

# Kent Academic Repository

## Full text document (pdf)

### Citation for published version

Miller, Vincent (2019) 'Find Love in Canada': Distributed Selves, Abstraction, and the Problem of Privacy and Autonomy. In: Warfield, Katie and Abindin, Crystal and Cambre, Carolina, eds. Mediated Interfaces: The Body on Social Media. Bloomsbury, London, pp. 24-65. (In press)

### DOI

### Link to record in KAR

<https://kar.kent.ac.uk/77661/>

### Document Version

Author's Accepted Manuscript

#### Copyright & reuse

Content in the Kent Academic Repository is made available for research purposes. Unless otherwise stated all content is protected by copyright and in the absence of an open licence (eg Creative Commons), permissions for further reuse of content should be sought from the publisher, author or other copyright holder.

#### Versions of research

The version in the Kent Academic Repository may differ from the final published version.

Users are advised to check <http://kar.kent.ac.uk> for the status of the paper. **Users should always cite the published version of record.**

#### Enquiries

For any further enquiries regarding the licence status of this document, please contact:

[researchsupport@kent.ac.uk](mailto:researchsupport@kent.ac.uk)

If you believe this document infringes copyright then please contact the KAR admin team with the take-down information provided at <http://kar.kent.ac.uk/contact.html>

## ‘FIND LOVE IN CANADA’: DISTRIBUTED SELVES, ABSTRACTION, AND THE PROBLEM OF PRIVACY AND AUTONOMY

In April 2013, Rehtaeh Parsons, a teenager in Nova Scotia, Canada, committed suicide after a more-than-a-year-long struggle with depression and online bullying. The previous year she had been sexually assaulted by three boys while drinking at a small party. To make matters worse, one of the boys took a photograph of the incident on his phone and this was circulated to others at her school and into the community, where it ‘went viral’. The spread of this photo prompted a year of abuse and harassment online and offline, resulting in school changes, family moves, a stint in a mental health unit and, ultimately, the taking of her own life. Perhaps even more astonishingly, a number of weeks after her death, digital images of Miss Parsons once again became the subject of controversy when advertisements for the Ionechat dating website, featuring photographs of the deceased girl (at the age of 15), appeared on Facebook with the caption ‘Find Love in Canada! Meet Canadian girls and women for friendship, dating or relationships. Sign up now!’ Twice, this girl had been the victim of an Internet culture of free-floating images and information.

When it was first discovered that images of Rehtaeh were being used in dating advertisements, it was speculated that these dating ads with her image were a tasteless gimmick to draw attention and more hits to the Ionechat website. However, the reality was more mundane, the result of the common practice of ‘image scraping’ or ‘data scraping’, where software indiscriminately grabs pictures on the Internet given a set of search criteria for use in advertisements and on websites. An Ionechat website administrator was quoted as saying: ‘I simply used a tool to scrape images randomly on Google Images and inserted it into the ad campaign ... I sincerely apologize’ (CTV News 2013).

This practice is widespread, even though it is problematic in terms of copyright and privacy legislation. The person responsible for the ad merely uploaded a decontextualized image of a girl for a dating ad. He had no idea who this girl was and what her story might have been. The image of the girl had been completely separated from the characteristics of the person it represented.

Three things stand out here:

- The separation of the meaning of the photo of the girl from the girl herself. In that respect, the image has been washed of meaning transformed into ‘data’ to create value – a kind of social abstraction.
- The role of machines (image scrapers, phones) in this process – a kind of technical abstraction.
- The demonstration of the distribution of self digitally into networks.

Based on these, this chapter will consider the uneasy relationship between what we see as our human rights to privacy and the connected nature of social life in contemporary digital culture. Rehtaeh Parsons’ privacy was grossly invaded on two occasions. First, when graphic footage of her assault was taken without her permission and spread among and beyond her peers; and second, when her image was used, without her permission, in a commercial manner and in grossly inappropriate circumstances. From the outset, Parsons had no control over her image, over its abusive capture and distribution, or over the proliferation of media images of her after death, given their location in image banks all over the world. If we can talk about a ‘crisis of

presence' in contemporary culture, one of its clearest manifestations can be seen in terms of issues around privacy and autonomy.<sup>1</sup>

The aim of this chapter is to frame the problem of privacy and autonomy in digital culture, not as a legal or technical problem but as a problem of ethics related to presence – in this case the ethics of an absent presence resulting from the abstraction of information generated from persons. Thus, in the first section, I argue that the notion of abstraction is at the heart of issues around privacy and autonomy in digital culture. I am going to suggest that contemporary digital culture consists of five modes of abstraction: informatization, commodification, depersonalization, decontextualization and dematerialisation. I argue that personal information when treated as abstract 'data' can be easily divorced from the person and therefore from ethical obligations associated with personhood, effectively allowing the removal of such information from the social sphere of ethics and morals, making it ethically 'weightless'.

In the second section, I argue that to address the problem of privacy more productively it is worthwhile considering not only what privacy is and what rights humans have to a private life but also what it actually means to be 'human' in an era of digital communications and networked environments. It is important to understand how being-in-the-world now necessarily involves the spreading of our presence into a myriad of places and how the increasing virtualization of social life has extracted (and abstracted) our presence and our very being into bits of data which are inevitably free-floating: both beyond our control or even our awareness.

As a result, the second section will examine what it is to be a 'self' in online culture through Rotman's (2008) concept of the parallel or quantum self, as well as Stiegler's (1998) concept of exteriorization. I conclude by suggesting that new consideration needs to be given towards digital or immaterial components of self (i.e. personal data) as matter of being or part of the self, not as 'representational of' or 'information about' persons. Such a shift in thinking is necessary to give personal data 'ethical weight' and thus maintain any prospect of privacy and autonomy.

## ABSTRACTION AND THE SEPARATION OF INFORMATION FROM PEOPLE

To be abstract is to consider something theoretically. One can think in abstract terms or deal with abstract matters, and this means that one is engaged in the realm of ideas, and not dealing with concrete matters or events. Abstraction also refers to the removal or withdrawal of something from its setting or context. Indeed, the etymological root of abstraction is from Latin (*abstrahere*), meaning 'to draw away' (OED). In computing science, abstraction refers to a reductive process of removing all but the relevant characteristics of an object and removing the extraneous or irrelevant ones for the task at hand. This is aimed towards the goal of reducing complexity and enhancing efficiency. What one has at the end of such a process of reduction is an 'abstraction', a representational object which consists of the relevant qualities of the original, with all irrelevant information withdrawn.

---

<sup>1</sup> Privacy is a complex and contested term. Mills (2008) outlines four broad spheres of legal rights related to privacy: freedom of personal autonomy (i.e. freedom of choice); the right to control personal information; the right to control personal property (including one's likeness and information); and the right to control and protect personal physical space.

Heidegger's critique of the metaphysics of presence was in many ways a critique of the tendency towards abstraction embedded in thinking based on a division between immaterial subject and material object. In Heidegger's view, the Cartesian/Platonic formulation of what it is to be human as an abstract, self-enclosed, metaphysical, subject dominant in Western culture entailed a withdrawal of being from its material, historically embedded context. In such a view, the understanding of being 'in the world' is confined to the abstract realm of 'modern mathematical physics and its transcendental foundations' (Heidegger 1962: 129), which ultimately offers up a calculative, instrumental relationship with the objects in the world. In this view, being is abstracted from history and worldly embeddedness and into the sphere of measurement and scientific principles (Aho 2009).

It is my contention in this chapter that the notion of abstraction is at the heart of issues around privacy and autonomy in digital culture. In the next five sections, I am going to suggest that contemporary digital culture consists of five modes of abstraction: informatization, commodification, depersonalization, decontextualization and dematerialisation. Three of these (commodification, depersonalization, dematerialisation) can be considered more 'social' forms of abstraction, having their roots more in the machinations of contemporary capitalism, while two (informatization and decontextualization) can be seen as more 'technically driven' forms of abstraction. What I am going to suggest is that all these modes of abstraction combine to create a distance between information about people and the people themselves, and that this works to remove data from any sense of meaning in terms of the social and thus any moral or ethical responsibilities shown to others. Personal information gets transformed into valuable 'data', which opens it up to all forms of economic, instrumental and exploitative use, discouraging ethical links to real persons and their rights to privacy and autonomy.

