Animal Spirits

An Ecology of Digital Culture

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The candidate confirms that the work submitted is his own and that appropriate credit has been given where reference has been made to the work of others.

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Abstract

In this theoretical thesis, I aim to help us to 'think differently' about digital discourse. I examine and reconceptualise the metaphors used when talking about the digital using an approach informed by posthumanism, animal studies, and the philosophies of Friedrich Nietzsche and Gilles Deleuze. I disrupt three aspects of digital culture: (1) the digital media *unit* of the meme, (2) the digital media *process* of consumption, and (3) the digital media *event*. To do this, I create conceptual figures, which I have named *animal spirits*. The first animal spirit is the *Pokémon* Ditto whom I apply, via a case study of the Distracted Boyfriend meme, to reconceptualise the concept of the meme. The second animal spirit is the cephalopod. Specifically, I think through cephalopod digestion in order to reconceptualise processes of algorithmic filtering exemplified in conceptualisations of digital media consumption, with particular attention paid to the filter bubble model (Pariser, 2011a). Finally, I use a mini ecology of animal spirits including wolves, hyenas, and the Borametz, which is the legendary zoophyte and a lamb-plant hybrid, to reconceptualise participation in a digital media event. Through a case study of Donald Trump's use of Twitter, I propose a move away from the concept of participation towards the concept of predation.

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PART ONE:

INTRODUCTION

1. Introduction

Of all the many wonders in the BBC *Planet Earth* (2006) documentary series narrated by David Attenborough, the life form that has had the greatest impact on me is a type of fungi known as cordyceps. The fungus spores infect an insect, takes control of the body by altering the host's brain chemistry, and forces them to climb as high as possible up a plant and clamp down. After devouring the insect from the inside, the fungus then erupts from the head and body, shoots upwards and spurts its spores over the surrounding environment ensuring the best chance that process begins again.

I once had a dream that these cordyceps - a so-called zombie fungi (Sheldrake, 2020; Yong, 2017) - evolved to target humans[1]. The dream ended with people perched on rooftops, bridges, and any and every high place, à la Alfred Hitchcock's *The Birds* (1963). The fungi erupt from skulls and grow towards the sun, the fruiting bodies dance in a breeze worthy of Wordsworth while the deadly spores wipe out the rest of the human colony. What was troubling in the dream was its very lack of troubling. It did not have the feel of a nightmare; the death of humans was incidental. At times, it was even beautiful. The 'human' was not special and was subject to the same laws of nature as everything else. If this had been a science fiction Hollywood blockbuster, a plucky scientist would have developed an antidote and saved the 'human race', that is, the human race as it has traditionally been conceptualised, but it was not, and they did not.

I open with the above vignette in this thesis on digital culture for two reasons. First, to introduce the logic that runs throughout: the logic of de-anthropocentrism. What happens when we remove anthropocentric arrogance and look at digital culture through the experiences of non-human animals? More specifically, what happens when we de-anthropocentrise the language and metaphors we use to talk about the digital? Second, to start as I mean to go on. Throughout there will be appeals to the imagination, there will be dreamlike looping lines of logic, there will be thought experiments that invite you think outside your body and complicate the idea of a

[1] In fact, this is a plot point in *The Last of Us* (2013) videogame series.

unified subject, and there will be a strong sense of storying, to evoke Donna Haraway (2016).

Indeed, this thesis is a story about digital culture. It is a story about the stories we tell, about the language we use, and metaphors we deploy to talk about digital culture, and how these determine what we are capable of thinking. And this is a story about animals; it is about how, through animals, we are capable of 'thinking differently' about digital culture. To say this is a story is not to say that it is not real.

Fungi is but one figuration I use to de-anthropocentrise digital culture. Throughout the thesis I appeal to creatures and processes in biology and ecology. The thesis crosses boundaries of disciplines, and unashamedly takes aspects that are interesting or useful in order to sustain or to nourish the argument. I harness the so-called 'animal turn' – the academic focus on animals across disciplines in the humanities and social sciences - to reconfigure conventional perspectives on digital culture. However, I do not limit myself to 'real' biological animals; I consider imaginary creatures of myth and popular culture too. I argue it might do us well to embrace not just the animality of non-human animals but 'our' own animality, and consider how animality can relate to, or be in configuration, with digital technology.

Consequently, this theoretical thesis has the overarching research question: *What can an animal approach teach us about digital culture?* There are then questions nesting within this: *How is digital culture shaped by the discourse we use to describe it and by the language we use to talk about it? What happens when we use animal approaches to disrupt digital discourse?* And *how does such an approach help us to "think differently" (Foucault, 1985, p.8) about what digital culture is and could be?*

Digital culture is too broad a focus, too unwieldy. It behoves us to break it into bitesize (or should that be bitsize) pieces. First, therefore, I identify three aspects of digital culture to examine: a digital media *unit,* a digital media *process*, and digital media *event*. I begin with the 'smallest' aspect, the digital cultural unit, and like William Butler Yeats' widening gyre (2008, p.158), the analysis spirals outwards and upwards through digital media processes to the 'largest' and widest aspect of events. I consider the unit to be the *meme,* which was originally described by Richard Dawkins as a discrete "unit of cultural transmission" (Dawkins, 2016a,

p.249); I take for consideration as a digital media process, media *consumption* particularly how it relates to processes of algorithmic filtering; and I consider digital media events, and in so doing reconceptualise the concept of *participation* in large scale online interactions around a news story. Next, we need to ask, how have these aspects already been conceptualised in digital culture and wider media theory? Then, we should ask how else they could be conceptualised? And then, how do we extend this thinking? Finally, I identify what I call '*animal spirits*.' I test the extent to which these animal spirits offer new insights into digital culture by contrasting the fresh insights revealed through my approach with existing conceptualisations. What do I hope to achieve by contrasting existing approaches with my own approach? I anticipate that my approach will unsettle and disrupt. This unsettling, or disruptive, approach aims to be a transformative disruption in the sense of revealing deeper understandings of the digital (see Lury and Wakeford, 2014; Foucault, 1992). If we adopt an animal approach to the digital in this way, and explore how the animal spirits can change our thinking regarding the corresponding aspects of digital culture, our orientation towards our object of study, 'the digital', will also change. Following this, so will our empirical paradigms. For example, the conceptualisation of the digital as space is something I hope to unsettle by following posthuman logic to recognise and unlocking what is latent in the inert, and thereby restore the vitality or, as Haraway suggests, "the extraordinary liveliness" (Gane, 2006, p.142) to the digital. I aim to show that the digital in our culture is embedded to such an extent as to be considered ecological, rather than as a powerful imposed technological 'sphere'.

What do I mean by this term animal spirits? I (re)appropriate the term from Matteo Pasquinelli's text *Animal Spirits: A Bestiary of the Commons* (2008), who himself appropriates the term from economist John Maynard Keynes' phrase to describe the intuition and instinctive action that guide economic agents in decision-making instead of rational calculation. Pasquinelli's text examines the conceptual 'bestiary of the commons' and identifies three biomorphic representations - three 'animal spirits' - that roam the mediascape: "the bicephalous eagle of power and desire, the conflictive hydra of language, and the parasite of the commons" (2008, p.44). The bicephalous [two-headed] eagle represents the simultaneous capture and containment of two of human nature's polar opposites. The spirit consists of the simultaneous housing of violent, subversive instincts (e.g. pornography, war, etc.)

and the rational forces (e.g. enjoyment, pleasure) and is represented visually by the two heads (p.45). The conflictive hydra represents the 'immaterial civil conflict' that occurs in the economy of the commons. When the natural goodness of the commons (e.g. Free and Open Source Software movements) comes into civil conflict with competition, stress, exploitation, envy, and suspicion in the economy of labour relations, "the heads scream and devour each other" (p.44). Pasquinelli is influenced by French philosopher Michel Serres' text *The Parasite* for the final conceptual organism. Serres identifies the asymmetrical exchange of energy between organisms. The parasite always steals energy from others; it lives with and feeds off the labour of others. Digital culture is riddled with evidence of the parasite from torrents and file-sharing to the general re-appropriation of content in many Internet memes.

My use of Pasquinelli's animal spirits is reminiscent of my opening vignette. I function like a fungus. I work like the *Ophiocordyceps unilateris*, the species of cordyceps fungus whose life is organised around carpenter ants (Sheldrake, 2020, p.107). I drain Pasquinelli's interpretation of the term of nutrients (Yong, 2017), taking for my own interpretation what is useful. For example, I find useful Pasquinelli's appeal to the imaginary. As stated already, I do not rely only on 'real' biological animals for my animal spirits, but I am also inspired by imaginary animals. Most prominently, what I take from Pasquinelli's work is the name. I strip back and hollow out the concept of the original Italian *post-operaismo* (post-Marxist Workerism) approach which guides Pasquinelli's application of animal spirits, leaving a husk with the name 'animal spirits', in which gestates a whole population or colony of theorists and theories. My predominantly posthumanist approach winds through the cavity of the concept, entangling and enmeshing together, allowing me to take the concept to where I want (Sheldrake, 2020, p.108), to a place with optimal conditions for creative production. The process should not be thought of as killing the concept; it is not a zombie concept. It is a generative process; it is a process of change and the production of possibilities, and the creation of something new.

