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# What Might Hannah Arendt Make of Big Data?: On Thinking, Natality, and Narrative with Big Data

## Abstract:

*The paper considers the phenomenon of Big Data through the work of Hannah Arendt on technology and on thinking. By exploring the nuance to Arendt's critique of technology, and its relation to the social and political spheres of human activity, the paper presents a case for considering the richness of Arendt's thought for approaching moral questions of Big Data. The paper argues that the nuances of Arendt's writing contribute a skeptical, yet also hopeful lens to the moral potential of Big Data. The skepticism is due to the potential of big data to reduce humans to a calculable, and thus manipulatable entity. Such warnings are rife throughout Arendt's oeuvre. The hope is found in the unique way that Arendt conceives of thinking, as having a conversation with oneself, unencumbered by ideological, or fixed accounts of how things are, in a manner which challenges preconceived notions of the self and world. If thinking can be aided by Big Data then there is hope for Big Data to contribute to the project of natality that characterizes Arendt's understanding of social progress. Ultimately, the paper contends that Arendt's definition of what constitutes thinking is the mediator to make sense of the morally ambivalence surrounding Big Data. By focusing on Arendt's account of the moral value of thinking, the paper provides an evaluative framework for interrogating uses of Big Data.*

**Keywords:** Hannah Arendt; Big Data; Big Data Ethics; Natality; Narrative

## Thinking with Arendt on Big Data

In *The Life of the Mind*, Arendt discusses the important role of thinking in complimenting and validating the operation of science. Arendt (1981) writes, “[t]hinking, no doubt, plays an enormous role in every scientific enterprise, but it is the role of a means to an end; the end is determined by a decision about what is worthwhile knowing, and this decision cannot be scientific.” In this paper I will explore Arendt’s understanding of thinking, in science, as it might be applied to the area of Big Data. Essentially, I will argue that the importance of thinking to the analysis of science made in the *Life of the Mind* can establish the moral neutrality of big data. The analysis is at odds with much Arendt scholarship which, by focusing on her earlier and admittedly more sustained critique of science in *The Origins of Totalitarianism*, and *The Human Condition*, would immediately paint Big Data as another manifestation of the totalitarian desire to reduce the human to what Arendt (2017, p.438)

describes as “the never changing identity of reactions.” That is, there is a temptation in phenomena like Big Data, to notice a hastening of the banalization of life; however, this is not, I contend essentially characteristic of Big Data. That is, Big Data need not necessarily be a problematic component of research if certain precautions are taken. If we explore the potential of Big Data to disrupt commonly agreed perception, and for that disruption to contribute to public discourse then there is a nuanced reading of Arendt which might be supportive of Big Data.

Big Data, according to Mittelstadt (2015), is a social and technological trend capable of destabilizing ethical and social norms. Andrej Zwitter (2014) argues that in notions such as individuality, free will and power, Big Data will transform how we understand these concepts and how they are applied in many areas of social life, such as law, and public opinion. For Danah Boyd (2016), the visibility of morally problematic instances of Big Data uses and breaches, such as Facebook’s ‘emotional contagion study’ might lead one to conclude that Big Data is a moral challenge to overcome. They stress that the focus on morally problematic Big Data use risks undermining the potentially beneficial applications of Big Data. They do not downplay the morally suspect moments of Big Data. What they offer is a sweeping literature review relating to the ethical challenges of Big Data to inform public debate so that society can discern the moral potential of Big Data - if there is one. This approach, which acknowledges the massive potential for moral failure in Big Data, especially in “Data Fundamentalism” which denies the need for theories or frameworks, avoids throwing out the baby with the bathwater and opens a space for transforming the use of Big Data so that it is morally responsible. There are many articles in practical ethics journals which advise a slow and cautious approach to Big Data. Zwitter (2014); Zuboff (2015); Zook, et al, (2017); Saliternik (2019); Sangiovanni (2019), outline the broad challenges to ethical practice inherent in Big Data research and advise us to devise policies that address the moral

