online] Available at: <http://www.marcuse.org/herbert/pubs/40spubs/47MarcuseHeidegger.htm> [Accessed: July 12, 2014].
- Marcuse, H. & Olafson, F., Heidegger's Politics: An Interview with Herbert Marcuse by Frederick Olafson. *Graduate Philosophy Journal*, 6 (1977)(1), pp. 28–40.
- Marwick, A. & Boyd, D., I tweet honestly, I tweet passionately: Twitter users, context collapse and the imagined audience. *New Media & Society*, 13 (2010)(1), pp. 114–133.
- Marx, G., Ethics for the New Surveillance. *The Information Society*, 14 (1998), pp. 171–185.
- Marx, G., What's New about the "New Surveillance"? Classifying for Change and Continuity. 1 (2002)(1), pp. 9–29.
- Marx, K., 1990. *Capital*, volume I. London: Penguin.

REFERENCES

- Mathiesen, T., The Viewer Society: Michel Foucault's 'Panopticon' Revisited. *Theoretical Criminology*, 1 (1997), pp. 215–234.
- McCarney, J., 2005. Ideology and False Consciousness, [Online] Available at: <http://www.marxmyths.org/joseph-mccarney/article.htm#foot-1> [Accessed: April 18, 2013].
- McLuhan, M., 1969. The Playboy Interview: Marshall McLuhan, [Online] Available at: http://www.understandingnewmedia.com/mm1/class_materials/mcluhan-playboy.pdf [Accessed: 3 4, 2014].
- McLuhan, M., 2001. *Understanding Media*. London: Routledge.
- Melby, C., 2011. Apple's Most Unforgettable Advertising, [Online] Available at: <http://www.forbes.com/sites/calebmelby/2011/08/25/apples-most-unforgettable-advertising/> [Accessed: November 1, 2012].
- Merrin, W., 2008. Media Studies 2.0 - My thoughts..., [Online] Available at: <http://mediastudies2point0.blogspot.co.uk/2008/01/for-number-of-years-ive-been-thinking.html> [Accessed: July 8, 2014].
- Microsoft, ????. Microsoft Connect, [Online] Available at: <https://connect.microsoft.com/site1188> [Accessed: April 25, 2012].
- Morozov, E., Making It. *The New Yorker*, (2014). <http://www.newyorker.com/magazine/2014/01/13/making-it-2>.
- Mosco, V., 2004. *The Digital Sublime*. Cambridge, MA; London: MIT Press.
- Mosco, V., 2014 (in press). *To the Cloud: Big Data in a Turbulent World*. Paradigm.
- Murakami-Wood, D., 2011. Vanishing Surveillance: Why Seeing What is Watching Us Matters, [Online] Available at: https://www.priv.gc.ca/information/research-recherche/2011/wood_201107_e.asp [Accessed: 3 4, 2014].

REFERENCES

- Mythen, G. & Walklate, S., Communicating the terrorist risk: Harnessing a culture of fear? *Crim, Media, Culture*, 2 (2006)(2), pp. 123–142.
- Mlis, G., 1902. Le Voyage dans la Lune, [Online] Available at: <http://www.youtube.com/watch?v=0Fs3fqFylmU> [Accessed: February 8, 2014].
- Nations, U., 2014. The Universal Declaration of Human Rights, [Online] Available at: <http://www.un.org/en/documents/udhr/> [Accessed: July 29, 2014].
- News, B., 2012. Manchester Airport’s body scanners scrapped, [Online] Available at: <http://www.bbc.co.uk/news/uk-england-manchester-19620981> [Accessed: July 17, 2013].
- Nissenbaum, H., 2010. *Privacy in Context: Technology, Policy and the Integrity of Social Life*. Stanford, CA: Stanford Law Books.
- O’Brien, M., Re-Assessing the ‘Affair’: The Heidegger Controversy Revisited. *Social Science Journal*, 47 (2010)(1), pp. 1–20.
- Ofcom, 2012. The Communications Market 2012, [Online] Available at: <http://stakeholders.ofcom.org.uk/market-data-research/market-data/communications-market-reports/cmr12/> [Accessed: October 15, 2012].
- Oltermann, P., Heidegger’s ‘black notebooks’ reveal antisemitism at core of his philosophy. *The Guardian*, (2014). <http://www.theguardian.com/books/2014/mar/13/martin-heidegger-black-notebooks-reveal-nazi-ideology-antisemitism>.
- Online, O., ???a. imaginary, adj. and n., [Online] Available at: <http://0-www.oed.com.wam.leeds.ac.uk/view/Entry/91640?redirectedFrom=imaginary#eid> [Accessed: June 11, 2013].
- Online, O., ???b. real, ad., n., and adv., [Online] Available at: <http://0-www.oed.com.wam.leeds.ac.uk/view/Entry/158926?rskey=Kd3ID7&result=3#eid> [Accessed: June 11, 2013].