The animal spirits generated in this thesis are: (1) Ditto, a Pokémon which I use to reconceptualise the digital media unit of the meme through an case study of the Distracted Boyfriend meme; (2) Cephalopod, which I use to reconceptualise digital media consumption and processes of algorithmic filtering; and (3) a mini-ecology of

real Wolves and Hyenas (who I briefly discuss), and a legendary zoophyte (plant-animal hybrid) called a Borametz, which I use to reconceptualise participation in digital media events via a case study of Donald Trump's use of Twitter. These animal spirits do not rest here; they spread out and generate more connections. These animal spirits are conceptual figures, or posthuman relational entities, which intersect language, materiality, and the imaginary, and in so doing, offer us new insights into contemporary digital culture, and generate a concept of the digital which itself opens our thinking to new possibilities.

2. Theoretical∞Methodological Framework

In this section, I establish the theoretical framework that guides my thought and, indeed, my methodology throughout the thesis. The thesis uses theory *as* method. The thesis can in some ways be considered a Möbius strip[2]; the thesis is a surface with theory and method on a single side. This is not a unique approach and has precedent. For example, it is an approach that resonates with the philosophy of Gilles Deleuze, whom I draw on throughout this thesis. He argues there's no divide between 'theoretical action' and 'practical action', there is *only* action (Deleuze in Foucault, 1977a, p.206-207). For Deleuze, theory *is* practice (Hickey-Moody and Malins, 2007, p.3; Coleman and Ringrose, 2013, p.11). What this approach also does is, to evoke Karen Barad (2007), acknowledge that all research and theory enacts and produces that which is attempted to be grasped, and is in turn enacted and produced by it.

The section begins with a consideration of what I can take from the work of Michel Foucault. I will then take lessons from the philosophies of Gilles Deleuze — both his solo work and his collaborative work alongside Felix Guattari — and Friedrich Nietzsche. My approach is also influenced by the philosophical perspective of posthumanism, particularly the works of Donna Haraway and Rosi Braidotti. Although I have separated these theorists into their own subsections, the theorists speak to and resonate with each other and the theories and ideas intertwine and inform one another, which somewhat belies the rigidity of the term 'framework'.

2.1. Foucault

As suggested above, the ultimate aim of the project is to use the animated animal spirits to disrupt or, as Michel Foucault suggests, to "think differently" (Foucault, 1985, p.8) about digital culture. Foucault introduces this key phrase in *The Use of Pleasure. Volume 2 of The History of Sexuality* whilst reflecting on the purpose of philosophical thought. Foucault suggests it is important to reorientate 'ourselves' to

[2] I insert the infinity symbol (∞) between the terms 'theoretical' and 'methodological' in the title of this chapter to reinforce the idea that theory and method form a Möbius strip, that in the thesis theory *is* method.

'knowledge'; it is an invitation to rethink conceptual boundaries. Foucault writes, "there are times in life when the question of knowing if one can *think differently* than one thinks, and perceive differently than one sees, is absolutely necessary if one is to go on looking and reflecting at all" (p.8, my emphasis). The implication here is that thinking differently is not only important for one's own philosophical thought but also a necessity for the continuation of the theory in general. It is only by regularly challenging its boundaries that the robustness of an idea, of an overall field, can be discerned. Indeed, the process only serves to strengthen. Foucault suggests that critical philosophical thought must endeavour "to know how and to what extent it might be possible to think differently, instead of legitimating what is already known" (1985, p.9).

The need to think differently is essential, now more than ever. This thesis represents a pursuit of inventing new conceptual 'idioms of practice' (Rossiter, 2017, p.104) and avoiding "reproduce[ing] the orthodoxies" (p.105) of digital media discourse. I am reminded of a line in William Butler Yeats' poem entitled *The Scholars* which critiques the work of literary scholars: "All shuffle there; all cough in ink" (2008, p.116). Rather than shuffling things here and there, and going through the motions with no fresh air circulating in the discourse, this project aims to fend off stagnation and to fight against oxygen deficiency. There is, I hope, no coughing in ink (or pixels) here.

This project aims to disrupt conventional notions of what the digital is, what it can be, and how it can be perceived. Foucault considers the process of thinking differently a revitalising journey. It invites one to locate concepts in relation to what has been done "from a new vantage point and in a clearer light. Sure of having travelled far, one finds that one is looking down on oneself from above. The journey rejuvenates things, and ages the relationship with oneself" (Foucault, 1985, p.11). Importantly, one cannot be separated from their journey, they are within it; they are producing and produced by the entanglement of practice and conceptual thought, something which echoes the 'theory *as* method' approach. Taking this journey now is necessary as the effects of our seemingly inescapable entanglement in digital culture are increasingly felt. The process of disruption in this project allows the issue

of power - filtered through animal spirits – to be probed and reflected on in a new and informative concept of the digital.

Alongside his directive to 'think differently', there is another reason for Foucault's inclusion in this framework: his understanding of power. This understanding informs my reconceptualisation of the digital. Although power will be more fully 'fleshed out' through the thesis' practice, that is, through the methodology of theorising with the animal spirits, it will be useful to explicitly state key points of Foucault's understanding of power here. Doing this will function as a primer, so that all subsequent discussion will already be coloured by this understanding of power, and so that even when power is seemingly less overt in the thesis' analysis, we are nonetheless attuned to it.

For Foucault, the term *power* is accompanied by many 'misunderstandings' regarding its 'nature, form and unity' (Foucault, 1978, p.92). Power has conventionally been thought of in terms of repression or constraint of the power*less* by the power*ful*, that is, a unidirectional exercise of power from above, from the top-down, or from a centralised structure or institution. Power has been understood as something more like a thing, an object or essence to be possessed and wielded. The prevalence of this 'story of power' is because this is the mode in which power is most visible. It is a simplification that, despite the emphasis on repression and domination, ironically provides a comforting story in the sense that it sets up a straightforward interpretation of what it means to resist and of liberation: Resistance is simply to fight against and defeat the powerful, which is a clearly identifiable structure; and, importantly, liberation is an achievable end goal. This idea of 'simplification as a comforting story' is something I return to and elaborate on in the Chapters 2a) and b), as I argue that this traditional understanding of power is dominant in conceptualisations of digital media consumption and algorithmic filtering, particularly in the filter bubble metaphor.

Over the course of his work, Foucault reorganises this conceptualisation of power; he develops a "new economy of power relations" (Foucault, 1982, p.779). Foucault shifts the understanding of power away from the traditional understanding. Power should not be thought of as a 'thing' but more as a set of relations (O'Farrell, 2005, p.99), or strategies. Rather than a force exerted on the social or individual body

'from above' and by power structures, power should instead be thought of as something that *circulates* in a chain or 'net-like organisation' (Foucault, 1980a, p.98). I instil this understanding of power in my own reconceptualisation of the digital, and with this net-like organisation in mind, I reformulate Foucault's 'economy of power relations' as an *ecology* of power relations. This is most evident in Chapters 3a) and 3b), in which I present a mini ecology of animal spirits engaged in various strategies demonstrating the circulation of power relations.

Another key characteristic of power is that power is not essentially repressive but is productive. Power *produces*. It *produces* certain behaviours, and it *produces* certain ways of thinking. We can see this in digital discourse in the circulation of specific language and metaphors, as we shall see shortly. However, it also *produces* resistance. Indeed, Foucault argues "where there is power, there is resistance" (Foucault, 1978, p.95). This resistance is also the aim of this thesis - to think differently, and to find strategies of resistance to normative digital discourse.

To counter the critique levelled at Foucault's understanding of power regarding his dismissal of power structures despite the evidence of their effects, we can think more about the nature of power strategies. We can think of power repeatedly flowing through certain *alignments* as a way of accounting for the actions of what traditional understandings of power would think of as conventional power structures. These alignments are strategies that, through repeated use, become successful and so become stable. They are, to a certain extent, a congealing of power relation pathways. They are not as rigid as a structure but form what Foucault might call a "general line of force" (Foucault, 1978, p.94). However, we must also not forget that within these alignments are other alignments resisting them. And, considering that power is constantly circulating, and that it is not definitive but dynamic, then we should be aware that the previous successes in shaping behaviours and ways of thinking through the preferred alignments does not necessarily guarantee the same effects again: power relations could shift, alignments could re-align, and new effects and behaviours could be shaped.

Foucault suggests power should not be analysed in terms of 'general mechanisms' of operation by central macrostructures (i.e. 'from above'), but we should analyse power 'from below', or "at the extremities" (Foucault, 1980a, p.96). We should analyse power at the points where it becomes, what Foucault calls, "capillary", that

is, the situation "where power reaches into the very grain of individuals, touches their bodies and inserts itself into their actions and attitudes, their discourses, learning processes and everyday lives" (Foucault, 1980b, p.39). Foucault adds complexity to our understanding of power. Power is not just exerted on individuals; it circulates *within* them. As Foucault notes, individuals "are always in the position of simultaneously undergoing and exercising this power. They are not only its inert or consenting target; they are always also the elements of its articulation. In other words, individuals are the vehicles of power, not its points of application (Foucault, 1980a, p.98).

If we understand power in this way, Foucault suggests we should start our analysis by considering what he calls "microphysics of power" (Foucault, 1977b, p.26), that is, the micro social practices of everyday life. What is required is a consideration of, what Nancy Fraser calls, "the politics of everyday life" (1989, p.18). Key to this everyday politics is a focus on discourse. Central to Foucault's understanding of power is the intertwining of power with knowledge (which is emphasised in Foucault's term in power/knowledge), and with discourse: "These relations of power cannot themselves be established, consolidated nor implemented without the production, accumulation, circulation and functioning of a discourse" (Foucault, 1980a, p.93). Indeed, the focus on this thesis is on digital discourse, on the metaphors and the language that we use to talk about the digital. And, significantly, exploring animal spirits as strategies of resistance.