### **Informatization**

The formulation emphasizes the reification that information undergoes in the Shannon-Weiner theory. Stripped of context, it becomes a mathematical quantity, weightless as sunshine, moving in a rarefied realm of pure probability, not tied down to bodies or material instantiations. The price it pays for this universality is its divorce from representation. (Hayles 1999: 56)

Claude Shannon is often called the (reluctant) 'father of the digital age' (Waldrop 2001). Through the publication of his 1948 paper 'A mathematical theory of communication', he is largely responsible for what is referred to as 'information theory', the theory upon which almost all modern electronic communication is based, and it is still considered one of the major intellectual achievements of the 20th century. Working at Bell Labs, Shannon was confronted by the need to formulate a model of communication which would ultimately facilitate the design of technologies that would reliably transfer signals and messages across a variety of media and conduits (such as telephone wires or satellites) at large volumes. Shannon recognized that the properties of information has to be stable, and could not change from one medium or context to the next, otherwise the reliability of that information getting from one place to another could be compromised.

Shannon approached this by redefining 'information', not as a symbol or mark which carries 'meaning' or 'content' (the conventional way we think about information) but as a 'probability function', essentially an expression of the likelihood of the occurrence of a particular set or

sequence of symbols as opposed to another alternative set. In the words of Warren Weaver (1949), who popularized Shannon's work,

To be sure, this word information in communication theory relates not so much to what you do say, as to what you could say. That is, information is a measure of one's freedom of choice when one selects a message... a logarithm of the number of choices. (4)

Thus, information gets reduced to a mathematical object of probability which is produced through a narrowing down of a series of 'choices' of what the message is and what it is not out of a range of possible messages or message elements.

For Shannon (1948), the technical problem of the accurate transmission of symbols or information outweighed the semantic problem of whether the transmission conveys the desired meaning. Thus, the issue of 'meaning' took a back seat to the problem of 'reliability'. By conceiving of information in this way, circuits are able to handle a greater variety and a greater volume of messages; however, by giving information a definition which reduces everything it sends to the same value, the concept of information, at the very foundations of digital culture at least, becomes divorced from meaning, context and materiality (Hayles 1999; Roszak 1994; Thacker 2003). According to Hayles and Roszak, the implications for contemporary culture are quite profound.

Hayles suggests that this shift illustrates the foundations of 'how information lost its body'. The story of the redefining of 'information' from something meaningful and contextual, a useful fact about a particular thing, to a decontextualized mathematical quantity (essentially the transformation from information to data) becomes the story of the separation of information from matter, context or meaning as the technical basis for digital culture (Thacker 2003). Roszak suggests:

Just as it is irrelevant to a physicist (from the viewpoint of the purely physical phenomenon) whether we are measuring the fall of a stone or the fall of a human body, so, for the information theorist, it does not matter whether we are transmitting a fact, a judgement, a shallow cliché, a deep teaching, a sublime truth, or a nasty obscenity. All are 'information'. The word comes to have vast generality, but at a price; the meaning of things communicated comes to be levelled, and so too the value. (1994: 14).

Distinctions between communications – what is public or private, what is right or wrong, what is personal or impersonal – are lost in this quantitative understanding of information. Such decontextualization erases the distinction between what ought and ought not to be communicated. Human meanings, human standards, human ethics become more difficult to apply in such an informational landscape, which makes little or no acknowledgement of the character of what is being communicated.

### **Commodification**

For Marx, 'an abstraction is made every day in the social processes of production' (Marx and Engels 1987: 272; cited in Prodnik 2012: 277). This is the result of the commodification of labor chiefly accomplished through its abstraction, wherein, under the market process, the bodies,

labor, talents and abilities of individuals become commodified as market relations which come to define all social relations in society. Labor becomes abstract when it is removed from the realm of the concrete (where labor is conceived of as a useful activity for creating things which have use values) into something that can be rationalistically measured and calculated. For example, one can see this in conceiving of labor cost in terms of dollars per hour, or the unit costs of a product in terms of man-hours to produce. This abstraction reduces all forms of labor, unequal as they may be, into an equivalent objective measure which allows one to think abstractly about human work, separating it from the worker him(her) self. Such abstraction allows a 'labor market' to function in a context independently of the social relations of the workers themselves. This abstraction becomes articulated in the process of 'commodity fetishism', where the social relations of the products of human labor are manifested in our perception only in terms of the exchange value of the objects themselves, while the concrete relations behind their production are hidden. The object itself is abstracted from the human labor that produced it so that the conditions of its production no longer matter.

The process of reification is the other side of this coin, wherein, under the market process, the bodies, labor, talents and abilities of individuals become commodified as market relations come to define all social relations in society. Viewed through the lens of commodification, human qualities, and humans themselves, take on the character of 'things' which can be bought and sold objectively on the market. It is this 'thingness' which becomes the primary way in which people relate to each other and perceive each other. Humans are reduced to the personification of the characteristics of the objects they own or are reduced in their value to what they or their talents are worth in terms of market value. As Lukács (1923/1971: 100, cited in Stahl 2013) suggests, the commodity form:

Stamps its input upon the whole consciousness of man; his qualities and abilities are no longer an organic part of his personality, they are things which he can 'own' or 'dispose of' like the various objects of the external world. And there is no natural form in which human relations can be cast, no way in which man can bring his physical and psychic 'qualities' into play without them being subjected increasingly to these reifying processes.

In other words, human endeavor, the products of human endeavor and ultimately humans themselves are withdrawn from their situatedness within social relations, which includes subjective aspects of meaning, ethics and morality. These are instead seen in terms of objective market circumstances: in terms of their value, or the value of their work, on the open market. Their labor becomes separated from their being: no longer seen as meaningful practices, but merely as quantifiable in market terms.

As Fuchs (2010, 2012), Fisher (2012) and Rey (2012) point out, the interesting thing about digital capitalism is how that commodification process has been applied not only to 'labor' in the sense of paid work but how the advent of user-generated content and social media associated with Web 2.0 has been able to abstract 'existence' itself, in terms of leisure, communication and the simple 'doing' of life online into commodity production through processes of data collection. Even time outside of paid work now produces marketable commodities extracted from their human origins in the form of personal data and insights into human behavior.

This shift has been accomplished because information in itself has achieved a great deal of commodity value in the contemporary economy in two ways: first, as a means of efficiency in the production and circulation of goods (thereby making goods more profitable); and second, as a means of communication with which to gain insight into (and increase) the consumption of goods by finding out more about the people doing the consuming. The rise of information value as a means of consumer insight, in particular, has led to the explosion of growth in the industry of collecting personal data for the purposes of marketing. Such marketing potential is possible because every action which takes place on the web – every purchase, every search, every website viewed, every message and every game played – leaves a digital shadow, trace, data trail, footprint or record of that action. This means that effectively all consumer and non-consumer activities can be collected, analyzed and used to provide insight into the behavior of consumers as individuals and as larger scale market segments or niches (Zwick and Knott 2009).

Such an observation is nothing new and was certainly not lost on early Internet observers such as Dawson and Foster (1998), who had suggested that marketing potential was the principle reason for the adoption and development of the Internet by business in the early 1990s. As a result, one can argue that the web essentially exists as we know it today (a place where the ability to communicate with each other is largely free for anyone) not as a communication medium but more fundamentally as a way to observe people's behaviors and to collect, sell and use all the information possible about them so that valuable insights about what they would like to buy can be gained. This is why Google could be worth almost 400 billion USD in 2013 with only 55,000 employees, and Facebook can be worth just under 200 billion USD with only 8348 employees.<sup>2</sup> Their value is based on the information they collect about people and the marketing potential that revenue holds, not on the fact that their customers can use most of their products and services for free.