challenges that issues like consent, objectivity, privacy etc, give rise to. Zuboff (2015); Saliternik (2019); and Sangiovanni (2019), focus their critique and advice for cautious progress on the realm of politics, highlighting the role of surveillance, and that consent and a right to privacy can potentially be violated by Big Data practices, and also, that Big Data can disrupt our received notions of what constitutes political participation. In providing to the cautions identified in the proliferation of Big Data research, Boyd (2016), in focusing her analysis on the ‘emotional contagion’ study by Facebook, calls for a holistic approach that pays attention to every moment of the research enterprise, for bringing ethical considerations into industry uses of Big Data to increase scrutiny and accountability in corporate use of Big Data. Boyd (2016, p.7-8) writes:

[e]thics aren’t a checklist. Nor are they a universal. Navigating ethics involves a process of working through the benefits and costs of a research act and making a conscientious decision about how to move forward. Reasonable people – even experts – differ on what they think is ethical. And disciplines have different standards for how to navigate ethics. Rather than trying to implement university processes into industry, we need to instead train researchers and practitioners to systematically think about how their decisions alter the world in ways that benefit and harm people.

For Boyd, the issue for ethical scrutiny in Facebook’s problematic study is not that Big Data is essentially exploitative, but rather that the researchers who used the Big Data did so with incomplete thought as to the ramifications of the project and the manner in which it is carried out. Boyd does not offer a complete theory of the unethical components of the researcher’s thoughtlessness, rather, as stated in the above passage, Boyd is open to the plurality of views that could be applied to the study. For Boyd, simply adopting a new

process would not solve the issue, as that would mean replacing one kind of thoughtlessness with another. Instead, the emphasis in her analysis is on increasing the thoughtfulness of the researchers. Boyd goes on to contend that ethics needs to be built into the entire process of Big Data research. As I read it, the idea is that ethical scrutiny at each step of a research project challenges the aims and directions of the research by building thoughtfulness and consideration into the plan. Big Data itself is not the issue, thoughtless applications of it are.

There is, as Clark, et al. (2019) note, widespread agreement about the transformative potential of Big Data for not only improving knowledge based on data, but also to open new questions of inquiry. They suggest a dialogic process, similar to that proposed by Boyd, of entwining ethical scrutiny into research. Once again we see the celebration of new knowledge generation coupled with the advancement of thinking about the meaning of that research. Big Data in these accounts is recognized as a destabilizing force, in that it generates new perspectives which can add to what Arendt would describe as the essential pluralism of the world, which requires a thoughtful approach to the meaning of that perspective before it can totalize our understanding of the world and resist the pluralism of perception.

Hence, it is the destabilizing ability of Big Data which makes it morally neutral. Thinking for Arendt is a destabilizing process, one that informs how the pluralistic interplay of ideas shapes public life. Hence, it is Arendt's concept of thinking which I contend has great practicality for undertaking an analysis of the moral potential for Big Data – while also maintaining a necessary skepticism to guard against Big Data uses which have detrimental effects on social well-being. Boyd (2016) has argued that appeals to abstract conceptions of evil corporations is not beneficial for resisting immoral Big Data operations. I contend that a practical response to Boyd's critique can be found in Arendt's idea of thinking. Essentially, Arendt's understanding of thinking, and its relationship to public action and natality, is key for establishing how abstract moral concepts can enter public discourse in positive world

building. In the penultimate section of this paper, I will explore the potential for Big Data to contribute positively to the creation of what Arendt terms ‘natality’, which is the generation of new political possibilities through narrative discussion in public spaces.