2.2. Deleuze (and Guattari)

Throughout the thesis, I apply Deleuzian (and Guattarian) concepts to my thinking. More direct applications of these concepts include the use of the notion of becoming, which is filtered through the lens of Braidotti's posthumanism, and the use of an interpretation of the Deleuzian concept of counter-actualisation in the final section on digital media events. However, there are further Deleuzian ideas that function as more fundamental internal guiding theoretical∞methodological principles. These ideas also explain what animal spirits are and how they function, explains the structure of the arguments within the thesis chapters, both individually

and collectively, and prefigures the thesis' conclusion in which new concepts of the digital, that is, ways of thinking differently about the digital, are explored.

To begin, I draw on Deleuze and Guattari's consideration of what philosophy is, of what thinking could be, and what it could do. In their text *What is Philosophy?* (1994), Deleuze and Guattari argue that rather than the 'traditional' understanding of philosophy as being about contemplation, reflection, and representing the world, "philosophy is the discipline that involves *creating* concepts" (p.5, emphasis in original). Another strategy is putting concepts "to work in new ways" (Stagoll, 2010, p.53). I've used the term *concept* several times already, and it is worth delineating what Deleuze means by the term.

Concepts for Deleuze are much more than 'everyday' concepts, that is, those 'day-to-day' phrases and oft-recurring metaphors repeated out of 'habit or as shorthand' "so that we *do not* have to think" (Colebrook, 2002, p.15). According to Deleuze, this everyday notion of concept "follows the model of representation […] where we assume that there's a present world that we then re-present in concepts, and that we all aim for agreement, communication and information" (Colebrook, 2002, p.16). The problem for Deleuze is that when we limit ourselves to the model of representation, and when we rely on a 'recognition' of that representation, then we impose a set of rules on thought (Deleuze, 2014, p.178; Colebrook, 2002, p.14). If we say, 'this *is* a chair', 'this *is* a table', or, in the context of this thesis, 'this *is* the digital', then we are imposing "all sorts of dogmas and rules upon thinking" (Colebrook, 2002, p.14) about what they are and what they could be. If, through the metaphors and language that we repeatedly use, we represent the digital *as* a separate space or say the digital *is* immaterial[3], then we come to recognise these labels to be innately 'true' and, furthermore, subsequent conceptualisations invariably conform to this structure of representation and recognition. As Deleuze argues in *Difference and Repetition*, "the form of recognition has never sanctioned anything but the recognisable and the recognised; form will never inspire anything but conformities" (Deleuze, 2014, p.178).

[3] These representations will be explored further in the section 'Conceptualisations of the Digital'.

Indeed, this resonates with the thoughts of Friedrich Nietzsche, whose influence on Deleuzian, and Foucauldian philosophies is well documented and to whom I will return shortly. In *The Gay Science (GS)*, Nietzsche writes,

> This has given me the greatest trouble and still does: to realize that what things *are called* is incomparably more important than what they are. The reputation, name, and appearance, the usual measure and weight of a thing, what it counts for—originally almost always wrong and arbitrary, thrown over things like a dress and altogether foreign to their nature and even to their skin—all this grows from generation unto generation, merely because people believe in it, until it gradually grows to be part of the thing and turns into its very body. What at first was appearance becomes in the end, almost invariably, the essence and is effective as such. (Nietzsche, *GS*, Book II, 58, original emphasis)

Thus, Deleuze would argue that everyday concepts are not mere labels for the world but that they "produce an orientation or a direction for thinking" (Colebrook, 2002, p.15). These everyday concepts, which would include phrases and metaphors, circulate in the discourse, and over the course of their frequent usage they become the path of least resistance; they carve grooves in the surface of discourse; they become a path, become a track, become the direction to go if we are to proceed efficiently, and if we want people to best understand what we are talking about.

Figure 1. A coastal walk in Cornwall, UK (Photo taken by author).

Figure 1. shows a coastal walk in Cornwall and demonstrates this rather well. You can see the path of those who have walked before as the path of flattened grass runs along the side of the field. Of course, we *could* go off and plough a new route; there's nothing stopping us, except the weight of tradition. In Foucault's language of power, the power to name the direction comes 'from below' or "the extremities" (Foucault, 1980a, p.96). We could say the circulation of everyday concepts and metaphors in digital discourse is shaped "the politics of everyday life" (1989, p.18) and maintained by 'capillary' power (Foucault, 1980b, p.39). However, there are also strategies 'from above', to evoke the language of Foucault once more, expressing a particular set of power relations which 'prompt' a particular direction, in this case, prompting walkers to stay on the designated paths (e.g. fences, signposts, a "Keep off the Grass" sign, etc.). In terms of this thesis's focus, we have the everyday metaphors, the rhetoric of academics and cultural commentators, and language used by social media companies all circulating within digital discourse producing a particular 'direction for thought'. The final contributing factor here is particularly important.

According to Jenny Kennedy, social media companies strategically frame their own rhetoric to harness the resonances of the circulating terms (Kennedy, 2013, p.129); they latch onto and co-opt the more utopian rhetoric of digital discourse such as 'sharing', 'friending', and, as we shall see in the Chapter 3b), 'participation', to position themselves and "establish their function as facilitators of social engagement" (Kennedy, 2013, p.130). All this is important because not only does it widen and deepen the direction of thought, but it also hides the politics of their actions. As Helen Thornham notes, "the digital is a highly political infrastructure that works to mask its hard capitalist politics. It does this in a number of ways – through the corporate adoption of benign discourses as a veneer for the economically attuned interests in data" (2019, p.65). Although portrayed as seemingly benign, digital discourse is never neutral; the metaphors and concepts that circulate are always political. Linking back to Foucault, what something is or, rather, how we think about it is always produced in the context of power relations.

All this means that the everyday conceptualisation of the concept fails; it fails because it does not require us to think. Furthermore, it fails, according to Cliff Stagoll's reading of Deleuze, because it "does not help us appreciate or contribute to

the richness of lived experience" (Stagoll, 2010, p.53). Invoking some of Deleuze's more provocative language, we might argue that as long as we continue to circulate digital concepts and metaphors and fail to reflect on their use, we remain "imprisoned" by them (Deleuze, 2014, p.178; Colebrook, 2002, p.14). This notion of the concept reduces, and it simplifies; complexity is lost. Potential is squandered. Concepts could do so much more. Indeed, as Claire Colebrook's reading suggests, for Deleuze, everyday concepts "do not capture what a concept is because they do not allow the full force of what a concept can do" (2002, p.15). Deleuze sees the everyday concept as a wasted opportunity to do philosophy.

So, what do Deleuze and Guattari think a concept could be? What is the 'full force of what a concept can do'? Having disentangled the concept from notions of representation and recognition, Deleuze and Guattari engage in a transvaluation, to evoke Nietzsche, of what determines a concept's success, and more broadly what is valuable in their idea of philosophy. They argue that "philosophy does not consist in knowing and is not inspired by truth. Rather, it is categories like Interesting, Remarkable, or Important that determine success or failure" (Deleuze and Guattari, 1994, p.82). Alongside the Foucauldian assertion to 'think differently', we could add a new principle for this thesis: the Deleuzoguattarian imperative to *'think interestingly'.* In terms of the philosophical concept, Deleuze and Guattari are less interested in whether something is 'true' or 'real', but rather in what it *does*, and, more specifically, what it does to our thinking. So, concepts should not "be correct pictures of the world" (Colebrook, 2002, p.19). We should not be using them to "create a science or theory that is as close to the world as possible" (Colebrook, 2002, p.19). Instead, in the Deleuzoguattarian philosophical sense of the term, a concept functioning at 'full force' "creates new ways of thinking" (Colebrook, 2002, p.17).

In keeping with the aim of this thesis, a concept disrupts. It provokes, it dislodges, and opens thought to interesting possibilities (Colebrook, 2002, p.20). Furthermore, for Deleuze and Guattari concepts are *active*. As mentioned, they are not just representations; they are not *reactive*, that is, "presenting themselves as simple labels of a world already ordered" (Colebrook, 2002, p.18). Instead, concepts actively create connections. They are fluid and dynamic, and consequently, they are resistant to definitive description: "They are not amenable to dictionary style

definitions, for their power lies in being open and expansive. For this reason we have to understand them through the new connections that they make" (Colebrook, 2002. p.17).

What does this mean in terms of this thesis? The function of the animal spirits in this thesis is to *aid* the creation of new ways of thinking about the digital. They themselves do make us think differently and think interestingly about their respective aspects of digital culture, and as such they can be said to share many characteristics of the Deleuzian philosophical concept. Indeed, I refer to the animal spirits as concept*ual* figures. However, it is in their fitting together and in how they resonate that they facilitate the creation of a new concept of the digital, of a new way of thinking about digital culture, more broadly than their own individual respective aspects of digital culture.