The growth in the value of personal information gets illustrated in other ways. Aside from these high-profile companies, there is an entire data brokerage industry which, while pervasive in its effects and tenacious in its acquisition of personal data, lies largely unnoticed by the public and largely unregulated by governments. This industry, worth \$300 billion per year (Roderick 2014), compiles data collected by governments and private organizations, both online and offline, then organizes and packages this data for sale to marketers, credit card companies, individuals and even nefarious cold-calling and 'direct marketing' companies. Such lists offer aggregated data as well as profiles of individuals based on thousands of data points gleaned from sources such as government records, mortgage applications, health records, transactions and purchase data and social media. Indeed, the sale of such information is a good source of revenue to governmental agencies, especially in the United States.

As it stands in the United States and the European Union, this lucrative trade goes largely unregulated. Companies refuse to disclose where they get their data from, and consumers have little in the way of rights to find out what data has been compiled about them (even if it is wrong). The sale of this data is also minimally restricted (Roderick 2014). As a result, data brokerage firms are seen as particularly invasive in terms of privacy and exploitative in terms of

---

<sup>2</sup> Total property, plant and equipment value (i.e. the physical assets) for these companies is quite low at \$16.5 billion for Google and \$2.9 billion for Facebook (Stock Analysis on Net 2013; <http://www.stock-analysis-on.net>)

data. Perhaps more than any other, this industry demonstrates how the collection and use of such data holds real-world consequences for the people whose data is held. Social and economic sorting is conducted in terms of who is a worthwhile versus a non-worthy customer: who is a financial risk; what customers are potentially vulnerable to predatory financial practices such as sub-prime or high-interest loans; or who might be interested in a variety of health remedies.

The industry displays a willingness to use personal data as a kind of disciplinary power to secure capitalist markets at the expense of (often vulnerable) consumers (Roderick 2014). For example, in 2013 a US congressional hearing on the data broker industry heard that a 'rape sufferers list' was for sale by a company called MFDbase200, as well as lists for alcoholics, AIDS sufferers and lists of persons who are late on payments (Hill 2013). In the UK, the recent uncovering of data brokers selling pension details and medical records of millions to cold-calling marketing companies caused concern over the potential targeting of vulnerable older people (Faulkner et al 2014a, 2014b).

The events surrounding the Edward Snowden affair of 2012, where he revealed the extent to which the American NSA was collecting vast amounts of all manner of data about its own populace and others, magnified the debate about data collection in relation to surveillance and the development of a 'big brother' state. More concerning perhaps was the revelation of the extent of complicity provided by large commercial organizations such as Google, Facebook, Yahoo! and Microsoft with the NSA's Prism project, in granting access to content and metadata from hundreds of thousands of their customer accounts (Mackaskill and Dance 2013).

Governments legislate all communication companies to retain interactional data through data retention acts, allowing government access to private data in criminal and security investigations. At the same time, governments also sell citizens data to data collection brokers while at the same time refusing to legislate the data brokerage industry to any extensive degree. Again, these revelations are nothing new, but it is worth pointing out that the value of personal data is the impetus for an ever-increasing number of strategies to extract this information from us and thus the ever-increasing amount of services we enjoy as Internet users. The digital environment in which we exist itself exists largely to collect data. In this respect, our presence online is manifest through the data we produce. As Galloway (2012) suggests, we have an informatic presence which is open to different forms of analysis and simulation:

To be informatically present to the world, to experience the pleasure of the computer, one must be a sadist. The penalties and rewards are clear. In contrast to the cinema, in order to be in relation with the world informatically, one must erase the world, subjecting it to various forms of manipulation, pre-emption, modelling and synthetic transformation. (Ibid: 13)

Galloway here is not only noting the extent to which digital culture brings us out of the world and towards abstraction, but he is also noting that the price to be paid for online existence is an abstraction of oneself, as one is transformed into various data, models, simulations, profiles that can be manipulated by others for their own utility. Zwick and Knott make a similar point, but relate this dematerialisation more directly to the exercise of power:



Once consumption has been dematerialized and been made available as coded, standardized, manipulable data, there are no more limits to the construction of difference, to classification, and to social sorting. (2009: 222)

The process of profiling, especially of the more vulnerable in society, through the data collection and analysis of data brokers and the selling of that data onwards, demonstrates how power is tilted heavily in favor of those human and non-human agents who collect and possess data. Those on the receiving end of such abstraction in terms of classifications and sorting procedures have little knowledge of what is known about them, how such information is gathered, how or where it is disseminated and how the application of such knowledge affects them.

Thus, on the Internet, we are always already abstracted. Our digital presence, by its nature, is reduced to calculative bits in which the subjective meaning has been stripped away by the technology itself. The link between the qualities of a person and the person itself has already been severed as the body of our digital existence is endlessly and ceaselessly abstracted and commodified through the endemic data collection technologies that continually monitor our net presence in various ways. The rise of personal information as a commodity in digital capitalism drives this endemic data collection forward in the name of market interests. Just as in the commodification of labor, where abstraction is the key mechanism to creating a labor market which can be viewed calculatively and outside human terms, the abstraction of personal information allows a withdrawal of information from its origins in the person.

When people (and the information they produce by existing online) become abstracted and treated as simple commodities which can be bought and sold in a weightless, free-flowing culture of digital capitalism, they are no longer properly valued as human beings in their own right. Instead they 'become independent, quantifiable, non-relational features which must remain alien to any subjective meaning that one could attach to them' (Stahl 2013: n/p). The separation between the information about a person and the person themselves through the abstraction process of commodity formation also separates that information from the social sphere of personhood which includes mutual responsibility, ethical and moral behaviors. Instead, data abstracted from persons and social relations is left open to instrumental use, operations of coercive power and outright exploitation. By design, such a situation cannot respect rights to privacy or individual autonomy.

### **Depersonalization, Dividuals and Data**

The numerical language of control is made of codes that mark access to information or reject it. We no longer find ourselves dealing with the mass/individual pair. Individuals have become 'dividuals', and masses, samples, data, markets, or 'banks'. (Deleuze 1992: 5)

The notion of the self as an independent, rational, self-contained, autonomous entity may be an abstract concept based on Western metaphysical philosophical legacies, but it is this notion on which we base the concept of human rights, including the right to autonomy and to privacy. Foucault suggested that this individual in modern societies was the target of discipline and disciplinary strategies. As such, the 'individual' or 'subject' is the effect of the relations of power, which include disciplinary strategies that regulate the behavior of the social body in terms

of space, time and behavior and through the techniques of observation, normalizing judgement and examination.

Early on, Poster (1995) made the point that computerized databases were a form of discourse in the Foucauldian sense in that they constitute individual subjects by 'rules of formation' (Aas 2004). They become the raw material to categorize individuals in a multitude of ways, and in that sense, databases are 'a discourse of pure writing that directly amplifies the power of its owner' (Poster 1995: 85). Such power can be manifest in a number of ways, from the abstraction of one's online existence into a form of commodity for which one is not economically compensated, as in the informational labor of Fuchs (2012), to the unknown algorithmic shaping of one's online searching experience in the name of 'personalization', as in Pariser's (2011) 'filter bubbles'. It could involve being given a bad credit rating on the basis of algorithmic judgements and information which is unknown to the applicant or suffering continual 'cold callers' in one's own home and even, perhaps most provocatively, coercion into exploitative sub-prime mortgages (Rivera et al 2008; Roderick 2014).

Deleuze (1992), in his commentary 'Postscript on societies of control', suggested that with the advent of new technologies we have shifted from a society of disciplined individuals to a society based on the control of what he calls 'dividuals'. Dividual can be defined as 'a subject endlessly divisible and reducible to data representations via modern technologies' (Williams 2005: n/p). Such data representations can easily be seen in the myriad of data collected about us through monitoring of our surfing habits, search preferences, purchase histories and the many forms of personalization technologies mentioned by Pariser (2011). The dividual refers to the profiles, types and niche markets in which individuals are categorized. Thus, dividuals sit between the distinction of 'individual' and 'mass'. A dividual is not a discrete self, but something which is made up of aggregates of features of discrete selves. Endlessly divided and subdivided, they are a series of features removed from an individual self, placed within aggregates and reconfigured according to various criteria of interest by whatever body has access to the data.