Julia Kristeva (2001, p.45) links the notion of physical births to Arendt’s political use for the term: “[p]recisely because there are births – the fruits of men’s and women’s freedom to love one another, to think, and to judge, before they become products of genetic engineering - we are able to enjoy the possibilities of will and freedom.” For Arendt, in *The Human Condition* (1998), natality can be seen in other processes, apart from physical birthing, in the way in which the actions of people create new beginnings. The ability to birth new possibilities and beginnings is at the heart of Arendt’s political writing. Arendt (1998) describes natality as the miracle that saves the world – that is that the natality inherent to political action is the force that resists the decay of the world of human affairs. Stagnant social situations are overcome through action which creates a new social situation to remove the problem – human action literally and figuratively births a new world. If the public discourse is one-sided, or determined in some way, such as through an oppressive system of knowledge construction, or even a process of critique which does not rise above a banal acceptance of the pre-existing custom, then natality is hindered. In a sense this is a part of the reason that Arendt might be read as a thinker unable to see value in Big Data research, as it might be easy to say that data which includes such large sets could have such a determining power. That reading is what I will resist in the remainder of this paper. That is, working with existing critiques of Big Data, I am adding that the unique sense of ‘thinking’ in Arendt, could contribute to our understanding of how to frame Big Data research so that it is beneficial to social progress.

To return to Kristeva’s description of natality in Arendt’s *oeuvre*, it is important to note that Kristeva sees natality as in some ways opposed to tendencies in scientific thinking that

seek to determine human identity rather than allowing it to emerge through the freedom and pluralism at the heart of natality. In this paper I want to explore a different nuanced account of Arendt's criticism of modern thinking that holds open the possibility that Big Data could perhaps contribute to natality. I will do so by discussing the related concept of 'narrative' and how Big Data can contribute to narratives which can advance public discourse. Although the notion of 'narrative' is not explicit in Arendt's own writing, thinkers writing on Arendt, such as Rosalyn Diprose and Ewa Ziarek (2018) suggest it is vitally important for protecting public discourse, especially in places where there are efforts to undermine the plurality of the public domain. They write (2018, p. 219),

Although Arendt herself does not give us a coherent and well developed theory of narrative, following the implication of her philosophy of natality, we will have to assume that any narrative created by action is also an act in its own right, which enables a new beginning. This new beginning can be understood in multiple ways: as a new interpretation of actions, as a new interpretation of historical events, or as the very capacity to create a new beginning through language.

Narratives, as holders of a public memory that is remembered through public discourse, thus contribute to action in the sense of allowing groups to have shared stories to discuss. Hence, while many thinkers now consider Arendt to be a useful thinker for resisting notions of biopolitics, and where Big Data might usually be considered as a major contributor to biopolitical oppression, I will argue that using Arendt's notion of thinking, in relation to considering the meaning of science, Big Data might contribute to the generation of narratives capable of resisting biopolitics.

## **The Banality of Big Data?**

On the face of it, Big Data is a concept that is clearly antithetical to Arendt's interests. It seems to fit broadly into the trend that Arendt identifies in her analysis of totalitarian power and modern society as the attempt to harmonize the laws of nature and history to control and predict human behavior. At the heart of her critique is a fear of the reductionist power of authoritarian forms of governance to employ science, and other fields like economics, to diminish the concept of the human to a concept of the natural or historical. To go further, it is, I contend, easy to situate Big Data as a symptom of modern science's production of what Arendt terms 'Earth alienation'. For Arendt, science is a problematic force, when it attempts to describe and impose universal laws, and when it succumbs to believing in the myth of perpetual progress. Arendt is not suggesting that science necessarily undermines thinking – more that the perspective of scientism, which is a way of understanding science as the only objective measure for normative and epistemological questions, has a structure which can undermine thinking and pluralism.

In the operations of totalitarian and authoritarian governance, a kind of scientism is used to claim objectivity for the demands of the state. When society looks to such politicized sciences to provide universal laws, the pluralistic nature of the world, that is the myriad of ways it is perceived and understood by people, is overlooked in favor of an explanation with universality. Roger Berkowitz (2018) writes that for Arendt, in a scientific world, "the dominant perspective is anti-human." It is to see the entirety of human existence from the scientist's universal perspective. That is, the scientific world view precludes the pluralistic conceptions of the world that generate potential for political action. Hence the human, in such a world, is removed from the pluralistic to the static and universal. As Beltrán Undurraga (2019) claims, for Arendt, technology in redefining the essential activities of humanity, has created a new world which was not the world that humanity originally found meaning in.