For Deleuze and Guattari, creation is the name of the game in philosophy. For them, it is not enough to only criticise existing concepts – of the 'everyday' or philosophical kind; it is not enough to only highlight the origin of how we come to think a certain way, or to only point out our 'imprisonment' within this particular 'direction of thought' and indeed the power relations perpetuating it. Indeed, Deleuze and Guattari argue that "those who criticise without creating […] are the plague of philosophy" (Deleuze and Guattari, 1994, p.28). Once more, we can see Nietzsche's influence. To continue the same aphorism that was started above, Nietzsche argues,

> How foolish it would be to suppose that one only needs to point out this origin and this misty shroud of delusion in order to *destroy* the world that counts for real, so-called *"reality."* We can destroy only as creators. —But let us not forget this either: it is enough to create new names and estimations and probabilities in order to create in the long run new "things." (Nietzsche, *GS*, Book II, 58)

Nietzsche seems to suggest that it is only by creating that we can destroy the prevailing direction of thought. Deleuze, alone and elsewhere with Guattari, makes a similar, slightly more nuanced, point as he suggests that destruction is an inherent part of the process of creation. In *Francis Bacon: The Logic of Sensation*

(2003), for instance, Deleuze argues that, when beginning to paint, the artist is not confronted by a blank canvas or white surface. Instead, they are confronted by many circulating clichés: 'everything in their head, and in their studio', established techniques and conventions about how painting has been conducted before, as well as the normative discourse about what painting is said to be. All this is "already in the canvas, more or less virtually, more or less actually, before [they begin their] work. They are all present in the canvas as so many images, actual or virtual, so that the painter does not have to cover a blank surface, but rather would have to empty it out, clear it, clean it" (Deleuze, 2003, p.61). It is in this sense that we must 'destroy' what came before if we are to stand any chance of creating and, thus, thinking differently at all.

However, we have to be somewhat careful about thinking in terms of the *destruction* of existing concepts and theories. There is a certain connotation of finality to the term. In actuality, there is often a resilience to established concepts meaning they consistently return despite our attempts to destroy and move beyond them, as we shall see with posthumanism (the final piece of this framework) and with the recurring spatial metaphors in digital discourse. Consequently, we should not necessarily think in terms of destruction that replaces, but more in terms of reconstituting; it is about combining or coalescing in new ways. We shall see this in the section 'Conceptualisations of the Digital', as conceptualisations of how the digital is thought are reformulated and useful aspects are carried forward to eventually create a new possible way of thinking about the digital.

Furthermore, we should also avoid falling into the trap of thinking that new concepts and new ways of thinking are *solutions*. It is a trap because, too often, solutions are framed as an excuse to stop thinking (Buchanan, 2008, p.152). As Brett Buchanan notes in his reading of Deleuze, "a solution […] fixes something in its place, reifies it, and conceals the problems that are always immanently there and in need of being questioned" (2008, p.152). This is essentially the warning Nietzsche gives in the second part of the aphorism above. He suggests the new names and concepts that are created could, or perhaps are even likely to, eventually 'grow to be and turn into' established concepts that themselves need to be thought differently.

What does this mean for this thesis? First, it means that the conceptual figures of the animal spirits are not presented as solutions to their respective aspects of the digital, and neither is the concept of the digital that the animal spirits help create framed as what the digital actually *is*. Rather than say 'this is how the digital *should* be conceptualised', we can instead say 'this is how the digital *could* be conceptualised', and 'if we do conceptualise it this way, our thinking is potentially opened up in these new and productive ways…'. Operationally, following this logic also provides the structure for my arguments regarding each aspect of digital culture. Part Two of the thesis is constructed of six 'analysis' chapters with three 'twinned' chapters: Chapter 1a) is twinned with Chapter 1b); Chapter 2a) is twinned with Chapter 2b); and Chapter 3a) is twinned with Chapter 3b). Broadly, the a) chapters 'deal with' how the aspects of digital culture have been conceptualised and begin to critique them. The arguments in the a) chapters follow the same pattern of questions: How has the aspect of digital culture been conceptualised? Then, how else *could* it be conceptualised? And finally, the section asks how do we extend this thinking? This critique is furthered in the b) chapters by the creation of new ways of thinking about the aspects of digital culture through the animal spirits. They ask, what does thinking in such a way force us to think about? Taken together, all the chapters create a concept, in the philosophical sense, and create a new way of thinking about the digital.

2.3. Nietzsche

From Nietzsche, I can borrow his thoughts on language and truth, and on perspectivism, to help develop the disruptive approach of this project and position it within a wider and posthuman context.

In his early essay *On Truth and Lying in a Non-Moral Sense* (*TL*), Nietzsche questions the human beings' pursuit for truth and, in particular, the role of language in the invention of knowledge. Humans, Nietzsche claims, are "deeply immersed in illusions and dream-images; their eyes merely glide across the surface of things and see "forms"" (*TL*, 1). It is inevitable, Nietzsche argues, that language will fail to convey the essence of the "thing-in-itself" (*TL*, 1). Indeed, there has been a great deal of translation between the 'thing-in-itself' and its expression in language. It is

first translated into an image in the eye following the stimulation of the optic nerve; this image is further translated into the sound of the word, and so on towards the creation of what we consider to be a specific knowledge of that entity. However, with each addition of metaphor we therefore become one further step removed from the thing's essence. "We believe that when we speak of trees, colours, snow, and flowers, we have knowledge of the things themselves, and yet we possess only metaphors of things which in no way correspond to the original entities" (*TL*, 1).

Nietzsche returns to this inability to truly express the essence of things in a couple of aphorisms in *The Gay Science*. He goes as far as to suggest "even one's thoughts one cannot entirely reproduce in words" (*GS*, 244), but not only that, even the thoughts we have are merely the "shadows of our sensations – always darker, emptier, simpler." (*GS*, 179). How familiar is this? Very, I would guess, to anyone who has struggled to *adequately* profess their feelings on their happiest and lowest of days; the thoughts and feelings are there but the words fail to convey them. The irony is palpable; these made-up things humans created to act as a 'peace treaty' for life in a herd can be a cause of tension within oneself and in social life.

The elaborate construction of metaphor upon metaphor that defines language leads Nietzsche to ask:

> What, then, is truth? A mobile army of metaphors, metonymies, anthropomorphisms, in short a sum of human relations which have been subjected to poetic and rhetorical intensification, translation, and decoration, and which, after they have been in use for a long time, strike people as firmly established, canonical, and binding; truths are illusions of which we have forgotten that they are illusions, metaphors which have become worn by frequent use and have lost all sensuous vigour, coins which, having lost their stamp, are now regarded as metal and no longer as coins. (*TL*, 1)

Knowledge is therefore balanced on metaphors built like bricks. Despite being the masters of its construction, the bricks are tightly stuck together and the joins near invisible so as to trick our eyes and make our brains forget that one is in fact many. To say, however, that metaphors are simply stacked on top of one another would belie the complexity of language and knowledge. Nietzsche describes the structure as a "great edifice of concepts exhibit[ing] the rigid regularity of a Roman

columbarium" (*TL,* 1). The term columbarium refers to a compartmentalised structure housing urns containing cremated remains, however the etymology suggests an interesting and more appropriate usage for this thesis. It is derived from the Latin *columba* meaning 'dove'; the structure was originally a dovecote. In Nietzsche's text, the niches of the columbarium exhibit concepts as if they were dead; his use of the term is a critique of language as a form of "systemmaking" that is "too narrow, too cramping, for the ceaseless variety and flux of life" (Hazelton, 1943, p.57). What better than for this project to fill these back with life once more. Within this complex architecture of the *columba,* lies another tool this project can utilise. The housing of living metaphors leads to the need for locating them in relation to each other and in the context of the structure - to map their ecology.

With regards to this thesis, could it not be argued that the use of biological images and animal conceptual figures are simply multiplying metaphors *ad infinitum*? Nietzsche's claim that there is no truth is significant for this project in that it unsettles the foundational questions of methodology. His central point is arguably not about truth, but about the dominant paradigms and epistemologies which we may have been directed towards or away from through the mobile army of human relations. He makes visible the hidden political construction of language and metaphors, and in so doing, reveals their utility in relation to wider power relations. It is a recognition that knowledge does not spring up into existence fully formed. As Beverley Skeggs writes:

> To ignore questions of methodology is to assume that knowledge comes from nowhere allowing knowledge makers to abdicate responsibility for their productions and representations. To side step methodology means that the mechanisms we utilise in producing knowledge are hidden, relations of privilege are masked and knowers are not seen to be located: therefore the likely abundance of cultural, social, educational and economic capitals is not recognized as central to the production of any knowledge. (1997, p.17)

This is important as a reminder to continually locate myself within the research, to recognise my own power - in the sense of "epistemic responsibly and authority" (Skeggs, 1999, p.17) - and to make responsible methodological decisions accordingly. It is also a reminder of what is at stake – not the 'truth' but the power

relations that direct us towards a notion of 'truth', relations that are also at work in the digital.

Nietzsche's perspectivism is useful as this thesis develops a different approach to how the digital can be thought and, subsequently, what the digital can be. In *On the Genealogy of Morals* (*GM*), Nietzsche describes a need for more eyes, more perspectives. He writes:

> There is only perspective seeing, only a perspective "knowing"; and the more affects we allow to speak about one thing, the more eyes, different eyes, we can use to observe one thing, the more complete will our "concept" of this thing, our "objectivity," be.
> (*GM*, 3, 12).

It is important to recognise that not all perspectives carry equal weight, it is the evaluation of perspectives that is of value for knowledge. Having only one perspective withers the critical faculties. Like a muscle, you must use it or lose it. The 'objectivity' of multiple eyes should be "understood not as "contemplation without interest" […] but as the ability *to control* one's Pro and Con and dispose of them, so that one knows how to employ a *variety* of perspectives and affective interpretations in the service of knowledge" (*GM*, 3, 12). This thesis will draw on a variety of perspectives such as political communication, journalism, and cultural studies in the fleshing out of the identified animal spirits.

