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## Living with Data: Aligning Data Studies and Data Activism Through a Focus on Everyday Experiences of Datafication

Helen Kennedy

### Introduction

It is now widely accepted that data are oiling the twenty-first century (Toonders 2014). Data gathering and tracking are practically universal, and datafication (the quantification of aspects of life previously experienced in qualitative, non-numeric form, such as communication, relationships, health and fitness, transport and mobility, democratic participation, leisure and consumption) is a transformation disrupting the social world in all its forms (Couldry 2016). Statistics confirm the assertion that the datafication of almost everything is growing relentlessly: in 2012 it was claimed that 90% of the world's data had been created in the previous two years (IBM 2012), and a future 40% annual rise in data generation has been estimated (Manyika et al. 2011).

Less commonly noted is the place of everyday experience in the machine of datafication. *The Berliner Gazette* (nd) has claimed that 75% of these newly available data are by-products of people's everyday activities, and Michael and Lupton also note the centrality of the everyday in the current Big Data moment:

Human actors contribute to big datasets when they engage in activities such as making calls and using apps on mobile phones, using online search engines such as Google, purchasing goods or services online or taking part in customer loyalty programmes, uploading contributions to social media platforms, using wearable self-tracking devices or moving around in spaces that are equipped with digital sensing or recording devices (Michael and Lupton 2015, 104).

Despite the significance of such everyday practices in the production of large-scale data, little attention has been paid to people's thoughts and feelings about these data-producing processes. These issues have not, on the whole, been the focus of the emerging field of data studies, which seeks to understand the new roles played by data in times of datafication. This is a problem for a number of reasons. First, if we do not understand whether data condition everyday experiences as it is claimed, and our thinking about these matters is not informed by the perspectives of the people upon whose data datafication is built, scholarship about data-in-society will be incomplete. Second, and importantly for this special issue, in the absence of such knowledge, data activism, which seeks to challenge existing data power relations and to mobilise data in order to enhance social justice, will rely upon the judgments of elite technical actors and activists about what would constitute more just data practices. In contrast, I argue that to build a picture of what just data arrangements (that is, the practices of organisations that handle and produce data, the policies that govern these practices, and provisions for the development of skills that people need in order to engage with data) might look like, it is important to take account of what non-expert citizens themselves say would enable them to live better with data, based on their everyday experiences of datafication. Greater understanding of everyday living with data can contribute significantly to the knowledge base on which data activism is built. A third problem, then, is that by not focusing on these issues, the field of data studies is not currently as well aligned to the aims of data activism as it might be. This paper explores how we might address this gap.

The paper proceeds to elaborate the argument that data studies and data activism could be better aligned through a focus on everyday experiences of datafication. The next section provides a brief sketch of the field of data studies, identifying the everyday as a critical absence. Here I discuss how more empirical research into what it means to live with datafication could enhance both data studies and data activism. In the subsequent section, I outline what the project of researching living with data might look like. I explore two possible approaches to this endeavour, the first of which I describe as “a phenomenology of datafied agency.” The second focuses on data-related capabilities and their emotional dimensions. Both of these approaches, I argue, suggest the need for a vocabulary of emotions in researching everyday living with data.

### **Inserting the Everyday into Data Studies and Data Activism**

Within the emerging field of data studies, datafication is said to have all kinds of effects, many of them troubling, and to result in an array of new harms. These include: increased surveillance; threats to privacy; new forms of algorithmic control; and the expansion of new and old inequalities and forms of discrimination. Surveillance is said to be much more ubiquitous, opaque and speculative in datafied times, as social media and other kinds of data mining make it possible to surveil aspects of life once private and intimate (Andrejevic and Gates 2014, Dencik and Cable 2017, Lehtiniemi 2017) and thus deny people their basic right to privacy (Cohen 2013). Privacy itself is a contested issue, with industry figures like Mark Zuckerberg claiming that it is no longer a social norm (Johnson 2010), and critical researchers pushing back against this view with all kinds of empirically grounded (boyd 2014) and philosophical (Nissenbaum 2009) assertions that privacy does, in fact, still matter. Elsewhere, significant attention has been paid to the function of algorithms in emergent forms of datafied governance and control. In times of datafication, algorithms have power, it is claimed (for example by Gillespie 2014 and Striphas 2015). They make and shape data in particular ways, certifying knowledge and so shape public, social and cultural life.