Arendt is focused on the projects of space exploration, the atomic bomb and such ‘advances’ that threatened, for Arendt, to remove mankind from their home, and to potentially destroy the world – hence the critical language is apt. She also seems to equate scientific progress with an increasingly economic interpretation of the meaning of life – the language of efficiency. That is, for Arendt there is a similarity in a scientific definition of humanity that excludes other notions, and an economic theory of how people behave, for instance, that claims to be a universal description of humanity. Hence it is fair to suggest that Arendt’s critique is not of science per se, but of any reductive tendency to avoid plurality by insisting on instrumental definitions of life and norms – such as that found in scientism.

Waseem Yaqoob (2014) has pointed out that a science which can alienate humanity from the Earth, such as through the discovery of the unobservable atoms and their ability to potentially end all of life through splitting, as well as space exploration and the moving of human consciousness away from the literal ground of experience upon which it originated, can lead to political forces which attempt to order human possibilities through a violent negation of pluralistic conceptions of the world of appearance. For Arendt modern science’s creation of the laboratory, where the appearing atoms are, through artificial apparatus, made to appear, goes hand in hand with totalitarian regimes’ use of the unobservable forces of nature to order and control.

Hence many of the ethical issues of Big Data seem to play into this Arendtian model, potentially to our political detriment. However, another theme of Arendt, which is treated in relation to science, in her last and unfinished work, *The Life of the Mind*, has the potential to offer hope. Thinking, essentially the process through which the mind critically evaluates its hold on the world of appearance, entering into a conversation with oneself which enables a pluralistic understanding of the world, is a concept which in Arendt’s mind can temper the reductionist tendencies of science. Arendt (1981), in *The Life of the Mind*, contrasts knowing

with thinking. Knowing is the applying of the label of truth to an appearance. Thinking on the other hand is the questioning of meaning – it is, in Arendt’s (1981) view, distinct from knowledge and truth. It is in Arendt’s demarcation between knowledge, which aims at describing, factually or truthfully, the world of appearance, and thinking, which is speculative, does not move in the world of appearance, and is intrinsic to her pluralistic understanding of the world, that a proper moral approach to Big Data can be discerned.

It is important when reading Arendt, to account for the turn to processes of thinking and judging in this last and unfinished work. Arendt’s biographer, Elisabeth Young-Bruehl (2006), in *Why Arendt Matters*, contends that Arendt was concerned that the image of her position found in the published reception to the books and articles, was to her, far removed from what she had written. In looking at the process of making a judgement, the precursor to action, the nuance to Arendt’s position, which I am drawing attention to in this paper, does allow Arendt’s criticism of certain projects in modern science to form a totalizing critique of scientific advancement. The value to scientific thinking can be discerned in Arendt’s consideration of Kant.

In Arendt’s (1981, p.64) reading of Kant’s *Critique of Pure Reason*, what Kant missed was awareness of the full consequences of liberating thinking and reason. Even in the *Critique of Pure Reason*, where pure reason is described as being concerned only with itself, Kant, in Arendt’s reading, resisted elaborating on the implications of this lack of connection between pure reason and the world of appearance. Arendt (1981) argues that Kant was afraid that insisting on such a stark division between reason and thinking would render thought empty. For Arendt, this is not a weakness of thought, but the ground of freedom. Ian Storey (2017, p.171) in exploring the concept of thinking in Arendt’s *Denktagebuch*, in relation to Kant, writes,

“[w]ithout the ability to imagine the worlds and subject-positions of others, to train our minds to go visiting corners of the human world we share yet nevertheless do not know, we would be unable to make judgements that reflect more than our particular preoccupations and self-interests.”