When Amazon recommends books based on your previous purchases and browsing tendencies, it is combining your data with others with similar purchasing and browsing histories in order to suggest future purchases. Its suggestions are based on you and others (who showed an interest in similar books). It is addressing you as an individual but is working at the level of a dividual. Similarly, when the NSA or any other national security service is profiling someone as 'suspicious' or a 'threat', they are basing such profiles on the aggregate of historical data from comparable individuals. When one's actions are similar enough to the aggregate of activities seen as suspicious or threatening, one can be said to fit the profile of a potential threat. That individual then is acted upon on the basis of congruence with dividual traits, either by being arrested or by being more closely monitored.

Williams (2005), therefore, sees two facets to dividuality: the segregation of physical selves from their representations as data<sup>3</sup> and the loss of the distinctiveness or 'aura' by such a separation of selves from what is being used to represent such selves. Lack of presence makes dividuals

---

<sup>3</sup> It is important to consider that 'representation' may be the wrong word here, as 'simulation' might be a better term to describe dividual data constructions such as profiles.

possible, since the lack of a physical body necessarily leads to an abstracted reduction of the self into data points such as ‘interests’ or browsing behavior. Such data points are endlessly divisible, and this divisibility becomes the basis for our classification into useful or profitable categories of data. These make up the simulational ‘data doubles’ which not only attempt to predict affinities and behavior but are also the entities enacted upon by data analysis such as marketers or government agencies.

In an era of endemic data collection (‘big data’), the construction is not an individual one but a dividual one: the result of aggregated data which is removed from its individual, distinctive source. Thus, government surveillance, for example, deflects claims of invasions of privacy by referring to data collection being at the ‘metadata’ level. Private corporations, on the other hand, regard data as ‘depersonalized’ and thus not attributable to individual persons and therefore not an invasion of privacy.

Those worried about privacy, especially in an era of big data and rampant data collection, are assured that, in the case of government security surveillance, the content of any transaction (e.g. mobile phone conversations) is not collected, merely the metadata of the number called and the time, duration and location of the call (Amoore 2014). Similarly, net users are assured that commercial organizations gathering ‘big data’ do not collect ‘personally identifiable’ information and that the examination of such information is automated. The person barely figures within contemporary data collection and surveillance. Amoore (2014) points this out when she suggests that contemporary forms of security and data collection do not primarily seek out complete sets of individual persons but assemble sufficient sets of data points at an aggregate level to make inferences. So, for governments and commercial enterprises, the depersonalization of data becomes an effective ‘workaround’ of the issue of privacy rights, creating leeway for organizations to take whatever information they want from individuals, without their permission. Such a move effectively circumvents the notion that big data collection can be an invasion of privacy because such data is not directly tied to an individual, which possesses rights, but to a dividual, which does not. With these strategies, the ‘person’ appears less as a singular, coherent body than as a plural set of variables, disaggregated and reassembled with others while still possessing an onward life which can have consequences for individuals (Amoore 2014: 110). However, their separation from any identifiable subject releases them from ethical or legal obligations and ethical weight.

For the individual who is both the subject of privacy rights and the data subject of data protection laws, contemporary security appears indifferent for the person as such, while attentive to the multiple links and associations among plural people and things... put simply, contemporary forms of security are less interested in who a suspect is than what a future subject might become. (Amoore 2014:109)

Of course, suggestions of anonymity are flawed in the sense that if such data were not attributable back to identifiable persons, it would be practically useless for security agencies in the apprehension of suspected terrorist plotters. In addition, there is a growing body of research which demonstrates that even with anonymization and encryption the reverse engineering of depersonalized big data back to individual, identifiable persons is entirely possible (see Backstrom et al 2007; de Montjoye et al 2013, Narayanan and Shmatikov, 2008, Ward, 2017, Su

et al., 2017).

For example, German researchers found that it took as few as ten cross-referenced web addresses in anonymised web browsing data to identify the locations of specific people, and thereby uncover their identities. Through this method, they uncovered the pornography preferences of a German judge, and the drug preferences of a German Member of Parliament (Ward, 2017). Similarly, Su et al. (2017) demonstrated that it is even possible to connect publically available data of web browsing histories to the social media profiles of specific individuals.

It is a rather counterintuitive argument to suggest that the depersonalization of data leads to invasions of privacy and a lack of autonomy. However, if depersonalization is technically flawed, what the supposed 'depersonalization' of data does accomplish is a legitimation for increasing amounts of data collection through a falsification that such depersonalized processes do not affect individuals from whom data has been taken or abstracted. Such an operation again allows personal data to more readily be considered apart from the human origin of that data, freeing it from moral and ethical responsibilities, including privacy.

### **Decontextualization: Big Data**

The endemic and rampant collection of data on individuals and individuals becomes even more problematic given the current technological advances around 'big data'. 'Big data', a key buzzword in contemporary technological discussion, refers to the increasing ability to collect, store and analyze datasets that are very large, come from a variety of sources and which can be analyzed in either structured or unstructured formats. Typically, the amount of data, its variety and complexity make 'big data' sets impossible to analyze or be made sense of with previous generations of data management tools and processing applications. However, recent advances in cloud computing, parallel processing and storage capacity now mean that the analysis of extremely large datasets is possible, and this has ushered in a new emphasis on the economic importance of data.

The new social analysis made possible through big data is one without theory. It is the kind of social physics (Wyly 2014) born from and driven by the endemic collection of data retrieved by CCTV, retail purchase records, the use of digital devices, the logging of digital interactions, click-through data on webpages and Internet ads, the scanning of machine-readable objects such as passports, travel cards, RFID and bar codes, the sensors embedded in the Internet of Things and ambient intelligence, and, of course, social media (Kitchin 2014: 2). As Anderson (2008) suggests, this potentially creates a new scientific and certainly social scientific paradigm:

It forces us to view data mathematically first and establish a context for it later... this is a world where massive amounts of data and applied mathematics replace every other tool that might be brought to bear. Out with every theory of human behavior, from linguistics to sociology. Forget taxonomy, ontology and psychology. Who knows why people do what they do? The point is that they do it, and we can track and measure it with unprecedented fidelity. With enough data, the numbers speak for themselves. (n/p)

The innovations associated with the term 'big data' have made possible a new kind of utopian thinking when it comes to analyzing (and more importantly from this perspective, predicting) the

social world. Indeed, the kind of data-led revolution advocated by writers such as Anderson (2008) and Prensky (2009) is one in which explanation, contextualization or understanding is deemed irrelevant. What is instead said to be relevant are the correlations between phenomena. The ‘numbers speaking for themselves’ belies a radical pragmatism in which the pursuit of data to find correlation becomes the sole aim of the inquiry. As Anderson points out, Google, the most prominent big data practitioner, functions on the basis of correlation, not knowledge. Google Translate does not ‘understand’ the languages it translates or how the languages it translates even work. It does not know why one banner ad is more successful than another or why one page is more popular than another. ‘Google Flu Trends’, a service which uses social media data to predict flu outbreaks, does not know how the flu is spread. Google is in the business of mathematical correlation: what people search for when they are getting flu-like systems; what ads are successful with what pages in terms of click-throughs; what words correlate with each other in different languages. Correlation, successful prediction and/or usability are the only explanations Google is interested in and the only contextualization they need.

Embedded in this logic is the premise that the more data collected, the more accurate and finer-grained the analysis can be, and thus the more accurately things can be predicted. There is an implicit justification for increasing the amount of data collected at all levels in that the more data that can be analyzed, the more uses will emerge from its mining. The paradigm of big data demands ever more data to fulfil its utopian vision of usefulness and predictability.