Another troubling consequence of datafication is that it reproduces old inequalities and creates new ones. One of danah boyd and Kate Crawford’s much-cited “six provocations for big data” is that “limited access to big data creates new digital divides” (boyd and Crawford 2012, 673). In data mining, who is deemed to have expertise determines who controls the process and the “knowledge” about the social world that results, knowledge which in turn reproduces the social world, as scholars writing about the power of algorithms also claim. Relatedly, and emerging from these debates, the discriminatory consequences of the rise of big data have also been noted. Data mining, analysis and subsequent discrimination result in certain groups having better access to all kinds of resources (Andrejevic 2013, Taylor and Richter 2017). Datafication affects citizens differentially, and data-driven discrimination can mean that already-disadvantaged populations have their access to fundamental human rights further limited (see for example Gangadharan 2012 and 2015).

To date, studies of the rise of datafication have primarily sought to expose these harms, and the field of data studies has therefore been dominated by critical political economy and neo-Foucauldian analyses of the problems that accompany widespread datafication and its intricate relationship with neoliberal forms of governance. Data are seen as powerful and troubling actors in the control of contemporary life, playing a role in shaping how we live, what we know and how we know, and contributing in new ways to old problems like discrimination and inequality. Without doubt, this literature has played a vital role in making visible the serious issues that datafication raise in relation to rights, freedoms and justice, and in questioning the celebratory rhetoric that has accompanied the spread of big data.

But there are some absences here. Because data studies has primarily focused on the operations of data power and their harmful consequences, it has been characterised in large part by a focus on powerful actors. Studies which focus instead on attempts to democratise data, such as open data initiatives (Baack 2015), hackathons (Gregg 2015, Irani 2015), the Quantified Self (QS) movement (in which participants use apps and mobile devices to collect data about various aspects of their bodies and lives, such as the work of Neff and Nafus 2016) or data activism,

also often focus on elites, as the initiatives and practices which are the object of these studies tend to involve technological and data savvy experts. For example, as early researchers of the QS movement have acknowledged, QSers are atypical in their data expertise, commitment and enthusiasm, and so cannot be said to be representative of “ordinary people.” Indeed, my use of the term “ordinary people” in the cultural studies tradition in this paper highlights what is missing from the existing literature. Building on the politics of the ordinary, my argument here is that “lowering” academic sights (McCarthy 2008) to “activities in the daily round” (Silverstone 1994) is a much-needed political gesture in the field of data studies.

Thus data studies has not paid much attention to the everyday experiences of non-expert citizens of living with data and datafication. Michael and Lupton noted in 2015 that “there is still little research that has investigated what the public make of big data, aside from reports from privacy organizations and government bodies” (Michael and Lupton 2015, 110), and that characterisation is still largely true two years later. It is because of this absence that, alongside Michael and Lupton, commentators such as Couldry and Powell (2014), Pink et al. (2017) and Ruckenstein and Pantzar (2015), have called for more research into everyday engagements with data. I join them in this call in this paper, argue that such a turn is important to data activism as well as to data studies, and explore how we might enact it. Indeed, it is because of these limitations in dominant critical approaches that I propose that the term “data studies” is preferable to describe this emergent field, rather than the alternative “*critical* data studies” which is also sometimes used (for example by Iliadis and Russo 2016).

It should be noted that there are a small number of exceptions to my claim that data studies has not attended to the everyday. These include research into the datafication of health, such as Harris et al’s (2016) work on cybergenetics, and the work of Lupton (2018) and Ruckenstein (2016). Another example is Couldry et al’s (2016) Storycircle project, which explored how analytics are used by community groups for social ends. Research in the field of data-driven discrimination, such as Eubanks and Gangadharan’s Our Data Bodies project (<http://www.odbproject.org/>), is also an exception, as it grounds concerns about the discriminatory

effects of datafication in empirical research with those most likely to be discriminated against. Two small-scale studies have explored how social media platform users feel about these technologies and their algorithms (Bucher 2017, Colbjornsen forthcoming). Barassi’s Child Data Citizen project (<http://childdatacitizen.com/>), which aims to look at how the lived experience of childhood is being transformed by datafication, is also an exception, as is research into the everyday self-monitoring practices that have emerged from the more elite QS movement mentioned above (especially the work of Pink, such as Pink and Forst 2017, Pink et al 2017 and Pink et al 2018; see also Sharon and Zandbergen 2016). These examples notwithstanding, there is limited research which seeks to develop understanding of how ordinary people experience and live with data as part of everyday life – these exceptions represent only a small handful of projects from across the globe, after all. In short, we need more empirical research into everyday living with data.