It is precisely the withdrawal from the world of thinking that allows the mind to consider the manifold variety of interpretations, and also the meaning of the perception. Storey (2017) uses the metaphor of engaging with a work of art, where the spectator weaves the perspectives of others into their own. Arendt celebrates the ability of thinking, to, even self-destructively, in the sense of risking self-understanding, speculate on things not given in the world of appearance, and then, through the interplay of public discourse, action, common sense, and sense data, transform the pluralistic world of appearance. Arendt (1981, p. 64) writes, “the realness given by the senses playing together, kept in tune by common sense, and that is guaranteed by the fact of plurality – is beyond [the ideas of pure reason’s] grasp.” Thinking is the discourse one can have to challenge the certainty of reason.

The value of thinking, its good, is outlined by Arendt in her introduction to Part One of *The Life of the Mind*. It is an incredible introduction for the way in which Arendt looks back over her oeuvre and identifies that a discussion of thinking, and thoughtfulness, has been there all along, even if not directly stated. She writes (p.4) of Eichmann that,

[t]here was no sign in him of firm ideological convictions or of specific evil motives, and the only notable characteristic one could detect in his past behavior as well as in his behavior during the trial and throughout the pre-trial examination was something entirely negative: it was not stupidity but thoughtlessness.

For Arendt, a proper response to evil is not found in ethics or morality, which she writes have etymological roots in *ethos* and *mores*, which are rules and habits. Rather Arendt (p.5) is led to pose a question which will lead her discussion of the contemplative life for the rest of the book.

Could the activity of thinking as such, the habit of examining whatever happens to come to pass or to attract attention, regardless of results and specific content, could this activity be among the conditions that make men abstain from evil-doing or even actually “condition” them against it?

The point is not that thinking is intrinsically good, or that it produces good results; thinking is instead for Arendt the key ingredient to resisting processes which reduce human behavior to banality.

Big Data then has the potential to be both a tool for thinking, and a cover for reason, if it aids thinking as Arendt describes it. As a cover for reason, Big Data offers a sense that the numbers that present to intellect offer knowledge, which can masquerade as purpose or underlying intention. This would be a crucial error, like that made by Kant, according to Arendt, as it suggests that thought pursues purposes (or is intended). That is, it is instrumental, where by ‘instrumental’, I mean the reduction of a phenomenon’s meaning to the practical way it fulfils its purpose, whatever that is. The truth that is revealed through that instrumental process is not based in the plurality of the world, but the heuristic of reason. That is, it necessarily excludes something of the world in declaring its truth. Such purposeful thought can put the cart before the horse and employ Big Data for instrumental purposes. For instance, Ignas Kalpokas (2018, p.1139) has argued that an exploitation of Big Data is at the heart of post-truth narratives in contemporary society:

[s]urely, affiliative truths can rarely come about by themselves: at the very least, they have to be founded upon observed social conditions or instances of collective memory, however distorted and unverifiable such preconditions, or interpretations thereof, may be. To be more precise, there has to be an appetite for particular “alternative facts” or, alternatively, the desire for the necessary facts has to be carefully cultivated in advance. Still, this should not be seen as a significant obstacle to the proliferation of post-truth narratives: particularly in the context of big data analysis, precise determination of the target audience’s wishes, prejudices, preconceptions, and other appetites is increasingly effortless. Most of that data is generated by the users themselves, especially through their browsing and social media usage, thereby enabling increasingly detailed understanding of the internal dynamics of any relevant segments of the population as well as prognostication of their future actions, including likely reaction to particular affiliative truths.

In the above example reason is used to construct a narrative, a determined human intellect that closes off the plurality of the world and thus denies natality. The meaning of a post-truth narrative is not an object of thought, rather it is the purposeful construction of a reason seeking to control and dominate the political. Kalpokas (2018), referring to Carl Schmitt, suggests this is proof of the inability of technology to be neutral – it is always already directed at achieving some goal. However, with Arendt I can suggest that this is not necessarily the case. Technology coupled with thought that is capable of questioning the meaning of technology is neutral in that it might be evident that applications of technology, like Big Data, in regards to post-truth narratives, should be resisted.