REFERENCES

- PBS.org, 2014. Mark Andrejevic: We Are All Labrats Online, [Online] Available at: <http://www.pbs.org/wgbh/pages/frontline/media/generation-like/mark-andrejevic-we-are-all-lab-rats-online/> [Accessed: September 26, 2014].
- Peters, J. D., 2008. New Media, Old Media: 2008 Aubrey Fisher memorial lecture, [Online] Available at: <https://docs.google.com/file/d/0B4YlqWJ4zzziOZjdmZmIwNTktMmU1ZC00ODRlLWIyZWItNTA4ODdlMzgyMzJm/edit?hl=en&authkey=CPrC5bgP> [Accessed: July 10, 2014].
- Ramesh, R., 2014. NHS patient data to be made available for sale to drug and insurance firms, [Online] Available at: <http://www.theguardian.com/society/2014/jan/19/nhs-patient-data-available-companies-buy> [Accessed: September 23, 2014].
- Rampell, C., 2013. Cracking the Apple Trap, [Online] Available at: http://www.nytimes.com/2013/11/03/magazine/why-apple-wants-to-bust-your-iphone.html?_r=0 [Accessed: September 26, 2014].
- Riis, S., The Symmetry between Bruno Latour and Martin Heidegger: The Technique of Turning a Police Officer into a Speed Bump. *Social Studies of Science*, 38 (2008)(2), pp. 288–301.
- Rintel, S., 2013. Nine reasons you should care about NSAs PRISM surveillance, [Online] Available at: <http://www.pcauthority.com.au/Feature/346592,nine-reasons-you-should-care-about-nsa8217s-prism-surveillance.aspx> [Accessed: September 16, 2014].
- Robinson, A., 2011. Roland Barthes Mythologies: A Critical Theory of Myths, [Online] Available at: <http://ceasefiremagazine.co.uk/in-theory-barthes-2/> [Accessed: July 19, 2013].
- Rockmore, T., 1992. *On Heidegger's Nazism and Philosophy*. Berkeley; Los Angeles; London: University of California Press.

REFERENCES

- Rusbridger, A. & MacAskill, E., I, Spy: Edward Snowden in Exile. *The Guardian*, (2014). <http://www.theguardian.com/world/2014/jul/18/-sp-edward-snowden-interview-rusbridger-macaskill>.
- Sadler, T., 1996. *Heidegger and Aristotle: The Question of Being*. London: Athlone Press.
- Scharff, R. & Dusek, V., 2003a. Introduction. In: Scharff, R. & Dusek, V. (eds.). *Philosophy of Technology: The Technological Condition, An Anthology*. Malden, MA; Oxford; Melbourne: Blackwell, pp. 1–7.
- Scharff, R. & Dusek, V., 2003b. *Philosophy of Technology: The Technological Condition, An Anthology*. Malden (MA), Oxford and Carlton: Blackwell.
- Searle, J., 2000. The Limits of Phenomenology. In: Wrathall, M. & Malpas, J. (eds.). *Heidegger, Coping and Cognitive Science: Essays in Honor of Hubert Dreyfus Vol.2*. Cambridge, MA: MIT Press, pp. 71–92.
- Sevignani, S., The Problem of Privacy in Capitalism and the Alternative Social Networking Site Diaspora. *Triple C: Communication, Capitalism & Critique*, 10 (2012)(2), pp. 600–617.
- Sherwin, E., 2014. Kremlin takes on Internet Dissent, [Online] Available at: <http://www.dw.de/kremlin-takes-on-internet-dissent/a-17493159> [Accessed: July 30, 2014].
- Shirky, C., 2009. *Here comes Everybody*. London: Penguin.
- Show, T. G., 2011. The Gadget Show, [Online] Available at: <http://fwd.channel5.com/gadget-show/blog/whats-the-one-gadget-you-cant-live-without> [Accessed: July 11, 2011].
- Skirry, J., ??? Internet Encyclopedia of Philosophy: Ren Descartes (15961650), [Online] Available at: <http://www.iep.utm.edu/descarte/> [Accessed: September 17, 2014].