A further problem with existing data studies literature is that much of it conceives of life with data in limited ways, as harmful and oppressive. This is not helpful for data activism which, as noted above, seeks to identify and establish more just forms of datafication. Data activism is characterised by mobilisations against existing data uses and practices, and has been defined as a “series of sociotechnical practices that, emerging at the fringes of the contemporary activism ecology, critically interrogate datafication and its socio-political consequences” (Milan and Van der Velden 2016, np). As such, data activism is premised on the assumption that current “data arrangements” are harmful to non-powerful citizens, and that alternative arrangements are therefore needed to improve people’s experiences of datafication. Data activism thus requires the possibility of agency, yet there is little scope for agentic engagements with data in the visions of datafication provided in much data studies scholarship.

Bringing the sociology of the everyday into data studies can help to resolve this problem. In sociological terms, the everyday refers to the habits and practices in which we engage and which surround us, what Pink et al describe as the “routines, contingencies and accomplishments” of the mundane (Pink et al 2017). Given that datafication is now widely considered to be a defining feature of everyday life

(Couldry 2016), this approach is clearly helpful for understanding everyday experiences of datafication. Because the everyday is conceived as contingent and situational within this sociological sub-field, this makes it possible to think of social phenomena like datafication as not simply constitutive of social life, as critical political economy and neo-Foucauldian analyses do, but rather as “made and unmade” (Neal and Murji 2015, 812) through everyday practices. (Of course, people’s everyday lives are not all the same, and it is important to take account of how social inequalities lead to different data experiences, as work on data and discrimination has begun to do (such as the Our Data Bodies project mentioned above)). Thus not only does researching everyday engagements with data fill an empirical gap for data activism, its acknowledgement of the agentic actions that constitute social and political life mean that it is well aligned with data activism’s interest in the possibilities for agency in datafied times.

There is a third contribution that a focus on the everyday can make to data activism, in addition to the two already noted (that is, filling an empirical gap and focusing on agency). In a talk about data activism which had as its subtitle “the conditions of possibility for democratic agency in the datafied society”, Stefania Milan (2017) identified three such conditions. The first is critical consciousness, or “conscientização”, a Portuguese term coined by Brazilian popular educator Paulo Freire to refer to achieving critical understanding of the world and taking action against injustices revealed through such consciousness (Freire 1968). The second, according to Milan, is grassroots data literacy, which is required in order to comprehend existing data practices and processes. The third is critical imagination, or the capacity to imagine alternative forms of living with data. Here Milan draws on Emirbaye and Mische’s (1998, 970) definition of political agency as constituted “through the interplay of habit, *imagination* and judgement” (my emphasis). But what precedes the achievement of these conditions outlined by Milan? What comes before them? We need to know the answers to these questions before we can understand what leads people (or future data activists) to be able to acquire them. Here again, understanding of non-expert citizens’ experiences of datafication is crucial, because we cannot arrive at the conditions identified by Milan without understanding *first* how people who do not (yet) consider themselves as data

activists experience datafication, and *second* how to move from these experiences to engagement in data activism. In the next section, I explore two possible approaches for arriving at such understanding and some of the issues that might emerge along the way.

### **Approaches to Researching “Living with Data”: Two Possibilities, and an Emergent Vocabulary of Emotions**

One of the main purposes of exploring how ordinary people experience datafication in their everyday lives is to develop understanding of their perspectives on how they might live *better* with data, understanding that is useful to the mission of data activism and its efforts to improve data arrangements so that they are less harmful and more just. Taking account of what people say about these issues is important, but so are the conceptual tools with which we develop this knowledge. In this section, I explore two possible approaches that put philosophical concepts into dialogue with examples from my own research. Taken together, these explorations suggest the need for a vocabulary of emotions in researching living with data.

### **A Phenomenology of Datafied Agency**

The field of the philosophy of technology, concerned in large part with questions about the relationship between technology and well-being, seems a good place to start exploring how people live and how they might live better with data. A major question for this field is whether technological developments of diverse kinds are good or bad for society – as Brey (2012) notes, whether it is possible to lead good lives in a world so committed to technology is a pressing question. While some philosophy of technology literature focuses on *subjective* variations of well-being, either asking whether technology can make us happy (Spahn 2015), or conflating well-being with happiness and using these terms interchangeably (Søraker et al. 2015), subjective notions like happiness are not helpful to the cause of data activism and the data justice it seeks to promote. They are individualistic and do not

contribute to thinking about the kinds of data arrangements that might benefit communities of people disadvantaged by current conditions.