In recent years, the big data paradigm has been open to criticism on several fronts. boyd and Crawford (2012), for example, point out methodological problems in terms of the lack of objectivity and accuracy of big data, or at least that such factors are often not even considered in big data analysis. They suggest that inherent bias in the use of social media data and the inaccuracies involved in using very large datasets means that it is very difficult to make claims for the quality of the data used. Golder and Macy (2014) similarly suggest that there is a danger of floods of low-quality research being generated from big data mining and the tendency among big data enthusiasts to overgeneralize by thinking that a large population of, say, Facebook users and what they talk about online is equivalent to the entire offline world. Such methodological concerns of ‘Big Data Hubris’ were backed up in 2013, when it was revealed that one of the early show-pieces of big data, Google Flu Trends, which had in the past demonstrated greater accuracy in medical visits resulting from the flu than the US Centers for Disease Control and Prevention. However, the whole project was suspended after it began predicting more than double the amount of doctor visits in the United States than was eventually reported (Lazer et al 2014).

Methodological issues aside, boyd and Crawford (2012), Lyon (2014) and Golder and Macy (2014) also demonstrate the potential privacy concerns associated with the rise of a big data paradigm. boyd and Crawford (2012) suggest that the gratuitous use of even the kinds of ‘public’ data put on social networking sites is not justified merely because this data is ‘available and accessible’. They suggest that more attention needs to be paid towards traditional ethical notions of informed consent and the problems involved with analyzing and interpreting people’s data in ways they might not have imagined or approved of when it was put out in the public domain. That, in combination with the ability to ‘reverse-engineer’ big data, begs the question of the

ethical appropriateness of using data generated off persons without their knowledge or consent. Lastly, boyd and Crawford (2012) also point out the flaws in depending on abstracted, decontextualized data in any analysis of social life. By its nature, big data is reductive, aimed to fit masses of diverse data into mathematical models in order to deliver description and prediction. As Anderson (2008) and Presnky (2009) advocate, and Wyly (2014) laments, the question of ‘why’ is not a priority for big data research. There is no perceived room for theory or contextualization in a data-driven research paradigm. The problem here is, boyd and Crawford (2012) note, the essence of social life is contextualization and meaning. Removing meaning and contextualization from social analysis simply leaves description. Such an endeavor can be seen as largely meaningless unless one has insight into the nature of relationships, correlations and interactions: why they exist in the first place and what varying importance is placed on them by humans in a meaning-filled world.

Without this contextualization, without meaning, social analysis becomes purely descriptive and not particularly useful except as an exercise in social mapping. Such a logic also provides another example of the way in which information and data is becoming increasingly separated from the contexts and people from which it is being collected. The logic of decontextualization – that explanation or contextualization of data is not required or necessary for its descriptive analysis – withdraws it from its socially contextual origins into a realm of pure analysis or pure description. Of course, aggregate and depersonalized data is the standard argument in support of ubiquitous data collection in the sense that when data gets separated from individuals and aggregated to the depersonalized level of the ‘dividual’ level or higher, such information ceases to be seen as a privacy problem or an ethical issue. However, this logic of decontextualized data, separated from its human origins and placed into the automated technical realms of data mining, big data and the radically pragmatic notion of ‘whatever works’, is the same logic that creates a situation where the personal image of a 15-year-old girl who committed suicide after a sexual assault can be scraped off the Internet and used in an ad for a dating website. Context is important.

Thus, I would submit that decontextualization is also an ethical problem. As boyd and Crawford (2012) alluded, the use of data (and when we say ‘data’, we are referring to a person’s thoughts, preferences, images and the like which happen to be articulated in terms of digital texts and images), even data in the ‘public domain’, has to be considered within the contexts of the autonomy of the person who articulated those thoughts and preferences. It would be unjust, no matter the level of abstraction, to take a person’s words or images and use them in ways which they would not approve, or which could do them harm, especially when they have not consented to their use. Data needs to retain the social context of the person of its origin in order to be treated ethically.

### **Dematerialisation**

Unfortunately, happiness, performance, productivity, and other variables in our lives are complex, confusing, and chaotic processes. Every day we blindly make decisions we hope lead to improvement. To make matters worse, we judge success based on imperfect and biased feelings. (Moschel 2013: n/p)

The quantification of the world in which we live (Coté 2014) is not just confined to digital

communications performed over the web, mobile phones and embedded in voluntary personal tracking devices. It is something that has spread out into the material environments of embedded, embodied daily life. A good example of such a spread can be seen in the rise of the 'Quantified Self (QS) movement'. The aim of quantified self is to move away from a situation where self-knowledge, discovery and improvement is based on subjective feelings or intuition and instead centers around the objective analysis of data. This movement started in 2007 at the behest of Gary Wold and Kevin Kelley of *Wired* magazine. The tagline of the QS movement is 'self-knowledge through self-tracking', and its goal is to take advantage of the data collection, storage and analysis strategies of 'big data' and combine them with new and emerging sets of personal measurement technologies and apps (such as Fitbits, iFit's, and TrackYourHappiness) which can measure and quantify all forms of biometric, mood, perception and behavioral data, from food intake, to happiness indicators, to exercise, to blood glucose levels.

This passage above demonstrates the inherent link of quantified self with big data in the sense that it possesses the same insistence that solutions lie in the examination of data and the correlations of events, not in the theorizations of humans or one's own self-awareness. Thus, they share faith in the explosion of measurement, but in this case, the measurement is based on a population of one (Nafas and Sherman 2014). Indeed, Nafas and Sherman (2014) suggest that while intimately tied to big data, quantified self is a form of 'soft resistance' to big data paradigms in that its participants are using the endemic production of data for reflexive personal improvement, as opposed to giving it up to corporate aggregates where they simply become commodities for others to sell. In that sense, it can be thought of as an alternative mode to the current conventional relationships with data.

In fact, both are the case. User agreements for these technologies include permissions to sell depersonalized and aggregate data to third parties and marketers such as Facebook or any other site (e.g. iFit 2012). However, a key point to be raised is that quantified self is another manifestation of the dematerialisation of the material body into quantified, calculable entities. Awareness becomes not of a material body but of data patterns and simulations of bodies which end up being the preferred form of self-knowledge and self-realization.

The materiality of the contemporary body has increasingly become understood as a set of codes (binary, DNA, genomes, stem cells) which is ultimately programmable when understood. Indeed, the current developments which are taking place in the life sciences and medicine very much center around the merging of the biological and computer sciences (Hayles 1999; Thacker 2003). Gaggioli et al (2003), Balsamo (1996) and Williams and Bendelow (1998) all point to the growing virtualization of the body, represented in the form of computer codes and displayed on screens (which become ever more numerous in hospitals and health centers), scans and increasingly through medical avatars. Balsamo (1996) refers to this as one aspect of the disappearing body, where the 'meat' of the body is coded into large electronic databases. Gaggioli et al's (2003) discussion of medical avatars is another example on how the body, viewed as information, results in increasing amounts of attention being paid to simulations of bodies in medical science, rather than bodies themselves. Lyon (2001) early on in the sociology of the Internet linked increasing surveillance strategies to the notion of the 'disappearing bodies' in the sense that he saw the rise in surveillance as compensation for the disappearing body as technology enabled more and more of social life to be conducted at a distance and beyond the

realm of face-to-face interactions of bodily co-presence – a shift from co-presence to telepresence. Increased surveillance was both enabled and made necessary by modern technologies that needed interactions made at a distance to have some sense of assurance and verification ... to regulate an increasingly dispersed social life.