REFERENCES

- Smith, K., forthcoming. Descartes' Life and Works, The Stanford Encyclopedia of Philosophy (Spring 2014 Edition), [Online] Available at: <http://plato.stanford.edu/archives/spr2014/entries/descartes-works/> [Accessed: March 8, 2014].
- Statista, 2014. Worldwide Market Share of Search Engines as of July 2014, [Online] Available at: <http://www.statista.com/statistics/216573/worldwide-market-share-of-search-engines/> [Accessed: September 29, 2014].
- Steck, R., Emmanuel Faye's "Heidegger: The Introduction of Nazism Into Philosophy". *The European Institute*, (2010)(Feb-Mar 2010). <http://www.europeaninstitute.org/February-%E2%80%93-March-2010/emmanuel-fayes-heiddeger-the-introduction-of-nazism-into-philosophy.html>.
- Steiner, W., The Banality of Love. *The New York Times*, (1995). <http://www.nytimes.com/1995/09/24/books/the-banality-of-love.html>.
- Stern, 2008a. Der Skandal, der die Republik erschuetterte, [Online] Available at: <http://www.stern.de/wirtschaft/news/unternehmen/bespitzelung-bei-lidl-der-skandal-der-die-republik-erschuetterte-649156.html> [Accessed: July 15, 2014].
- Stern, 2008b. Lidl muss Millionen-Strafe zahlen, [Online] Available at: <http://www.stern.de/wirtschaft/news/unternehmen/ueberwachungsskandal-lidl-muss-millionen-strafe-zahlen-638756.html> [Accessed: July 10, 2014].
- Sterne, J., Bourdieu, Technique and Technology. *Cultural Studies*, 17 (2003)(3/4), pp. 367–389.
- Stiegler, B., 1998. *Technics and Time, 1. The Fault of Epimetheus*. Stanford: Stanford University Press.

REFERENCES

- Sullivan, A., 2009. "The Revolution will be Twittered.", [Online] Available at: <http://www.theatlantic.com/daily-dish/archive/2009/06/the-revolution-will-be-twittered/200478/> [Accessed: May 29, 2014].
- Taylor, P., 2010. *Zizek and the Media*. Cambridge: Polity.
- Taylor, P., 2014. In: Feldner, H., Vighi, F. & Žižek, S. (eds.). *The Media Crisis in Capitalism: A Report on the Evil of Banality*. Farnham: Ashgate, pp. 87–106.
- Taylor, P. & Harris, J., 2005. *Digital Matters: The Theory and Culture of the Matrix*. Abingdon and New York: Routledge.
- Telegraph, T., 2014. Supercomputer models one second of human brain activity, [Online] Available at: <http://www.telegraph.co.uk/technology/10567942/Supercomputer-models-one-second-of-human-brain-activity.html> [Accessed: September 17, 2014].
- Thompson, I., 2005. *Heidegger on Ontotheology: Technology and the Politics of Education*. Cambridge: Cambridge University Press.
- Vella, M., 2014. Apple's Latest Ad Is Probably Going to Give You Chills, [Online] Available at: <http://business.time.com/2014/01/13/apples-latest-ad-is-probably-going-to-give-you-chills/> [Accessed: September 28, 2014].
- Verbeek, P.-P., 2005. *What Things Do: Philosophical Reflections on Technology, Agency and Design*. University Park, PA: Pennsylvania State University Press.
- Žižek, S., 2013. Design as an Ideological State-Apparatus, [Online] Available at: <http://www.icograda.org/feature/current/articles274.htm> [Accessed: May 20, 2013].
- Žižek, S., 2002. Are We in a War? Do We have an Enemy? *London Review of Books*, (2002), pp. 3–6. <http://www.lrb.co.uk/v24/n10/slavoj-zizek/are-we-in-a-war-do-we-have-an-enemy>.