We need therefore to turn elsewhere in the field, to philosophers of technology who ask whether technological ensembles of all kinds can be appropriated as tools of democratisation, enablement and activism, despite their origins within the belly of the beast. Data activism asks these same questions of datafication, a new kind of technological ensemble. This concern is captured nicely in the first words of Andrew Feenberg's preface to *Transforming Technology*: "must human beings submit to the harsh logic of machinery, or can technology be fundamentally redesigned to better serve its creators?" (2002, v). Through this question about agency, important both to data activism and to researching datafied everyday life, Feenberg raises the issue of differential technological subject positions that he addresses explicitly elsewhere. In another book, Feenberg (1999) argues that the fundamental difference "between the dominant and subordinate subject positions with respect to technological systems" (1999, x) is significant, a distinction which echoes my argument that non-expert citizens' experiences of datafication are differentially socially stratified. "Ordinary people encounter technology as a dimension of their lifeworld" (1999, x), he writes, and he continues:

For the most part they merely carry out the plans of others or inhabit technologically constructed spaces and environments. As subordinate actors, they strive to appropriate the technologies with which they are involved and adapt them to the meanings that illuminate their lives. Their relation to technology is thus far more complex than that of dominant actors (which they too may be on occasion) (1999, x).

Differential subject positions matter, Feenberg argues, because change comes "when we recognize the nature of our subordinate position in the technical systems that enrol us, and begin to intervene in the design process in the defence of the conditions of a meaningful life and a livable environment" (1999, xiv). Likewise, my argument here is that moving beyond critical thinking about technology, as Feenberg advocates, and exploring technology's "ambivalence", or "the availability

of technology for alternative developments with different social consequences" (1999, 7), is an essential component of data activism and an important next step for data studies.

Feenberg's concerns are concerns about agency, as are those of data activism. To address these issues of agency and possible change through empirical research into everyday experiences of datafication, a phenomenological approach might be helpful. Phenomenology focuses on the point of view of actors and their perceptions and experiences of the (datafied) world – in this sense it is distinct from ethnography which is more commonly dependent on the point of view of the observing researcher. This perspective and phenomenology's excavation of the taken-for-granted layers of everyday action fit with the project that I am describing here, which also prioritises the conscious experiences of datafication of non-expert citizens. As such it enables attention to the differences in people's experiences of datafication which, as noted above, are significant. Schutz and Luckmann's (1973, 105) argument that phenomenology acknowledges that "not only the what but also the how of the individual situation in the lifeworld belongs to the fundamental elements of the stock of knowledge" (quoted in Couldry et al 2015, 125), further confirms its usefulness for producing a more detailed understanding of living with data "from the bottom up" (Couldry and Powell 2014). Also arguing for a phenomenology of datafication, Couldry et al (2015) state that we need research "that recognises people's ongoing reflexivity about their conditions of entanglement with [the] digital infrastructures" of datafication (2015, 124) – indeed, Couldry et al and some of the other researchers turning their attention to living with data who were noted above (such as Ruckenstein 2014) describe their own research as phenomenological. For many writers, such reflexivity is intricately entangled with agency. Couldry, for example, defines agency as "the longer processes of action based on reflection, giving an account of what one has done, even more basically, making sense of the world *so as* to act within it" (Couldry 2014, 891). Phenomenology's focus on both of these things, reflexivity and action, make it a useful approach for researching living with data.

My research into uses of social media data mining, in organisations which I describe as the pillars of everyday life (local councils, museums, training organisations, educational institutions and shops), illustrates what a phenomenology of datafied agency might offer. This research focused on the datafication of *working* life, not on non-experts' experiences of data in the everyday, but nonetheless it is indicative of what might surface through such an approach. In this research, one thing that emerged across research sites was a desire for numbers, which, I have argued, engaging in data mining elicits (Kennedy 2016). I give some examples below, after which I reflect on what these tell us about reflexivity, agency, and the importance of researching living with data.

In research with city councils and museums in which we experimented with social media data mining techniques, the data generated through our experiments was met with much enthusiasm by participants, especially when presented in visually appealing charts and graphs. A sense of amazement was expressed by participants who read reports we produced and who attended workshops. Emotional responses to data often elicited a desire for more data. One participant said:

I think I had a lot of confidence in the numbers. I think I was amazed by how deep a lot of these tools could go. [...] I think they're very clever. It was amazing how much you could drill into this.