However, this is only one part of the process. Technological surveillance of the body is also increasingly reductionist and based on processes of abstraction, not necessarily to compensate for a lack of bodily presence but to extract useful information from physically present bodies in order to shape their experience from a distance. As suggested by Haggerty and Ericson, A great deal of surveillance is directed towards the human body. The observed body is of a distinctly hybrid composition. First it is broken down by being abstracted from its territorial setting. It is then reassembled in different settings through a series of data flows. The result is a decorporealized body. A 'data double' of pure virtuality. (2000: 611)

In the extraction, abstraction and quantification of the body into data, or indeed 'data doubles', one thus needs to consider dematerialisation of the body brought about by the rise of ambient intelligence or 'the internet of things'. Ambient intelligence refers to emerging technologies which bring together ubiquitous computing and monitoring, ubiquitous communication through wireless networking, and intelligent or adaptive interfaces (Gaggioli et al 2003; Miller 2011). The Internet of Things refers to the increasing automated connections between everyday physical objects to the Internet, creating environments of 'smart objects' which are no longer dependent on human input to obtain data. A combination of pervasive computing, monitoring and 'smart objects' allows for the construction of physical environments that are responsive to the presence of people, creating an entirely new set of relationships between bodies and their environments, but also new opportunities for data collection. For example, Amscreen, a marketing company in the UK, has articulated its ambitions for 'real world' data collection and marketing by suggesting that:

Through our Face Detection technology, we want to optimize our advertisers campaigns, reduce wastage and in-turn deliver the type of insight that only online has previously been able to achieve. (Amscreen 2013)

The ambition to make offline, material presence as productive of data as online presence is clear. As ambient intelligence pervades our physical environments with more and more sensory devices, our physical bodies will become as much the inadvertent producers of commodities for others as our virtual presences have become. Rouvroy (2008) points out the ramifications of such a culture as it spreads into the increasingly prolific, but largely invisible, processes of data collection being rolled out in the 'real world', where aspects of our lives which we previously never even had to think of as private can be and will be converted into vast amounts of data, making it almost impossible for anyone to maintain control of their information and how it will be used.

Even though being online is less and less of a choice these days, given the increasing virtualization of government and commercial services, there is perhaps a shred of an argument that one 'chooses' to be present online and thus consents to varying forms of surveillance and data collection by choosing to go online in the first place while being aware that online data collection is pervasive in these contexts. It is, however, difficult to apply the same logic to



offline environments, where people need to travel through and visit a myriad of public and private spaces to, for example, put fuel in their cars, see the doctor, or even just walk down the street. In this context, it is worthwhile noting that UK police have already collected over 18 million photographs for facial recognition purposes without any public consultation or consent (BBC 2015).

What this means for privacy and autonomy in its most basic considerations: freedom of choice and consent, the right to control our information, the right to control our property and likeness, the right to control our personal physical space, and the freedom from unwarranted intrusion or surveillance is still hard to discern at the moment. However, the sheer amount of data collected, and the invisibility of its collection has the potential to make a mockery of the notion of consent, fundamental to our concept of privacy and autonomy. If we are going to try to hold on to such rights, a reconsideration of the tendency to abstract selves from data will be imperative.

## THE SELF, DATA AND AUTONOMY

The near free-for-all information collection and plundering of the dematerialized virtual or digital body stands in stark contrast to the ethical and legal weight placed on the material aspects of selves. The capturing and/or analysis of our physical attributes such as blood, hair, bodily waste or even personal property still contains a meaningful link to a 'person' who is seen to have a right to autonomy and thus continues to be highly regulated and carries a great deal of legal, ethical and interpersonal weight. One is simply not able, legally, to take from another person without their consent. This of course applies to personal property (of which the body may be considered a part), where theft would be the charge. To take and analyze bodily waste or parts in order to gain insight without permission, whether blood, hair, skin, is seen as not only 'creepy' by informal moral standards but also a violation of the right to privacy. To forcibly take such samples from the body would be considered assault, except in very specific and highly regulated circumstances, and to do so on one's private property would be considered trespass and theft.

While the physical or material aspects of selves are, in general, still seen to retain a connection to the person and widely protected in terms of rights to privacy, autonomy and ownership, the dematerialized, networked aspects of selves are increasingly open to collection, scrutiny and analysis, especially for commercial gain. In that sense, it is clear that there are two different sets of legal and ethical stances between material and dematerialized aspects of the body, or the self. As more of our lives, interactions and presences occur and appear in online contexts, open for potential analysis and exploitation, this is a contradiction which needs to be reconsidered.

### **Extension and Distributed Selves**

The Parsons' image debacle was presented in the press as a 'warning' to teenagers, to remember that what they post online can end up anywhere, but this implies that there is some sort of choice in the matter. In an age of ubiquitous surveillance, big data, image and data scraping and ambient intelligence, where every effort is made to separate data from individuals for instrumental use, people have very little autonomy in terms of what is taken from them and where it ends up. In fact, the spread of Parsons' image, without her permission and without her knowledge both before and after her death, demonstrates the extent to which we have to question what a self is that exists in these digital environments and how much of what we deem to comprise of the self

has become exteriorized into these technologies through the processes of what Bernard Stiegler refers to as exteriorization and proletarianization: the processes by which human faculties are increasingly located outside of themselves in technologies. Indeed, Stiegler (1998, 2008) suggests that there is no, and never has been, basis for humans which exists outside technology.

Stiegler suggests that philosophy has misconceived technics and, as a result, misunderstood its thinking about humans (Clark 2011). Instead of looking to biological or transcendental descriptions, the human is to be found in the primary coupling of humans and technology or the inscription of the living into the non-living through memory.

Conventionally, memory can be thought of in two forms: genetic memory, in which one's genes are passed through the generations, and epigenetic or somatic memory, that which resides in the nervous system of the individual in terms of knowledge and experience gained through living. The first transcends our own lifespan; the second ends with our death, unless this is somehow passed on to other generations through some form of communication involving things external to ourselves. This brings us to the third form of memory: epiphylogenetic. This is a technical memory in the sense that it involves technologies external to us to carry knowledge, ideas and experiences. These could be explicit and intentional forms of communication, such as language, writing, photography or drawings, or objects which implicitly carry knowledge and memory such as tools and other forms of material culture, like pottery, machines or buildings. The materiality of these technologies allows transcendence, as the knowledge contained within them outlives the lifespan of the individual and passes such ideas and experiences down the generations and thus allows and continues the legacy of human memory and culture. (Clark 2011).

What this means is that there is no 'pure' or pre-technological human, because technics is inscribed in what it is to be human through the structural coupling of the living with the non-living: of human consciousness with technics. In a Derridean manner, Stiegler is deconstructing the human by pointing out the impossibility of a pure or essential humanness, or a self-referencing interiority or presence that is not dependent on externality. In this case, the externality of technologies upon which human knowledge, culture and consciousness itself is dependent. As Coté (2010) phrases it, the exteriorization of the human into technologies marks the very threshold of the human itself.

While such a relationship has always been the case, Stiegler suggests that recent history has involved an intensification of exteriorization. Building on Marx's concept of proletarianization, he suggests that during industrial capitalism the physical capacities, skills and ways of doing things associated with craftsmanship were exteriorized into industrial machines. This of course led to the deskilling of labor itself and increased vulnerability to the demands of capital as their collective knowledge became formalized in machines and escaped their possession. Workers lost their capacity to 'know how to do', lost their capacity to master their tools and became enslaved by machines they tended on the factory floor and elsewhere.

Contemporary 'cognitive' capitalism, with its focus on weightless economies of calculation, creativity and other aspects of what is often referred to as informational or knowledge labor (Fuchs 2010; Rey 2012), has pressed further to exteriorize all forms of knowledge including the social and intellectual capacities of humans. Informational labor gets exteriorized into software

packages and algorithms to the point where what were considered to be solid, middle-class professions, such as accountancy, are now threatened with extinction as their work becomes automated (Frey and Osborne 2013). Thus, even knowledge production has been proletarianized by cognitive technologies as people become information handlers instead of knowledgeable workers.

Affect and desire too are exteriorized into advertising and media, to the point where they cease to be human capacities and instead become controlled and manipulated by technical forces and industries. Indeed, all aspects of life, from child-raising (where televisions and DVDs are used to babysit children we no longer know how to) to looking after our aging parents (into whose lives robots are increasingly playing a role in place of family members; see Turkle 2011), are capabilities which have escaped us and are now maintained by machines. In short, people are losing the knowledge of how to live as all human capacities are exteriorized into the technical apparatus of contemporary capitalism.

Stiegler provides a compelling account of the embedding of the human within the technological (and vice versa) by illuminating how human knowledge, memory and consciousness is (and always been) exteriorized in various technologies and how one needs to imagine the location of the human as not only in a 'mind' or a 'body' but also in the assemblage of technologies which make humans what they are.