REFERENCES

- Žižek, S., 2003. *The Puppet and the Dwarf: The Perverse Core of Christianity*. Massachusetts: MIT Press.
- Žižek, S., 2007. The True Hollywood Left, [Online] Available at: <http://www.lacan.com/zizhollywood.htm> [Accessed: July 18, 2013].
- Žižek, S., 2008. *The Sublime Object of Ideology*. London; New York: Verso.
- Žižek, S., 2012. Don't Act. Just Think. Transcript., [Online] Available at: <http://bigthink.com/videos/dont-act-just-think> [Accessed: August 1, 2014].
- Žižek, S. & Dillworth, D., 2004. The Believer, [Online] Available at: http://www.believermag.com/issues/200407/?read=interview_zizek [Accessed: May 17, 2013].
- Ward, J., 1995. *Heidegger's Political Thinking*. Amherst: University of Massachusetts Press.
- Watch, B. B., 2012a. Nine in ten people haven't read Google's new privacy policy, [Online] Available at: <http://www.bigbrotherwatch.org.uk/home/2012/02/ten-people-havent-read-googles.html> [Accessed: April 3, 2013].
- Watch, B. B., 2012b. The Price of Privacy: How local authorities spent 515m on CCTV in four years, [Online] Available at: http://www.bigbrotherwatch.org.uk/files/priceofprivacy/Price_of_privacy_2012.pdf#.T001bfI8Cd4 [Accessed: April 2, 2013].
- Watch, B. B., 2013. Public back privacy law action on Google, [Online] Available at: <http://www.bigbrotherwatch.org.uk/home/2013/02/public-back-privacy-law-action-on-google.html> [Accessed: April 3, 2013].
- Webster, F., 2002. The Information Society Revisited. In: Lievrouw, L. & Livingstone, S. (eds.). *Handbook of New Media: Social Shaping and Consequences of ICTs*. London,: Sage, pp. 22–33.
- (ed.) Webster, F., 2006. *Theories of the Information Society*. Abingdon; New York: Routledge.

REFERENCES

- Webster, F., 2008. Understanding the Information Domain: The Uneasy Relations between Sociology and Cultural Studies and the Peculiar Absence of History. In: Rayward, W. B. (ed.). *European Modernism and the Information Society: Informing the Present, Understanding the Past*. Aldershot and Burlington: Ashgate, pp. 27–44.
- Wheeler, M., 2013. Martin Heidegger, The Stanford Encyclopedia of Philosophy, [Online] Available at: <http://plato.stanford.edu/archives/spr2013/entries/heidegger/> [Accessed: April 17, 2014].
- Willcocks, L. & Whitley, E., Developing the Information and Knowledge Agenda in Information Systems: Insights from Philosophy. *The Information Society*, 25 (2009)(3), pp. 190–197.
- Wilton, R., 2013. Have you seen your digital footprint lately?, [Online] Available at: <https://www.privacyinternational.org/blog/have-you-seen-your-digital-footprint-lately> [Accessed: July 2, 2014].
- Winner, L., 1977. *Autonomous Technology: Technics-out-of-Control as a Theme in Political Thought*. Cambridge, MA; London: MIT Press.
- Winner, L., 1986. Do Artifacts have Politics? In: Winner, L. (ed.). *The Whale and the Reactor: A Search for Limits in an Age of High Technology*. Chicago: University of Chicago Press, pp. 19–39.
- Winner, L., 2003a. In: Scharff, R. & Dusek, V. (eds.). *Social Constructivism: Opening the Black Box and Finding it Empty*. Malden, MA; Oxford; Melbourne: Blackwell, pp. 233–244.
- Winner, L., 2003b. *Social Constructivism: Opening the Black Box and Finding it Empty*. Malden, USA, Oxford and Carlton, AUS: Blackwell, pp. 233–243.
- Winograd, T. & Flores, C. F., 1986. *Understanding Computers and Cognition*. Norwood, NJ: Ablex.
- Wisser, R., 1970. *Heidegger im Gespräch*. München; Freiburg: Alber.

REFERENCES

- Wittgenstein, L., 1961. *Tractatus logico-philosophicus*. London: Routledge & Kegan Paul.
- Wolin, R., 1993. *The Heidegger Controversy: A Critical Reader*. Cambridge, MA: MIT Press.
- Wolin, R., 2001. *Heidegger's Children: Hannah Arendt, Karl Lwith, Hans Jonas, and Herbert Marcuse*. Princeton: Princeton University Press.
- Xynou, M., 2012. Oyster, Octopus and Metro cards: what happens to our data?, [Online] Available at: <https://www.privacyinternational.org/blog/oyster-octopus-and-metro-cards-what-happens-to-our-data> [Accessed: July 3, 2014].
- Young, G. W. & Wutz, M., 1999. Translators' Introduction. *Gramophone, Film, Typewriter*. Stanford: Stanford University Press, pp. xi–xxxviii.
- YouTube, ????. Halifax - 1980's UK Advert , [Online] Available at: https://www.youtube.com/watch?v=_C-sBxt0ioU [Accessed: June 3, 2014].
- Youtube, 2010. Nokia N8 It's not technology, it's what you do with it, [Online] Available at: http://www.youtube.com/watch?v=3ejo2q0_E3A [Accessed: October 30, 2012].
- Zimmerman, M. E., 1990. *Heidegger's Confrontation with Modernity: Technology, Politics, Art*. Minneapolis: Indiana University Press.