When we think about Big Data transforming the operations of politics, in phenomena like political elections, this is clear. Jan-Werner Müller (2019) has argued that Big Data would have the potential to ascertain everyone's political identity perfectly and immediately decide elections without the need to vote. However, this is instantly antithetical to the idea of elections. Big Data might be a tool for predicting elections, but this misses the essential character of elections as being unknown until they take place. For Müller, the disconnect between the potential for Big Data to remove the need for elections, and the nature of elections that is not contained in the Big Data picture, is that at the heart of democracy there is a notion that people can change their minds. Even if Big Data accuracy could predict elections with zero error, the opportunity to change one's mind is the point. Big Data could thus aid in discussions leading up to the moment of decision, but as a decision maker it would deny the democratic embracing of uncertainty that in a sense holds political leaders to account. In Arendt's terms there is something undeterminable about political action that is the essence of a pluralistic public space. It is public discourse of the undetermined which drives responsible progress of civic life.

### **Big Data's Contribution to Narrative and Natality?**

Diprose and Ziarek (2018), in *Arendt, Natality and Biopolitics*, explore the notion of narrative, in Arendt's oeuvre. Narrative is a crucial concept for understanding the relationship between political action and natality. Arendt develops her thoughts on how, through storytelling, individuals see themselves in a complex web of human interactions. In *The Human Condition*, Arendt (1998) argues that narratives aid the perspective-raising practice necessary to initiate action, but also promote pluralism, because for a narrative to form, multiple perspectives from individuals combined in action, are needed; they are what make the story. Diprose and Ziarek's discussion has much bearing for the argument of this

paper. They highlight the relationship of thinking to the development of conscience from which narratives capable of destabilizing dominant biopolitical forces might emerge. A key insight relevant to our analysis here is that a narrative that embodies natality doesn't run as a parallel polis, providing a hidden alternative for individuals to hide in. Instead, narrative, as Diprose and Ziarek (2018) understand it, reaches into a populist moment providing a space for a rupture and new situation to develop. They write (2018, p.28):

[c]onsequently, a narrative capable of manifesting the condition of natality negotiates between seemingly incompatible tasks: it at once participates in the politics of commemoration and constitutes a new event; it negotiates between the singularity and plurality of actors; and it bridges the gap between no longer and not yet. In so doing, storytelling contests biopolitical normalization, historical causality and the erasure of events from the past. A narrative in this sense departs from the politics of representation, legitimations of the dominant history, or the aesthetic ideologies of realism, and foregrounds instead a discontinuous temporality between past and future. At the same time, Arendt's notion of narrative provides a crucial alternative to information technologies, dominant in the age of biopolitics and neo-liberalism: statistical analysis, big data and the predictive modelling of the future.


Diprose and Ziarek (2018) conflate Big Data with biopolitical governance. However, it might still be prudent to consider to what extent Big Data might aid in the development of conscientious thinking, which could develop alternative narratives to resist politics of domination. That is, it is prudent to ask if Big Data can contribute to natality.

For Diprose and Ziarek the answer is no, Big data is a feature of neoliberal modes of thought. By 'neoliberal', they mean, in a critical sense, the reduction of human activity to

processes of labour, which precludes actions that might produce natality. Big Data is necessarily contained by the ideological bannisters of neoliberalism which see the human in terms of efficiency, and economic modelling. However, a further question can be posed as to whether Big Data is capable of challenging notions of the human that reduce it to economic behavior, that is, can it create a narrative capable of upsetting the narrative in which it is mostly employed?