In using digital media, and in particular search engines and social media, information about ourselves and others is increasingly retained both voluntarily and otherwise by such technologies. Many aspects of our lives are gathered and retained in databases, creating a situation where our consciousness (as well as unthought) is increasingly and perpetually mediated as it is lived (Hutnyk 2012; Kinsley 2015). As Coté (2014) points out, the big data that is now endemic to our lives is the exteriorization of memory, everyday experience and the mediated actions of life. The capturing of our data is 'not something that happens to us; it is constitutive of our being as digital humans', our being is data-encumbered (Coté 2014: 141). Indeed, Brian Rotman (again influenced by Derrida) makes a similar point in *Becoming Beside Ourselves*, where he refers to the rise of digital technologies creating the subjectivity of the 'parallel' or 'Quantum' self. Far from being self-enclosed or self-contained 'I', as manifest in the concept of 'mind' or 'psyche', the parallel self of digital life is an assemblage, a co-occurrence of a myriad of virtual states which exist in the pluralized form through a variety of avatars, profiles, databases, image banks and the like, which are stored on networked servers located in different parts of the globe. It is a self of dispersed, networked co-presences which operate simultaneously and are always in perpetual formation and reformation:

Such an 'I' is porous, spilling out of itself, traversed by other 'I's' networked to it, permeated by the collectivities of other selves and avatars via apparatuses (mobile phone or e-mail, ambient interactive devices, Web pages, apparatuses of surveillance, GPS systems) that form its techno-cultural environment and increasingly break down self-other boundaries thought previously to be uncrossable: what was private exfoliates (is blogged, Web-cammed, posted) directly into the social. At the same time the social is introjected into the interior of the self, making it 'harder and harder to say where the world stops, and the person begins'. (Rotman 2008: 8)

As Rotman suggests, the distributed self has no interior or exterior, no private or public, as its components dissolve through networks in unanticipated directions, creating unknown and unanticipated presences. It is a self largely made of externalized data.

## CONCLUSION

This chapter has demonstrated that the nature of contemporary digital culture has been to abstract selves: to increasingly measure and quantify selves and to separate these selves from the information they produce. This is a fundamental contradiction because, as suggested in the latter part of this chapter, the contemporary self in digital culture is, to an increasing extent, exteriorized, embedded and distributed in networked technologies. It is made up of the information it produces. Can a distributed or parallel self have a right to privacy? Or even any expectation of privacy? If what makes up this self is to be treated as 'data', something separated from the self it represents and transformed into something useful and commodifiable, then the answer – in a weightless, knowledge economy – has to be no. The distributed or parallel self can expect to have less and less 'rights' as more and more of it is read and abstracted into 'representative' data.

Therefore, one solution to the problem of privacy and autonomy in contemporary digital culture I suggest involves a move away from what Gumbrecht (2004) termed a 'representational culture' and towards a 'presence culture'. Modern Western culture is decidedly more representational in that it follows the Platonic ontological tendency to separate the material aspects of things and beings from their essential qualities, or the idea of the object from the object itself. This is best articulated in Plato's theory of the forms, which counterposed the true and eternal essences of things with their more flawed, itinerant, material counterparts. Plato essentially recognized the reality of abstract forms over their material existence.

By contrast, the presence culture Gumbrecht advocates is more influenced by Aristotle, who critiqued Plato's theory of the forms from a more materialist perspective. He emphasized the peculiarity of individual things and beings and suggested that they are a hylomorphic composite of matter, what a thing 'is' (what it is composed of), and form, how a thing is perceptible (its appearance or shape). In this view, both matter and form have elements of the physical or material in them. There is no distinction made between the material and the conceptual, no attempt to abstract one from the other.

---

## REFERENCES

- Aas, K. F. (2004) 'From narrative to database technological change and penal culture', *Punishment and Society*, 6(4): 379–393.
- Aho, K. (2009) *Heidegger's Neglect of the Body*. Albany, NY: SUNY Press.
- Amoore, L. (2014) 'Security and the claim to privacy', *International Political Sociology*, 8(1): 108–112.
- Amscreen.(2013)'Facetedetectiontechnologyrevolutionisesadvertisingindustry',located at: <http://www.amscreen.eu/2013/07/face-detection-technology-revolutionise-advertising-industry-2> (accessed on 12, March 2015).
- Anderson, C. (2008) 'The end of theory', *Wired Magazine*, 16(7): 16:07. Aristotle. (1984) *Rhetoric: Poetics*. New York, NY: Modern Library.
- Backstrom, L., Dwork, C. and Kleinberg, J. (2007, May 8–12) 'Wherefore art thou R3579X?'

Anonymized social networks, hidden patterns, and structural steganography', *Proceedings of the 16th International Conference on World Wide Web*. New York, NY: ACM, pp. 181–190.

**Balsamo, A.** (1996) *Technologies of the Gendered Body: Reading Cyborg Women*. Durham, NC and London, UK: Duke University Press.

**BBC News.** (2015) 'Innocent people on police photos database', located at: <http://www.bbc.co.uk/news/uk-31105678> (accessed on 12, March 2015).

**Beatbullying.** (2012) *Virtual Violence II: Progress and Challenges in the Fight Against Cyberbullying*. London, UK: Commissioned by Nominet Trust in Association with the National Association for Head Teachers (NAHT), located at: <http://www.beatbullying.org/pdfs/Virtual-Violence-II.pdf> (accessed on 10, February 2012).

**Bendelow, G.** and Williams, S. (1998) *The Lived Body: Sociological Themes, Embodied Issues*. London, UK: Routledge.

**boyd, d.** and Crawford, K. (2012) 'Critical questions for big data: provocations for a cultural, technological, and scholarly phenomenon', *Information, Communication & Society*, 15(5): 662–679.

**Clark, R.** (2011) *On Heidegger's Thinking of Technology*. PhD thesis, University of Sussex, Brighton, UK.

**Coté, M.** (2010) 'Technics and the human sensorium: rethinking media theory through the body', *Theory and Event*, 13(4), located at: [http://muse.jhu.edu/journals/theory\\_and\\_event/v013/13.4.cote.html](http://muse.jhu.edu/journals/theory_and_event/v013/13.4.cote.html) (accessed on 12, June 2015).

**Coté, M.** (2014) 'Data motility: the materiality of big social data', *Cultural Studies Review*, 20(1): 121–149.

**Dawson, M.** and J.B. Foster (1998) 'Virtual Capitalism: Monopoly Capital, Marketing, and the Information Highway', in R. McChesney, E. Meiksens Wood and J.B. Foster (eds) *Capitalism and the Information Age: The Political Economy of the Global Communication Revolution*. New York: Monthly Review Press

**de Montjoye, Y.-A., Hidalgo, C., Verleysen, M. and Blondel, V.** (2013) 'Unique in the crowd: the privacy bounds of human mobility', *Scientific Reports*, 3: Article 1376. de Tocqueville, A. (2003) *Journeys to England and Ireland*, Trans. George Lawrence. New Brunswick: Transaction Publishers.

**Deleuze, G.** (1992) 'Postscript on the Societies of Control', *OCTOBER\_59*, Cambridge, MA: MIT Press, pp. 3–7.

**Faulkner, K., Bentley, P. and Lucy Osborne for the Daily Mail.** (2014a) 'Your pension secrets sold to comen for five pence: on eve of pensions revolution, an exposé that will horrify every family in the land', *Mail Online*, located at: <http://www.dailymail.co.uk/news/article-3017205/Your-pension-secrets-sold-comen-five-pence-eve-pensions-revolution-expos-horrify-family-land.html> (accessed on 28, May 2015).

**Faulkner, K., Bentley, P. and Lucy Osborne for the Daily Mail.** (2014b) 'After Mail exposes trade in sensitive pension details...now they are selling your health secrets', *Mail Online*, located at: <http://www.dailymail.co.uk/news/article-3018659/Privacy-sale-s-health-secrets.html#ixzz3bRvLqqsQ> (accessed on 28, May 2015).

**Frey, C. B. and Osborne, M. A.** (2013) 'The future of employment: how susceptible are jobs to computerization?' located at: [http://www.oxfordmartin.ox.ac.uk/downloads/academic/The\\_Future\\_of\\_Employment.pdf](http://www.oxfordmartin.ox.ac.uk/downloads/academic/The_Future_of_Employment.pdf) (accessed on 30, June 2014).