What kind of eyes? Well, they must not "glide across" but search deeper. A doe that raises her head with pricked ears at the sound of nearby movement looks with eyes that see more than what could be said with our human words. Nietzsche writes in *Beyond Good and Evil* (*BGE*):

> Oh Voltaire! Oh humanity! Oh imbecility! There is some point to 'truth', to the search for truth; and if a human being goes about it too humanely – *'il ne cherche le vrai que pour faire le bien' ['he seeks the true only to do the good']* – I wager he finds nothing! (*BGE*, 35).

Nietzsche more or less states the case for animality. The inclusion of many animalised eyes – a multitude of perspectives might cause Nietzsche to wager we will find some different ways of thinking.

2.4. Posthumanism

The following section details a brief genealogy of posthumanism through the problems with humanism. It includes conceptions of posthumanism by N. Katherine Hayles and Donna Haraway which help to 'flesh out' the conceptual animal spirits I am proposing before ultimately tying back to the Foucauldian aim of the project to 'think differently' about digital culture.

Posthumanist theory, broadly speaking, offers a reconfiguration of what it means to be embedded in digital culture; it speaks to the entanglement, to evoke Karen Barad (2007), of different species and technologies. It also brings in the concept of relationality. The animal spirits in this thesis are relational entities in that they link within and across subjects, temporalities and activities. Furthermore, as Braidotti suggests, the "posthuman predicament…drives home the idea that the activity of thinking needs to be experimental and even transgressive in combining critique with creativity" (Braidotti, 2013, p.104). In other words, posthuman theory vindicates this thesis' approach of disrupting the conventional notions of the digital, by inventing "new concepts and new productive ethical relations" (Braidotti, 2013, p.104).

In order to explore fully the concept of posthumanism, it is prudent to briefly explain what is meant by this term humanism. Humanism places the human at the centre of things, with their thoughts, actions and self-consciousness being key to their 'human-ness'. It is underpinned by the belief there is a universally definable human quality. Where does this idea come from? It derives from many inherently gendered classical notions, which have been compounded by years of repetition and reinforcement, including the classical Greek notion that 'Man' is the "measure of all things" (Protagoras, cited in Braidotti, 2013, p.13), Leonardo da Vinci's *Vitruvian Man*, and the Cartesian proposition that reason and rationality are what separate men from beasts. Feminist critics such as Luce Irigaray and Rosi Braidotti, argue that anyone who differed from this classical Humanist ideal (i.e. anyone not white, male, heterosexual, able bodied, etc.) were inevitably devalued and discarded. The crisis in humanism developed from these critiques and led to the rise of posthumanism. What does humanism mean in terms of the digital? The self-centredness of the human privileges a certain gendered and racialized type of human as top of the hierarchy of digital culture. What posthumanist theory offers is an unsettling of this hierarchy; it

is flipping the table onto its side, reconfiguring differences, and making visible nonhuman animal and technological influences.

Attempts at identifying the genealogy of posthumanism seem to invariably pass through Michel Foucault's somewhat dramatic declaration of the 'Death of Man' - an idea that can be seen as a rallying call for posthumanist thinking. In his closing of *The Order of Things* (2002), Foucault claims that not only is 'man' a relatively new concept, but it is one nearing its end. What Foucault means is that man is a social and historical construction; it is an idea that has produced its own history. As Braidotti claims, "the human is a historical construct that become a social convention about 'human nature'" (2013, p.26). Foucault claims:

> As the archaeology of our thought easily shows, man is an invention of recent date. And one perhaps nearing its end.
> If those arrangements [that caused 'man' to appear] were to disappear as they appeared, if some event of which we can at the moment do no more than sense the possibility – without knowing either what its form will be or what it promises – were to cause them to crumble, as the ground of Classical thought did, at the end of the eighteenth century, then one can certainly wager that man would be erased, like a face drawn in sand at the edge of the sea.
> (Foucault, 2002, p.422)

This erasing of man does not represent the end of humanity, neither does the concept of posthumanism, but, as N. Katherine Hayles (1999) claims, "it signals instead the end of a certain conception of the human, a conception that may have applied, at best, to that fraction of humanity who had the wealth, power, and leisure to conceptualize themselves as autonomous beings exercising their will through individual agency and choice" (p.286). Posthumanism is not a new drawing in the sand, as inevitably the 'face' of posthumanism is subject to the same erasing process as its predecessor. Rather than proclaim the posthuman as the new face in the sand, posthumanism instead represents the continual process of redrawing the many alternative concepts of the human subject. In terms of this thesis, the animal spirits I propose can be considered as a new method of drawing the face in the sand, a method which recognises the face need not be drawn with a human finger but can be

composed of other organic and non-organic materials (e.g. sticks and stones, seaweed and shells…).

Posthumanism invites us to reconsider relationships with the world and, in the context of this thesis, with technology and the digital. It attempts to address the apparent anthropocentrism of Foucauldian power which seems to only circulate between and within individuals. As Karen Barad notes, Foucault's notions of power and discursive practices seem to be "limited to the domain of human social practices" and do not address "the nature of technoscientific practices and their profoundly productive effect on human bodies, [and how] these practices are deeply implicated in what constitutes the human, and more generally the workings of power" (2007, p.145-146). Acknowledging and working to address this anthropocentrism through posthumanist thought, we are further invited to question the notion of the unified bounded self. This is a theme that runs throughout the thesis, but is most evident in the chapters on Ditto, and in Chapter 1b) on cephalopods and algorithmic filtering.

Under circumstances exacerbated by its occasionally contradictory strands, posthumanism has the unenviable task of walking a very fine tightrope; it must recognise the weaknesses and subsequent decline of humanism while exploring new ways of conceptualising the human yet doing so "without sinking into the rhetoric of the crisis of Man" (Braidotti, 2013, p.37). Humanism has a tendency to rear its head once more, even as theorists attempt to move beyond it, as is the case with the transhumanist vision of a machine as a receptacle for human consciousness and the dream of cybernetic immortality. According to Hayles, the transhumanist version of the posthuman epitomised by Hans Moravec and, more recently, Elon Musk is worrisome but does not represent the entirety of what posthumanism can be. Hayles' definition of the posthuman removes the separations between "bodily existence and computer simulation, cybernetic mechanism and biological organism, robot teleology and human goals" (Hayles, 1999, p.3).

In a broad sense, Donna Haraway claims she has stopped using the term 'post-human' because it can too easily be appropriated, and instead she has developed her concept of companion species. However, Gane suggests, and Haraway agrees, that the predominant point of posthumanist theories is to question the human. Gane picks up Haraway's response to Derrida's essay on the three wounds to human narcissism:

the Copernican, Darwinian and Freudian. Haraway proposes that the fourth trauma could be "'associated with issues of the digital, the synthetic' (Haraway and Schneider, 2005: 139)" (Gane, 2006, p.141). Haraway further defines the fourth wound as forcing "us to acknowledge that our machines are lively too." (p.141), which echoes her statement in the *Cyborg Manifesto* that "our machines are disturbingly lively, and we ourselves frighteningly inert" (Haraway, 2004a, p.11).

Our own inertness, it seems, is Haraway's complaint about the passivity of theory (from herself and her intellectual friends). All that is done is critique. Haraway bemoans the neglect of "the extraordinary liveliness" (Gane, 2006, p.142) of the techno-cultural system. This project is a means of addressing this lack of liveliness by putting life back into the technological, and by 'animating' digital communication. I am drawn to Haraway's point about cyborgs having "to do with this interesting critter called information" (Gane, 2006, p.146). The term denotes something being alive; it's a recurring term in her discussions of companion species including dogs, cats, and other organic beings. She continues, "you really can't treat that [information] ahistorically – as if 'information' refers to something existing all the time everywhere. That's a mistake because you don't get at the *ferocity* and *specificity* of now (Gane, 2006, p.146, my emphasis). Though it be but information, it is fierce. Information is alive and kicking, and also, like humans, a "product of situated relationalities" with many partners (p.146).

As complex as posthumanism evidently is, it also clearly represents an opportunity. Hayles excitedly writes, "the posthuman evokes the exhilarating prospect of getting out of some of the old boxes and opening up new ways of thinking about what being human means" (1999, p.285). Theorists need to creatively and critically engage with posthumanist theories, and to explore the boundaries of the increasingly entwined systems. We should explore the entanglement of nature, culture, and digital media, that is, what Braidotti would call *medianatureculture*s (2016). A formulation which "displac[es] the centrality of human life (bios) in favor of the nonhuman (zoe)" (Braidotti, 2016, p.383).

If the task ahead is, as Haraway suggests, to "invent better abstractions" (Gane, 2006, p.141), this thesis can be seen as doing so. The animal spirits in this project can be considered "abstractions as 'lures'" (Gane, 2006, p.141), "dreamwork" (p.152), "thinking technologies" (p.154); they are relational posthuman entities that

open up different ways of thinking – yet another echo of Deleuze. Considering animal spirits with this posthuman logic brings us back to the continual questioning of relations in the construction of knowledge already developed in the above Foucauldian and Nietzschean responses and returns to the thesis' desire to continuously disrupt and unsettle established systems. From posthumanism (and Nietzsche, and indeed there are threads pulled through Foucault and Deleuze too) I can, pleasingly, complete the 'rule of three' regarding the ways to think in order to disrupt these systems: We must *think differently*, *think interestingly*, and *think animally*.