I suggest it can. Big Data can be understood as an aid to the kind of reflective thinking which challenges accepted norms. What can occur at the site of a challenge is, as Diprose and Ziarek explain, that a new possibility for a new future appears - natality. In this sense the positive potential of Big Data is linked with thinking, and hence natality. Like thinking, as Arendt understands it, Big Data is concerned only with itself, it is a means of presenting alternative insight into the composition of the world. If the processes of Big Data are hidden, or untested in the court of civil discourse, or reflective thinking, then the dangers of producing a stagnating force of domination are real and apparent.

Evidence that Arendt was not totally opposed to the operations of science and modern bureaucracy is found in recent Arendt scholarship. Ville Suuronen (2018), for instance, like Diprose and Ziarek, reads Arendt as a thinker of biopolitics, however for Suuronen there is an important nuance to Arendt that does not immediately make her opposed to every form of modernization which can be found in political processes. He writes (2018, p. 41) that Arendt “is not critical of bureaucracy as such, but even favors it in the realm of the social: what Arendt criticizes is, more specifically, the reduction of politics to mere bureaucracy.”

At the level of political philosophy there is a growing trend in the published critique of capitalist ideology that works with the hopeful idea that Big Data could inform the critique. For instance, Evgeny Morozov (2019), in ‘Digital Socialism; The Calculation Debate in the age of Big Data’,  the technology in his thoughtful defense of socialist ideas. Kes van der



Pijl (2020) also makes the case for a Big Data socialism that would redirect Big Data from profit maximization to a project of rescuing the human species from the ecological and economic crisis besieging us. For Pijl Big Data can be seen as discovering rather than dictating responses, and their uncertainties. That is, the data generates a space for thinking to challenge the politically static view of the world and thereby to transcend it. Other thinkers on the left, such as Binbin Wang & Xiaoyan Li (2017), have claimed that Big Data might challenge the primacy of the price system, central to neoliberalism, ultimately leading the way to a new planned economy. My point here is not to defend neoliberal, or socialist political systems, but rather to demonstrate that Big Data, beyond mere disruption, can make a meaningful contribution to the important debate about how people should live. It is not simply that socialist arguments built on Big Data present an account of the good life that is better than another account, but also that Big Data, in the debate about which political system is best, can contribute to the pluralistic nature of the debate by aiding critique – that is, Big Data, when an aid to political discourse and action, is more than disruption but also an aide to thoughtful human activity.

Key to these debates is a focus on the potential for Big Data to critique policy and direct efforts at a perceived crisis. What this suggests is that policy should be critiqued if the crisis is to be properly addressed. Hence in addressing climate change, it is important that proper thinking and deliberation occurs around policies aimed at curbing emissions, distributing culpability, promoting certain industries etc. Such thinking would necessarily challenge the legitimacy of the policy under review. That is, to rise to the challenge of climate change we must consider the pluralistic nature of any policy – what it results in when viewed from different perspectives. In these cases, though Big Data can be used to justify multiple positions, the important role of thinking, interpreting, judging and acting is still fully human

in the sense that Arendt would describe – that is, Big Data has in these debates contributed to natality by enabling judgement and action.

Big Data might also represent a means of presenting to policy makers, and citizenry, the link, or lack thereof, between policy and action. For example, Steve MacFeely (2019) has written on the opportunities and challenges in using Big Data to reconsider environmental policy aimed at promoting the United Nations Sustainable Development Goals (SDGs). The opportunity MacFeely alludes to is in the potential for Big Data to critique existing policy and for the development of new policies to be informed by Big Data analysis. MacFeely (2019) though is also wary as contained in the potential for Big Data to aid in policy critique is the potential for Big Data to contaminate policy discussions, either through the proliferation of corrupted, or agenda-driven data sets, or through the acceptance of data with little veracity because it is from Big Data. That is, to return to the language of Arendt, MacFeely might be said to be suggesting that Big Data which acts as an aid to thinking, rather than an adopted rationality, can challenge and guide directions of policy and public action, but that the Big Data as a source of political sovereignty is highly problematic.