Some participants said that they were required to report the results of analytics exercises "up" to managers and funders, but that there was no discernible action taken as a result. Quantitative data, produced through systems like Museum Analytics (a platform which carries out social media analytics for the museums sector, as the name suggests), were desired by managers and funders, with no apparent concrete consequence – the "data gathered" box was ticked, the desire for numbers was fulfilled, and data were filed away.

In interviews within social media insights companies, some social media analysts said that accuracy was not important to their clients. One said:

Whether that data is accurate or not is irrelevant. They just want some numbers to put into a PowerPoint that they can show to their boss. If anyone asks, "Are you keeping an eye on social media?" You can say, "Yes, we're 36 this week." And it is a very attractive solution.

Sometimes clients are drawn in by the allure of numbers and just want numbers, participants said – inaccuracy is acceptable, as long as the desire for numbers is fulfilled. Participants felt that this desire for numbers suppressed discussion between them and their clients about the limitations of the data that data mining produces, and they were frustrated at this. They were alert to the inadequacies of the numbers they produced and they would have liked to talk to clients about the challenge of obtaining good quality, accurate data, and about what the numbers that social media analytics produce do and do not represent.

In an interview in an educational organisation which uses the services of social media analytics companies, a digital marketer expressed his frustration with what he referred to as "the fetishism of the 1000". He claimed that within his organisation there was a perception that the ability to cite numbers of people "reached" through a campaign was proof in itself of a campaign's success. When a project has been completed, he said, if numbers can be produced, if it can be claimed "that we've reached 50,000 and we've had 1000 people respond back to us about it, then that fulfils some kind of sense of requirement." He felt that measurement was rarely undertaken with a genuine desire to self-evaluate, but rather was motivated precisely by a desire to produce numbers, which were uncritically equated with success.

The emotions that came to the surface in this research seem troubling, as it seems as if there is no escape from the prevalent desire for numbers in the datafied workplace. However, a phenomenological approach, which excavates the layers of conscious experience and is attentive to the judgements, perceptions and emotions of key actors, reveals a more nuanced picture. As can be seen in the examples above, although a desire for numbers dominated, participants were also reflexive about the ways in which such desires limit critical engagement with data amongst their

clients or colleagues. There was also some reflection about the ethics of data mining amongst participants, about whether data mining methods are acceptable, whether the mantra that social media data are public and therefore “fair game” to be mined and analysed holds up. All of these reflections, and related ethical decision-making and line-drawing, can be seen as nascent acts of agency and point towards possibilities for different data arrangements, as participants did not simply submit to the “harsh logic” (Feenberg 2002, v) of datafication and desiring numbers. A phenomenological approach to participants’ experiences also highlights the important role that emotions play in engagements with data in the workplace. This in turn suggests a need for a vocabulary of emotions in researching everyday experiences of datafication.

### **Data-related Capabilities and Their Emotional Dimensions**

Another way in which we might bring together data activism’s interest in social justice with people’s perspectives on how they live and might live better with data is through the capabilities approach. Two of the original proponents of this approach, Amartya Sen and Martha Nussbaum, argue that to think about how people might live well, we need to focus on what people need to be capable of doing, should they choose to (Nussbaum 2006 and 2011, Sen 1973, 1992 and 2009). For Nussbaum, the capabilities approach directs attention to how certain social or institutional arrangements are more effective than others in enhancing social life and social justice. Both Nussbaum and Sen emphasise the role of the external environment in enabling capabilities; this makes possible a normative assessment of technological developments like datafication, argues Johnstone (2012). Nussbaum’s version of the capabilities approach also involves asking how we might live well *together*, especially in light of the growing value attached to competitive individualism and neo-liberalism. Despite the dominance of these latter ideas, within capabilities thinking, “the notion of the common good survives as a key ethical principle” argues Hesmondhalgh (2012, 84), a notion that is clearly relevant to data activism.