3. Conceptualisations of the Digital. Or, What We Talk About When We Talk About The Digital.

The subtitle of this chapter is borrowed from Raymond Carver's short story *What We Talk About When We Talk About Love* (1981/2009), in which four friends (two couples – Mel and Terri, and Nick and Laura) have a conversation around a kitchen table. Inevitably, given the copious amounts of gin they have consumed, the conversation turns to the subject of love. Terri recalls a previous violent and abusive relationship yet, despite protestations, she maintains there was love there. To explain what he thinks love is, Mel, a heart surgeon, recalls an old couple in a car crash. In recovery after the crash, the old man is bandaged and depressed simply because he cannot see his wife. All the accounts of love offered in the drunken conversation fail to shed light onto the nature of love, and only serve to elevate the certain inadequacies of language. They all end sat unsatisfied, unmoving, and unspeaking in the fading evening light.

Carver's is a story on the elusive concept of love. Is it the materiality of bodies, the hard-and-cruel physical attraction? Or is it a more subtle, know-it-when-you-feel-it sensation? Is it spiritual, something immaterial? The digital is to a certain extent, similarly, elusive. Is it the technological hardware, the determining software, or the experience of one or both? Is the digital a single medium? Is it a culture? Is it a radical break from the old, or a natural progression or continuity? Is the digital a space that can be separated from 'real life'? These are some of questions that highlight a certain ambiguity of the term.

Digital is a term that has become ingrained in the public consciousness so quickly that the definition is assumed to be self-evident; it is a word so commonplace that we think we know what it means. Furthermore, the range of accompanying words such as - technology, - media, - data, - culture, along with terms that are treated as synonyms – cyber, virtual, electronic, new media – complicate the definition. Another complication is the article which precedes it – the 'the'. How do we define *the* digital? As if the term refers to a singular, all-encompassing thing, or else something already mentioned, some assumed knowledge. These terms, questions, and complications hint at the ways in which digital discourse has been cut.

3.1. Digital as Process; Digital as Transformation

To begin, let us inspect the linguistics - the dictionary definition and the etymology of the term. ‘Digital’ refers to the representation of information or data as discrete elements, as a series of digits, particularly the ones and zeros of binary code. It is often used in relation to computer technology and new media. Of course, if digital means data represented as discrete elements then, as Gere (2008) suggests, this could apply to “almost any system, numerical, linguistic or otherwise, used to describe phenomena in discrete terms over the last 60 or so years” (p.15). I would argue that time frame could be expanded, for language is surely made of discrete elements - letters, words, sentences - as well. Therefore, the definition of the digital that relies on the discrete elements is surely too wide, so let us focus on the representing of data as the series of ones and zeros of binary code.

This technical definition is inadequate as it limits the digital to the technological encoding of information. Indeed, as Lunenfeld writes, “The digital is more than simply a technical term to describe systems and media dependent on electronic computation” (1999, p.xv). The reduction of the digital to the mere encoding of information into discrete objects turns the system (e.g. the computer) into an abstract device. In conversation with Geert Lovink, Bruno Latour makes the point that rather than being abstract,

> It is actually very concrete, never 0 and 1 (at the same time) […] There is only transformation. Information as something which will be carried through space and time, without deformation, is a complete myth. People who deal with the technology will actually use the practical notion of transformation. From the same bytes, in terms of 'abstract encoding', the output you get is entirely different, depending on the medium you use. Down with information. (2002, p.155)

This is a valuable, if seemingly obvious, insight: the digits are either one or the other. On their own the individual ones and zeros are meaningless but, in a sequence, they have value as a language. This leads Latour to conclude that ‘there is no information, there is only transformation’ (2002, p.155).

We can also consider Friedrich Kittler’s utilisation of Lacan’s registers of the real, imaginary, and symbolic in his analysis of media technologies. The computer, new

media, and digital technology represent, for Kittler, the final register: they are of the symbolic order, within which language is transformed into "differentiated, discrete elements, or what might be called signifiers" (Gane, 2005, p.34). The digital is this language made of discrete elements, a series of signs - the ones and zeros of binary code. The message or the meaning does not exist as it is known outside of the digital, "what counts in the symbolic order is not meaning, but rather *difference* between discrete elements – the difference between what is and what is not there, or 0/1 (the binary code)" (Gane, 2005, p.34). So rather than there being no information and only transformation, I would argue there is information, but it only has value in the transformation; information exists in the relational between-ness, in the difference.

Taking a brief detour to interrogate the one and the zero, the digital can also be seen to be embodied and imbued with animality. Another name for the figure 0 is cipher, which is derived from the Sanscrit *śūnya* meaning "empty", through the Arabic *çifr* to the Latin *cifra*. The term cipher is also used figuratively to mean "a person or thing "who fills a place, but is of no importance" in its own right" (Tyler, 2012, p.23), and animals have been used as symbolic characters (hieroglyphs) and in philosophy to fill a vacancy in order to convey meaning. For example, the paradox of Buridan's ass in which a hungry ass placed exactly between two equal bales of hay would be paralysed by indecision and die of starvation, is an animal cipher. The choice of animal in this story is of no real importance. It works equally well with another entity (human or nonhuman) between two appropriate choices.

Now to turn to 'one'. In Constance Reid's chapter 'One' in *From Zero to Infinity* (2006), she imagines a scenario in which "many" wolves appear in sight of the early human's campfire. As there is no word for the exact number of wolves in the pack, the early human might communicate the number to their neighbour by finding familiar and comparable sets to match with the number of wolves (e.g. two = the wings of a bird…five = fingers on a hand, etc.). If there are more than five, a finger from the other hand may be shown along with the five fingers of the first hand. For each additional wolf that roams into view, one more finger can be shown to count it (Reid, 2006, p.16/17).

In this imagined origin story, one is inextricably linked to the finger; from here, the one of digital binary code is linked to the 'first' finger, the index finger. Indeed, the term digital is derived from Latin *digitus* meaning 'finger' and also 'toe'. Etymologically, the digital cannot escape embodiment. The posthuman nature of this project questions the necessity of the human as that body. John Berger suggests it is likely that animals provoked some of the first questions but also offered some of the first answers. He posits that the first subject of painting or art was animals, and that it is not unreasonable to assume that the first metaphor was animal (Berger, 2007, p.253). Likewise, digits may be linked to the animals being represented. Within 'one' resides the animal that needed to be counted, within 'zero' resides a host of potential animals. The point being, that digital may have "hidden within…wild animals straining at the leash" (Tyler, 2012, p.29); animal spirits exist between the material and the immaterial of the digital.

So, from this linguistic preamble, we could argue that the digital is not simply the abstract and discrete elements comprising electronic computation but rather something more complex. This between-ness of the digital should not be a leap considering the etymology of media. Media is derived from the Latin *medium*, meaning the middle. Consider *in medias res* meaning 'into the middle of things', often referring to narrative which begins in the middle of the action. This action is constituted by the relations to the pathways to and from the middle.

Furthermore, Friedrich Kittler refers to Aristotelian ontology's focus on the matter and form of things, and the neglect of the relation between things. Kittler concedes however that media scholars, especially McLuhan, owe a debt of gratitude to Aristotle's "theory of psychophysical man" for the concept of media. In reference to the eye and perception, Aristotle

> speaks of two elements, namely air and water, as of two 'betweens'. In other words, he is the first to turn common Greek preposition – *metaxú*, between – into a philosophical noun or concept: *tò metaxú*, the medium. 'In the middle' of absence and presence, farness and nearness, being and soul, there exists no nothing any more [sic], but a mediatic relation.
> (Kittler, 2009, p.26)

Suppose then, the digital is neither form nor matter but it is processual, and it is relational; it is engaged in a mediatic relation. What then is the digital between? The ones and zeros of the digital are between both the material and the immaterial.

3.2. Digital as Space?

Another conception of the digital, particularly in early digital rhetoric, is as a space. Cyberspace is a term which rose to prominence due to William Gibson's science-fiction novel *Neuromancer* (1984). The setting for much of Gibson's novel is cyberspace, a virtual space which is defined as

> A consensual hallucination experienced daily by billions of legitimate operators, in every nation, by children being taught mathematical concepts…A graphic representation of data abstracted from the banks of every computer in the human system. Unthinkable complexity. Lines of light ranged in the nonspace of the mind, clusters and constellations of data. Like city lights, receding…
> (Gibson, 1984, p.51)

This concept of cyberspace was subsequently attached to descriptions of digital networks, and other allusions to space became rife in digital discourse and wider cultural theory. Some theorisations of the Internet, such as by Manuel Castells' network society, suggested that not only could the Internet be a new Habermasian (1989) public sphere akin to coffeehouses or Parisian salons, but that it already is. Howard Rheingold's *The Virtual Community: Homesteading on the Electronic Frontier* (1993) also suggests the digital is a place. Digital networks facilitate a construction of a colonisable space; cyberspace is a space with a frontier that can be tamed and on which people can create a homestead. Interestingly, Rheingold concedes the biological is often more suitable for the description of cyberculture than spatial metaphors (p.6). His use of 'colonies' is a twin helix of spatial and biological imagery, which simultaneously evokes notions of inhabitation and the growth of microorganisms in a petri dish. Both sides together create a stable, but incomplete, discourse of the digital. We must unzip these metaphors, assimilate what is advantageous and discard what is damaging.

These conceptions of the digital are incomplete due to the implication of containment and control. The petri dish is a container; its defined borders make it a

separate space in which the growth can be controlled. And colonisation is an inherently exploitative practice based on the exertion of power in effort to control a space. Furthermore, discourses of the digital which emphasise the digital as a separate space with defined borders create an unrealistic dualist perspective. This dualism was popularised and perpetuated in *The Matrix* (1999), a film in which reality and the computer simulation are two spaces. Interestingly, the etymology of matrix is 'womb' - another twin helix of spatial and biological imagery encoded with notions of containment and control, but also of nurturing vitality.