Hence the equating of Big Data with neoliberal conceptions of the human is unfair. There is a gulf between them, and it is not entirely clear that the depiction of the human through Big Data will ultimately be neoliberal; nor is it clear that every instance of Big Data use, or potential use, is necessarily reductive, and anti-humanistic. However, it is not entirely clear that Big Data will grasp the whole human either. But this is not to say that the human need not be the focus of Big Data.

An illustrative example of the ethical use of Big Data as a tool for thinking is found in the film *Moneyball* (2012). The film is ostensibly about the General Manager of the Oakland Athletics, a struggling baseball team, and his attempt to use data-driven selections of players to overcome the budgetary distance between the top teams and his own. As critics have

pointed out, the real and enduring theme of the film is the contribution to the romance of sport that the GM's approach generates. Pitted against stale and overly confident talent scouts, who employ clearly biased and flawed evaluation techniques, such as using the attractiveness of a player's girlfriend to determine their ability, the manager, Billy Beane, gives overlooked players new opportunities, by encouraging what had otherwise been overlooked in them. The film interestingly shows the dehumanizing aspects of professional sport, such as players being traded to other teams with zero notice, however it is not the data which drives this dehumanization. The moments of human connection in the film are not obtained through a discourse of competing imperfect perceptions and judgements, but rather through the faith placed in people who the sport had previously no faith in. Big Data, in the film, overcomes the prevailing ideological structures which were pervasive. Rather than leap to the conclusion that Big Data is therefore a means of David overcoming Goliath, my point is merely that it is not necessarily the case that Big Data creates dehumanizing processes. It is essentially morally neutral, and its moral status is dependent on whether its use is accompanied by thoughtful consideration throughout.

## **Conclusion**

To conclude I turn to Julia Kristeva's (2001, p.239) biography of Arendt. In the penultimate paragraph of the book Kristeva writes:

As [Arendt] reminds us, that the "fact of natality" is the "miracle that saves the world," Arendt vaunts "the experience of this capacity." A full experience of natality would inevitably include birth, life, an affirmation of the uniqueness of each birth, and continual rebirth in the life of the mind – a mind that *is* because it begins again in the

plurality of other people, and only then does it act like a living thought that surpasses all other activities.

In this brief attempt to encapsulate the central theme of Arendt's life, one can discern the morally questionable potential of Big Data to remove the uniqueness of each birth, stifle thinking, and not do justice to the full pluralistic diversity of the human condition; however one can also see the possibility for Big Data, directed by thinking, to aid in the creation of new perspectives and hence increase the potential for birthing new political situations.

A theme of Kristeva's (2001) biography is that Arendt lived her life as a narrative for others to study. Kristeva (2001, p. 4) writes, "[g]ripped from the start by that unique passion in which life and thought are one, Arendt's journey, so turbulent and yet so profoundly coherent, consistently put life – both life itself and life as a concept to be analyzed – at the center of her work." Kristeva highlights the 'exposed' life Arendt seemed to live, where her life and work entwined. What can one make of such a pronouncement? Perhaps, for Kristeva, Arendt's life and work are analogous to a Big Data repository that harbors an entire human life. One can see the risk such a metaphor poses. Do we reduce the experiences of Arendt to her words, does she become a quantifiable datum? Such risk is mitigated in the way in which Kristeva (2001) explains what that life means. Arendt's life and work entwine to produce the picture of a person with varied and incomplete thinking who shared that thinking with a diverse pluralistic world. The gaps, acknowledged, are further moments for thought, without the pretense of having attained or perceived the whole. Arendt's life and work thus aid thought, they don't constitute it.

Such a reading is not so cheeky when one considers Arendt's (2000) reading of the life of Rahel Varnhagen. Verónica Zebadúa Yáñez (2018) claims that for Arendt, Varnhagen's life was a repository of the general features of her historical and political epoch. Furthermore, in

considering Varnhagen's life and writing, Arendt discovered "universal facets of the human condition." If we read the data of the human with thought and care we might resist losing the human in the data.

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