**Fuchs, C.** (2010) 'Labor in informational capitalism and on the Internet', *The Information Society*, 26(3): 179–196.

**Fuchs, C.** (2012) 'Dallas Smythe today – The audience commodity, the digital labor debate, Marxist Political Economy and Critical Theory. Prolegomena to a Digital Labour Theory of Value', *Triple C – Journal for a Global Sustainable Information Society*, 10(2): 692–740.

**Gaggioli, A., Vettorello, M. and Riva, G.** (2003) 'From cyborgs to cyberbodies: the evolution of the concept of technobody in modern medicine', *PsychNology Journal*, 1(2): 75–86.

**Galloway, A.** (2012) *The Interface Effect*. Cambridge, UK: Polity Press.

**Google.** (2015) 'Copy of auto-expire', located at: <https://script.google.com/>

- macros/d/1P9GVT7XOuQreA6zqNvVZMm9UOhO07r0gIXyiDmj9KRvR88As1pq amkc8/edit (accessed on 14, August 2015).
- Golder, S. A. and Macy, M.** (2014) 'Digital footprints: opportunities and challenges for online social research', *Sociology*, 40(1): 129.
- Gumbrecht, H.** (2004) *Production of Presence: What Meaning Cannot Convey*. Stanford, CA: Stanford University Press.
- Haggerty, K.** and Ericson, R. (2000) 'The surveillant assemblage', *The British Journal of Sociology*, 51(4): 605–622.
- Hayles, N. K.** (1999) *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics*. Chicago, IL: University of Chicago Press.
- Hutnyk, J.** (2012) 'Proletarianisation', *New Formations*, 77(1): 127–149.
- iFit.** (2012) 'Privacy policy', located at: <https://www.ifit.com/privacypolicy> (accessed on 12, May 2015).
- Kitchin, R.** (2014) 'Big Data, new epistemologies and paradigm shifts', *Big Data & Society*, 1(1): 1–12.
- Lazer, D., Kennedy, R., King, G. and Vespignani, A.** (2014) 'The Parable of Google Flu: Traps in Big Data analysis', *Science*, 343(6176): 1203–1205
- Lyon, D.** (2001) *Surveillance Society: Monitoring Everyday Life*. Buckingham, UK: Open University Press.
- Lyon, D.** (2014) 'Surveillance, Snowden, and big data: capacities, consequences, critique', *Big Data & Society*, 1(2): 1–13.
- Mackaskill, E. and Dance, G.** (2013) 'NSA files decoded: what the revelations mean for you', *The Guardian*, located at: <http://www.theguardian.com/world/interactive/2013/nov/01/snowden-nsa-files-surveillance-revelations-decoded#section/1> (accessed on 12, August 2015).
- Marx, K.** and Engels, F. (1987) *Collected Works, Volume 29 (1857–1861)*. New York, NY: International Publishers.
- Miller, V.** (2011). *Understanding Digital Culture*. London: Sage Publications.
- Nafas, D. and Sherman, J.** (2014) 'This one does not go up to 11: the quantified self-movement as an alternative dada practice', *International Journal of Communication*, 8: 1784–1794.
- Narayanan, A., & Shmatikov, V. (2008, May). Robust de-anonymization of large sparse datasets. In *Security and Privacy, 2008. SP 2008. IEEE Symposium on* (pp. 111-125). IEEE.
- Pariser, E.** (2011) *The Filter Bubble: What the Internet is Hiding from You*. London, UK: Viking.
- Poster, M.** (1995) *The Second Media Age*. Cambridge, UK: Polity Press.
- Prensky, M.** (2009) 'H. sapiens digital: from digital immigrants and digital natives to digital wisdom', *Innovate: Journal of Online Education*, 5(3), located at: <http://www.innovateonline.info/index.php?view%40articleandid%40705> (accessed on 28, May 2015).
- Prodnik, J.** (2012) 'A note on the ongoing processes of commodification: from the audience commodity to the social factory', *Triple C: Communication, Capitalism and Critique. Open Access Journal for a Global Sustainable Information Society*, 10(2), 274–301.
- Rey, P. J.** (2012) 'Alienation, exploitation, and social media', *American Behavioral Scientist*, 56(4): 399–420.
- Rivera, A., Cotto-Escalera, B. and Desai, A.** (2008) *Foreclosed: State of the Dream 2008*. Boston, MA: United for a Fair Economy.
- Rivers, T. J. (2005) 'An introduction to the metaphysics of technology', *Technology in Society*, 27(4): 551–574.
- Roderick, L.** (2014) 'Discipline and power in the digital age: the case of the US consumer data broker industry', *Critical Sociology*, doi: 10.1177/0896920513501350.
- Rojcewicz, R. (2006) *The Gods and Technology: A Reading of Heidegger*. Albany, NY:
- Rotman, B.** (2008) *Becoming Beside Ourselves: The Alphabet, Ghosts, and Distributed Human Being*. Durham, NC: Duke University Press.
- Rouvroy, A.** (2008) 'Privacy, data protection, and the unprecedented challenges of ambient intelligence', *Studies in Ethics, Law, and Technology*, 2(1): Article 3.

- Roszak, T.** (1994) *The Cult of Information: A Neo-Luddite Treatise on High-Tech, Artificial Intelligence, and the True Art of Thinking*. Berkeley, CA: University of California Press.
- Shannon, C.** (1948) 'A mathematical theory of communication', *Bell System Technical Journal*, 27: 379–423.
- Shannon, C. and Weaver, W.** (1949) *The Mathematical Theory of Information*. Urbana, IL: University of Illinois Press.
- Stiegler, B.** (1998) *Technics and Time: The Fault of Epimetheus* (Vol. 1). Stanford, CA: Stanford University Press.
- Stiegler, B.** (2008) *Technics and Time: Disorientation* (Vol. 2). Stanford, CA: Stanford University Press.
- Stiegler, B.** (2010) *Taking Care of Youth and the Generations*. Stanford, CA: Stanford University Press.
- Su, J., Shukla, A., Goel, S., Narayanan, A.** (2017) 'De-anonymizing web browsing data with social networks', *Proceedings of the 26th international conference on world wide web*, International World Wide Web Conferences Steering Committee, pp. 1261-1269
- Thacker, E.** (2003) 'Data made flesh: biotechnology and the discourse of the posthuman', *Cultural Critique*, 53(1): 72–97.
- Turkle, S.** (1995) *Life on the Screen: Identity in the Age of the Internet*. London, UK: Weidenfeld & Nicolson.
- Turkle, S.** (2011) *Alone Together: Why We Expect More from Technology and Less from Each Other*. New York, NY: Basic Books.
- Waldrop, M.** (2001) 'Claude Shannon: reluctant father of the digital age', *MIT Technology Review*, located at: <http://www.technologyreview.com/featured-story/401112/claude-shannon-reluctant-father-of-the-digital-age> (accessed on 12, March 2015).
- White, C.** (1996) 'The time of being and the metaphysics of presence', *Man and World*, 29: 147–166.
- Ward, M.** (2013) 'It is easy to expose users' secret web habits, say researchers', *BBC News*. Located at: <https://www.bbc.co.uk/news/technology-40770393> [accessed on 24/10/2018].
- Williams, R. W.** (2005) 'Politics and self in the age of Digital Re (pro) ducibility', *Fast Capitalism*, 1(1), located at: [http://www.uta.edu/huma/agger/fastcapitalism/1\\_1/williams.htm](http://www.uta.edu/huma/agger/fastcapitalism/1_1/williams.htm) (accessed on 20, August 2015).
- Wyly, E.** (2014) 'Automated (post) positivism', *Urban Geography*, 35(5): 669–690. Yar, M. (2014) *The Cultural Imaginary of the Internet: Virtual Utopias and Dystopias*.
- Zwick, D. and Knott, J. D.** (2009) 'Manufacturing customers the database as new means of production', *Journal of Consumer Culture*, 9(2): 221–247.