Nathan Jurgenson (2011) critiques this separation of online and offline, virtual and IRL (In Real Life), digital and physical, as a bias he calls digital dualism. This is not a partisan problem; technophilic cyberutopian conceptions, such as Rheingold's, through writings such as Sherry Turkle's *The Second Self* to the more technophobic writings, such as Evgeny Morozov's *The Net Delusion,* fall victim to this fallacy. Jurgenson proposes an alternative perspective in which "the digital and physical are increasingly meshed" (2011, no pag.). He calls this augmented reality. This reality is "both technological and organic, both digital and physical, all at once. We are not crossing in and out of separate digital and physical realities, ala [sic] *The Matrix*, but instead live in one reality, one that is augmented by atoms and bits" (2011, no pag.). Luciano Floridi (2015) makes a similar argument with the coining of the neologism "onlife", which refers "the experience of a hyperconnected reality within which it is no longer sensible to ask whether one may be online or offline" (p.1).

I agree with the meaning Jurgenson conveys with the concept. It follows that the digital and physical is a false dichotomy and the existence of one reality is a reasonable conclusion. However, the term 'augmented' reality to describe such a reality can become awkward. If augment means to increase, then the implication is that something has been added. For example, the augmented reality technology superimposes the physical reality with a computer-generated overlay (such as the Pokémon Go app), which means a layer has been added to reality. Augmented does not make sense as a concept for the digital, if what you want to say is that digital dualism is the wrong approach and that there is only one reality. There are still two layers in the augmentation, one layered on top of another, not one reality. $1 + 1 \neq 1$. Furthermore, you can reverse the operation to take the augmentation away. In this sense, 'augmented' does not seem to portray the requisite entanglement, to evoke

Karen Barad (2007), or ‘meshing’ of physical and digital realities that Jurgenson desires of the term. Additionally, to augment has connotations of improvement (admittedly, Jurgenson’s use of the term does not necessarily imply improvement); its synonyms suggest ‘to augment’ is ‘to make greater’, ‘to elevate’, ‘to heighten’, which puts a positive value to addition (negative synonyms include ‘to aggravate’ or ‘to worsen’ but the positive connotations outnumber these). Rather, what is needed is a term that describes an active process and accounts for the possibility that there could be neither a positive nor negative result.

3.3. Digital as *Coalescing* Reality

A more useful term is a *coalescing* reality. The term ‘coalesce’ means to come together, to merge, to fuse, or to combine into one whole (OED, 2022a). It means to intermingle and to integrate; it means to knot or knit together, to evoke Haraway (2016). When things coalesce, it is difficult to distinguish constituent components, and, consequently, these components cannot be clearly and cleanly separated. With this term, we see the required entanglement or meshing into a single unit, a unificaiton into *one whole*. Etymologically, ‘coalesce’ is derived from the Latin *coalescere* meaning ‘grow together’ and is comprised of the prefix *co-* meaning ‘together’, and *alēscere* meaning to ‘grow up’, which itself comes from the Latin *alere* meaning ‘to nourish’ (OED, 2022a; Merriam-Webster, 2022a; Etymonline.com, 2022a).

Allow me to explain further by way of a return to a consideration of fungi. We have seen how the parasitical *Ophiocordyceps unilateralis* coalesces with the carpenter ant, how the host and fungus become intertwined. Indeed, we can see the extent of this entanglement in Fredericksen et al.’s (2017) visualisation of the fungal ‘network’ within the carpenter ant’s muscles and body. The modelling process involved segmenting and scanning the ‘slices’ of the infected ant. So laborious and intricate was the process of annotating which parts of the slices were ant and which parts were fungus that deep-learning algorithms were deployed to automatically “distinguish host and parasite tissue” and to 3D model and analyse the structure, distribution, and interaction of fungal/host tissue (Fredericksen et al., 2017. p.12591; also see Yong, 2017, no pag.).

We can think of the ant as 'physical reality' and the cordyceps fungus as 'the digital'. The digital coalesces with the 'host' reality. It is not ground-breaking to state that the digital is similarly entwined in the processes of everyday reality. Indeed, most recent texts on technology, social media, and digital culture begin with this premise. The digital touches almost all aspects of everyday life from commerce and politics to work and healthcare and to socialising and entertainment. The digital is also intertwined in knowledge production. We can see this in the very analogy used above, as deep-learning algorithms were used in biological sciences to shape our understanding of how the world around us works. This idea that the digital is entangled with how we think will be explored further in Chapter 2b) through the work of N. Katherine Hayles (2017).

In this fungal example, the host dies as the cordyceps fungus "digests the ant's body", or, aptly, is nourished in the coalescence, and "sprouts a stalk out of its head" (Sheldrake, 2020, p.107). This seemingly suggests a negative result. Indeed, much of the language surrounding the process has strong negative connotations, with the fungus as malevolent or insidious. It is described as a "horror show of cross-species parasitism" (Steinhardt, 2020, no pag.), and as a process "more sinister" and "more ghoulish than it first appears" (Yong, 2017, no pag.). However, I would argue it is a form of anthropomorphism and anthropocentrism that draws us to this conclusion. Despite the vast difference in our anatomy, we are invited to identify with the ant in this scenario. We both have brains and muscles, and so we can imagine what it might be like to be an infected ant, and it is this imagined scenario that scares us. The fungus, on the other hand, is so physiologically distant to us that we find it difficult to imagine what it would it is like to be a fungus.

Here, we could draw a certain parallel with the more egregious technophobic and cyber-dystopian readings of digital culture, and critique them for a similar anthropocentric fear of being 'infected' by the digital. This approach reduces and it simplifies. What is missing is the complexity and the ambiguity. Merlin Sheldrake's popular science book, *Entangled Life: How Fungi Make Our Worlds, Change Our Minds, and Shape Our Futures*[4] (2020), describes the cordyceps fungus in slightly

[4] A wonderful title that I include here for the way it evokes Karen Barad's (2007) notion of entanglement and resonates with Braidotti's posthumanism, which forms an important part of my theoretical framework.

different terms. Through extensive knowledge of the organisms and, importantly, a concerted effort to see fungi differently and to think more like them, Sheldrake attempts to think differently about how we understand the world, and in doing so, he renders more ambiguous and complex the traditional conceptualisations of fungi relationships. This method is adopted, repeated, and expanded on in Chapter 2b) as I discuss cephalopods in relation to algorithmic filtering. Although some anthropomorphic language creeps into Sheldrake's discussion[5] (e.g. "…the fungus becomes, to an *unsettling* degree, a prosthetic organ of ants' bodies" [p.108, my emphasis]), he describes cordyceps as "*prolific* and *inventive* manipulators" (p.107), and describes their control of ant behaviour as performed with "*exquisite* precision" (p.108, my emphasis). This acknowledgement of creativity resonates with Deleuze's idea of a concept opening up new possibilities and is something that I instil in my concept of the digital.

Although this cordyceps example is useful to draw a parallel with digital media coalescing with 'reality', and to describe the extent of entanglement, the fact we can still decipher, delineate, and designate parts as 'host' and 'fungus', suggests we still need to push further with the idea of coalescence. We should think on a different scale by thinking beyond the individual and in a longer time frame. To do this, we can once more turn to fungi, albeit by considering a different species and a more symbiotic relationship. Sheldrake (2020) notes how leafcutter ants and termites cultivate fungus in their nests and mounds. Leafcutter ants feed the fungus fragments of leaf (p.8), while African *Macrotermes* termites rely on a white rot fungus called *Termitomyces* to decompose and digest the foraged wood, for the termites cannot digest it themselves (p.211). Consequently, the *Macrotermes-Termitomyces* mound can be considered "giant, externalised guts" (p.211), and therefore "muddle the concept of individuality" (p.212). They cannot function separately. They coalesce to such a point that to speak of one without the other makes no sense. In *What is A Human? Language, Mind, and Culture* (2020), James Paul Gee makes a similar point as he begins to answer the titular question of the book. He even draws on this relationship between termites and fungus in the

[5] Indeed, to echo Thomas Nagel's famous paper 'What is it like to be a Bat?' (1974), to which I return later in the thesis, it is impossible to know exactly what it is like to be a fungus, so falling back into anthropomorphism is to be somewhat expected. However, what is important is, as I shall argue later, the effort to de-anthropocentrise thought in the first place.

opening chapter as he introduces Little Terman (the name he gives to a single termite) and Big Terman (the name he gives to the mound). For Gee, it can be deceiving to speak in terms of parts and wholes, to speak in terms of Little Terman and Big Terman, because they are not really separate. They are each nothing but a "dynamic process of processes" (p.6) interacting together as, what Gee terms, Transacting Swarms (p.6).

The analogy with the digital works nicely here in that, like the leafcutter ant or the termite, we rely on the digital to function well in the world. We rely on digital tools and practices to make things easy for us, to do things that we cannot. For example, the digital facilitates access to quantities of information on a scale otherwise unimaginable, and digital networks fold time and space to transcend physical and geographic limitations. Equally, 'we' cultivate the digital; we invent and add new technologies, diagnose what is broken or failing, and attempt to fix what we can and replace what we cannot. This applies to hardware and software, to the architecture, algorithms, and applications, and to practices and phenomena. We can describe these acts as processes of maintaining and of growing together, that is, of course, of coalescing. We might even think in terms of co-evolving. Each aspect, as much as they can be thought of as separate aspects, continue to coalesce and to co-evolve, with each influencing the other to the point where speaking of them separately makes no sense. The digital is reality. Reality + Digital = Reality.