For Sen, capabilities are freedoms (freedoms to – for example receive an education, earn a living, express oneself, form relationships – and freedoms from – for example oppression, violence, censorship, arbitrary arrest) (Johnstone 2012). He defines capabilities as “the various combinations of functionings (beings and doings) that a person can achieve [...] reflecting the person’s freedom to lead one type of life or another [...] to choose from possible livings [...]” (Sen 1992, 40). Nussbaum (2006) lists ten such capabilities, some of which are physical, such as not dying prematurely and having good health and shelter. Others relate more clearly to datafication: being able to imagine, think and reason; being able to form a conception of the good and to engage in critical reflection about planning one’s life; and having control over one’s (political or material) environment, can all be influenced in one way or another by people’s experiences of data and datafication.

A number of media theorists have applied the capabilities approach to explorations of the media practices that can enhance people’s efforts to live good lives (such as Coleman and Moss 2016, Hesmondhalgh 2013, Mansell 2002). For example Hesmondhalgh’s (2013) *Why Music Matters* draws on Nussbaum and Sen’s ideas to reflect on the communicative practices – in this case, in relation to music – that would create conditions under which humans might flourish. Whilst it might be easy to understand why cultural goods like music matter in relation to living well and flourishing, these questions are equally important in relation to data and datafication.

Exploring how ordinary people’s experiences of datafication might be enhanced through the lens of the capabilities approach could also be seen as a response to Andrew Sayer’s argument that ideas about living well and flourishing are vital for attempts to understand how greater social justice might be achieved (Sayer 2011). Sayer argues that social science should be more attentive to people’s first-person, evaluative relation to the world, to their evaluations of how they live and how they might live well, because “Social struggles are not merely struggles for goods and power but about how to live, about what is a just, virtuous or good life and a good society” (2011, 172). Social science often disregards people’s evaluative relation to the world and the force of these evaluations, he claims, but we need to attend to



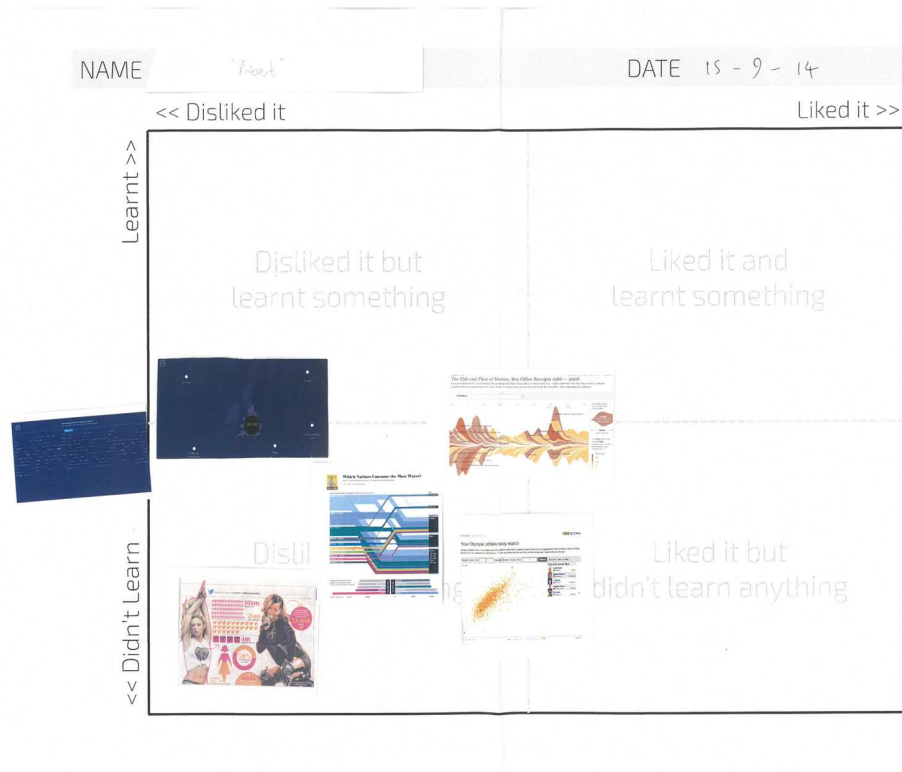
these things; values, feelings and emotions need to be taken more seriously in social sciences. Sayer writes that there is a “macho tendency to view the study of values, emotions and ethics as less scientific than the study of power, discourse and social structure”, whereas he argues that we need to develop our understanding of the former which, he argues, constitute “ethical being in everyday life” (Sayer 2011, 15).

Ideas about capabilities and flourishing might help us to understand what is important for people to live their lives well with data. In relation to datafication, capabilities might include being able to have control over one’s own data, to choose to opt out of – or, better still, in to – data gathering, and to make sense of data mining processes because they are made transparent to non-expert citizens, or accountable to expert others. The problem is that, whilst these issues are widely discussed amongst data activists, ordinary people’s perspectives on whether they might result in living better with data are missing from these debates. This is why we need to produce the kinds of first-person evaluations of “living well with data” that Sayer advocates.

As with the phenomenological approach discussed earlier, a capabilities approach also highlights the importance of emotions in relation to living well and flourishing. Through this approach Hesmondhalgh looks at how music communicates emotions in particular ways and how emotions thus play a role in good lives. Likewise, Sayer highlights the significance of feelings in everyday evaluative relations with the world. In other research of mine which explored how people engage with visual representations of data which circulate in the everyday, my co-researchers and I found that emotions play important roles in such engagements (Kennedy and Hill 2017, Kennedy et al 2016). Because a major way that most people access data is through their visual representation, as Gitelman and Jackson (2013) argue, visual sensibilities are required in order to make sense of data, not just cognitive reason and statistical skills. This entanglement of the numeric and the visual, at the heart of most people’s engagements with data in their everyday lives, means that data stir up emotions. A broad range of emotions emerged in relation to engagements with visual representations of data in the research, including pleasure, anger, sadness,

guilt, shame, relief, worry, love, empathy, excitement, offence. Participants reported emotional responses to visualisations in general, represented data, visual style, the subject matter of data visualisations, the source or original location of visualisations, and their own skill levels for making sense of visualisations (Kennedy and Hill 2017).

Thinking about the relationship between emotions and capabilities can contribute to understanding experiences of engaging with visual representations of data. In our research, participants expressed strong feelings about their own skills – or capabilities – for decoding visualisations. Some participants felt a lack of confidence in this regard. One said of a visualization: “It was all these circles and colours and I thought, that looks like a bit of hard work; don’t know if I understand”. Many of our participants expressed similar negative feelings about their lack of skills, and this lack of confidence had a profound impact on some participants’ engagement with visualisations. One reacted to all of the visualisations that we showed him in a focus group with confusion and dislike, as seen in the grid he produced, on which we asked all participants to place thumbnail images of visualisations in order to identify whether they liked, or had learnt from, the visualisations which we showed them. He placed most thumbnails in the “disliked + didn’t learn” quadrant, and one outside the grid altogether (Figure 1).



*Figure 1: Seeing Data participant's grid*

This participant responded in this way because he doubted his own ability to make sense of visualisations. This lack of confidence was echoed by other participants, such as this person who wrote in her diary about visualisations in a newspaper article on tax:

I felt confused and a bit stupid for not being able to stay the course with this article. It's too maths based for me. Too many numbers and pie charts, I get lost in it.

Feeling “stupid” was the result of a perceived lack of skills, such as knowing how to read particular chart types. When participants felt more skilled, unfamiliar chart types could evoke positive emotions, rather than negative ones: “I didn’t hate it because it made me want to try and put a little bit of effort into navigate those lines”, said another participant about a visualisation of freshwater consumption across the globe.

Educational background was an important factor which influenced whether participants felt stupid or felt capable, something which they themselves recognised. Some participants identified that higher education contributed to the development of relevant skills. One participant who had a Masters degree was more confident about how to understand and assess the data visualizations than the participant whose grid is shown in Figure 1, because he felt he had the training to do so. Alongside education, gender and class, which we might describe as social arrangements, to use Nussbaum’s term, appeared to influence emotions such as feeling confident or feeling stupid.

Although these examples are not concerned with reducing data-related inequalities and improving data justice as data activism seeks to, the emotional dimensions of living with data which they reveal are relevant to this mission. As Sayer notes, it is important to take people’s values, emotions and ethics seriously in our quest for social justice. Feelings play a role in non-experts’ experiences of data and datafication processes. Building on this finding, for example in initiatives which aim to enhance data literacy (Milan’s second condition for the possibility of datafied agency), might result in more people feeling confident about their skills for engaging with data, and greater understanding of datafication and its many consequences might result. Thus the approaches I explore in this paper, and the ways in which they enable foregrounding the emotional dimensions of living with data, are important for data activism as well as for data studies. To advance, both fields need better understanding of how data and emotions relate to each other in ordinary people’s everyday experiences of datafication.

In thinking with concepts like capabilities and living well with data, it is important to subject them to critical scrutiny, of course. For example, how might data be constrained from contributing to people's flourishing, given their location in unequal relations of power? How to account for how injustice, inequality and oppression inform people's access to capabilities, to living well and flourishing (Hesmondhalgh 2012)? How to avoid homogenising everyday experiences, and instead to recognise that human needs "may take very different forms in different societies" (Hesmondhalgh 2012, 18)? Who gets to decide what needs to be sacrificed for the common good? It is important to acknowledge that these notions are not without problems – they are abstract and complex and suffer from what Johnstone (2012) describes as "radical empirical underspecification." Nonetheless, their application in data studies and in data activism could open up a vocabulary of the emotional, and such a vocabulary could make these issues explicit and open them up for debate. Thus these concepts, and the vocabularies they bring with them, are potentially useful for understanding datafication's social consequences. They might help our mission to identify the types of data arrangements that can enhance people's efforts to live good lives, reduce data-related inequalities and improve data justice.

### **Conclusion: Why This Matters for Data Activism**

Datafication is a major social phenomenon which has all kinds of effects, and because of this, how people experience data in their everyday lives is extremely important. Yet, in data studies and in data activism, little attention has been paid to ordinary people's thoughts and feelings about their own data production and the data practices of others. Understanding such everyday experiences is crucial, because without such understanding, data studies and data activism are not informed by the perspectives of the people with whose lives they are ostensibly concerned. In this paper I have argued that we need to look at datafication as it is lived, felt and experienced at the level of the everyday. We need to attend to ordinary people's perspectives on how data arrangements can be improved, so that these perspectives can play a role in determining improved data arrangements. Through this, I argue,

an empirical gap in data studies would be filled, knowledge that is useful for data activism would be produced, and data studies and data activism would be better aligned. Data activism seeks to challenge unjust data arrangements and to mobilise data in order to enhance social justice, and taking account of what non-expert citizens say would enable them to live better with data will help data activists to imagine more just arrangements, the third of Milan's conditions for data activism.

I have also argued that inserting the everyday into data studies opens up a space in which to explore possible conditions for agency in datafied societies, to paraphrase the subtitle of Milan's talk. The topic of agency is a shared concern of scholars of the everyday and of data activists, and in this way a focus on the everyday makes another contribution to data activism. What's more, not only does researching everyday experiences of datafication fill an empirical gap and highlight issues of agency, it also enables us to attend to the question of what precedes data activism. How is datafication lived, felt and experienced by non-expert citizens before they start to develop the conditions or consider the possibility of activism in relation to data? Data activists cannot make the three conditions for datafied political agency identified by Milan possible without first understanding where we need to move *from* in order *to get to* these conditions.

In this paper, I explored two approaches to researching everyday engagements with datafication. The first, "a phenomenology of datafied agency", mobilises a phenomenological excavation of data experiences to explore the possibility of agency in datafied conditions. The second is an approach which looks at data-related capabilities and their emotional dimensions, and which highlights the importance of identifying what people need to be capable of doing in order to live well in times of datafication. Arguably, the "conditions of possibility for political agency in the datafied society" identified by Milan are, in fact, capabilities. Thus there is a direct link between these approaches and data activism. Both of the approaches I discuss highlight the importance of emotions in everyday engagements with data. The ways in which these approaches value emotions in relation to acting agentically and living well can help us understand the important role that feelings play in everyday engagements with data. These approaches thus suggest the need for a vocabulary

of emotions within data studies and data activism, something that has been largely absent from these fields to date.

At the time of writing, there are many examples of initiatives which aim to improve life with data. Attempts to “do good with data”, to paraphrase the strapline of US visualisation agency Periscope, include enterprises like DataKind, which puts data experts, working pro bono, together with social groups to address social and humanitarian problems, for example relating to homelessness and child poverty. Data visualisation itself is seen by many practitioners as a way of “doing good with data” (this is the strapline of a datavis agency after all), as this practice is often motivated by a desire to make data transparent and accessible. Efforts to develop alternative, human-centric personal data management models, like the MyData movement (<http://mydata2016.org/>) and to enhance data literacy, such as School Of Data (<https://schoolofdata.org/>), can also be included here. What is missing from these endeavours is an understanding of non-expert citizens’ perspectives on whether they might result in better living with data. We need to listen to the voices of ordinary people speaking about the conditions that they say would enable them to live better with data and, in so doing, arm ourselves with knowledge which advances data studies, serves the interests of data activism, and brings both fields into closer alignment with each other.

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