The concept of coalescing reality emphasises what I mean by the digital. Rather than formal and rigid addition or augmentation, coalescing reality emphasises the process of integration, of entangling, of meshing. It is an active and ongoing *process*; it is a process of *transformation*; it is a transformative process of *coalescing*. Thinking about the digital in this way accelerates us up to the existential question of ontology, to the question of what it means to be what we have been calling 'human'.

PART TWO:

ANIMAL SPIRITS

1a) UNIT (Meme)

1. How Has the Meme Been Conceptualised in Media Theory?

This chapter takes as its starting point the quotidian experience of the digital; it begins with the daily digital practice. The seemingly mundane experiences are put under a magnifying glass. How does something become mundane? If something is mundane it is likely an everyday occurrence; it is something that has been repeated many times before and will likely be repeated many times more.

1.1. Repetitive, Mundane, Quotidian

In her analysis of the experience of mobile gaming and brain training games, Caroline Bassett (2009) adopts an approach inspired by the work of the French writer and theorist Georges Perec, which "is characterized by an investigation of the very small scale, the insignificant detritus and banal repetitions of a life on the one hand, and a preoccupation with various forms of automation and constraint on the other" (Bassett, 2016, p.120). Bassett 'takes seriously' the experience of playing "private mind games in a series of different public spaces" (2009, p.45) to create an inventory of observations relating to play and space. In this chapter, I focus my observations on the repetition of content in the everyday experience of the digital, specifically the meme, before intervening in the digital discourse of memes. Repetition in the digital is ripe for Perecian style analysis as it occupies both the small-scale and the automated which are two consistent features of Perec's work (Bassett, 2016, p.121). This chapter is also ludic and fictive - two more hallmarks of Perec's work - as I use creatures as guides, and draw on the gaming franchise *Pokémon* as a source for intervention. Indeed, as I will come to conclude, the ludic is an important intervention.

I argue that repetitions are in the DNA of the digital on a technological level as well as the social and cultural levels. Repetition is thus deeply embedded in the daily practice. And this is by design. It is possible to see that the mundane is where power structures operate or, as Melissa Gregg puts it, "it is at the level of the mundane that political interests ultimately land" (2004, p.379). Pink, Sumartojo, Lupton and Heyes La Bond (2017) concur as they suggest,

> The notion of the mundane is therefore often mobilised to signify a site of 'ordinary' or everyday activity, characterised to suit the particular disciplinary

> interests being advanced. For example, as the location where politics and power relations come to bear on elements of life that go on in the 'background'. (Pink et al., 2017, p.3)

Repetition is how power structures reinforce their interests. (I say power structures here for ease of understanding, when in fact, the conception of power I use is closer to that of Foucauldian power.) For example, keeping users engaged with their digital devices in order to experience more online content and exposed to more advertising and consumerist logic advances a capitalist agenda. Culturally, the repetition of memes could also reinforce certain ideologies. Consider the 'Distracted Boyfriend' meme, for instance. The 'Distracted Boyfriend' meme, also known as 'Man Looking at Other Woman', is a stock image (see Fig.2) which is labelled with captions (and sometimes subtly altered). The original image portrays a young woman (Female 1) wearing a red dress walking towards the camera. She is slightly out of focus. Behind her is a young man (Male) turning to leer at her while another woman (Female 2), presumably the man's partner, is shocked and angry at his reaction. The meme functions by adding captions over each figure to portray a certain kind of relationship; it is used to show the temptation of a desirable other disrupting an erstwhile harmonious pairing.

Figure 2. The stock image on which the Distracted Boyfriend meme is based. From left to right: Female 1, Male, Female 2

The meme could be read as quietly perpetuating a heterosexual sexist logic with each iteration. Indeed, in August 2018, a Swedish advertising regulator declared the meme to be sexist (Henley, 2018). This will be explored in more detail later.

If you spend time in any area of the social web like social media platforms, such as Facebook or Twitter, and social news aggregators, such as reddit, you will inevitably come across content you have seen before. Yet, sometimes this is not enough to disengage the digital flow. Here, we again begin to see the paradox of repetition that I can exploit with my animal spirit, the Pokémon known as Ditto.

After the déjà vu, and even the boredom of seeing the same thing again, the promise of more to come quickly rushes in again. As Brian Massumi (2002) claims, "the boredom often comes with a strange sense of foreboding: a sensing of an impending moreness, still vague. Next link" (p.140). Furthermore, Massumi's description of hypertext surfing notes that "Link after link, we click ourselves into a lull. But suddenly something else clicks in, and our attention awakens, perhaps even with a raised eyebrow. Surfing sets up a rhythm of attention and distraction" (Massumi, 2002, p.139). I argue that repetition is on the cusp of attention and distraction. Repetition may be one thing that raises an eyebrow - you notice when you have seen something before. The repetition of the same content may briefly capture our attention but can all too easily be dismissed. Repetitions are often not enough to stop us scrolling, clicking, and refreshing. It is not that you do not notice the repetitions, but you do not notice them primarily *as* repetitions.

Repetitions are where the past, the present, and the promise of future content meet. You are encountering the content again in the present, which draws your attention to the time it is now. The only way content can be repetitive is if you have seen it *before*. If you have seen it before, time must have moved since you saw it last. The fact that you have seen a piece of content before draws your attention to the fact that time as progressed. And the human conception of time suggests a linear progression into the future, a future in which there has promised to be more exciting content. All these times and tenses must be stitched together. Repetitions are phenomena hiding the ruptures, disguising the seams, of stitched time. The Ditto intervenes by showing the ruptures for what they are: the various power structures invested in keeping the digital flow flowing.

1.2. Memes: From Dawkins to the Distracted Boyfriend

This section details the digital discourse around the meme. I track the genealogy of the term through Richard Dawkins' work in evolutionary biology to the Internet meme. The case study I will use throughout this section and return to in section 1b) is the Distracted Boyfriend meme.

If you spend any time on the Internet and especially on social media sites you will, no doubt, have seen images, videos, or animated GIFs, that all seem part of a collective inside joke (Milner, 2013), almost unfathomable to an 'outsider' without the adequate new literacies (Knobel and Lankshear, 2007; Procházka, 2014). The most successful of these images get everywhere, which is the point; it's their *raison d'être.* You may not have understood them completely, at least at first. However, with each iteration the context of their usage and the intertextual references would likely have become more salient. These are online memes (pronounced "meems").

Figure 3. Iterations of the Distracted Boyfriend meme. Sources (clockwise from top left): Know Your Meme; Know Your Meme; Tumblr; Know Your Meme

One such meme, which will be a recurring reference point throughout this section, is the Distracted Boyfriend meme (see Fig.3). The Distracted Boyfriend meme (hereafter DB meme) is a stock image which is often altered and then labelled with captions. It also known as 'Man Looking at Other Woman' or 'Disloyal Man' or 'Wandering Eyes'. According to Know Your Meme, a website that "researches and documents Internet memes and viral phenomena", the original image was taken as

part of a stock photography series by photographer Antonio Guillem and uploaded to the image bank iStock on the 2nd November 2015. As stated earlier, the image (Fig. 2) portrays a young woman (Female 1) wearing a red dress walking towards the camera. She is slightly out of focus. Behind her is a young man (Male) turning to leer at her while another woman (Female 2), presumably the man's girlfriend/partner, is shocked and angry at his reaction. As a meme, the image portrays a certain kind of relationship; it is used to show the temptation of a desirable other disrupting an erstwhile harmonious pairing. The meme quickly became "the internet's favourite way to convey disloyalty, longing, disapproval, and jealousy all at once" (Byager, 2018, no pagination).

It is "an image that launched a thousand memes" (Barrett, 2017, no pagination) or, rather, iterations. At the height of its popularity, around the summer of 2017 (see Fig. 7), the meme was seemingly everywhere (Romano, 2017, no pagination). It appeared across platforms; the meme seemed to shift effortlessly from Facebook groups to reddit forums, from Tumblr blog posts, to Tweets and Instagram posts, as Know Your Meme's genealogy of the meme shows. I will use the DB iterations in aid of my argument for a new means of understanding digital discourse of the meme.

I will return to the specific DB meme later. However, it seems I have gotten ahead of myself; I have put the cart before the horse. It is prudent to return to the source of term 'meme' to help understand the meme in terms of its understanding in current Internet parlance. It is important to distinguish between the meme as it is known in the academic study of memetics epitomized by the short-lived *Journal of Memetics - Evolutionary Models of Information Transmission,* which ran from 1997 to 2005, and more recent studies on Internet memes.

The term 'meme' was coined by evolutionary biologist Richard Dawkins in 1976 in his book, *The Selfish Gene* (2016a). In the book, Dawkins argues for a Darwinist evolutionary interpretation of culture, and so creates an alternative replicator to the gene. Memes are here depicted as "atomistic conceptual units" (Grosz, 2004, p.55), analogous to genes: "Memes are to mind what genes are to bodies" (Grosz, 2004, p.55). To coin the term, Dawkins abbreviates the Greek root word *mimeme*, meaning 'that which is imitated' or 'to imitate', to take advantage of the monosyllabic resemblance to the word 'gene'. The resultant term usefully houses within itself

multiple other connotations, namely that of memory, and the French term même, meaning ‘same’ (Dawkins, 2016a, p.249). The term was initially given the broad definition of “a unit of cultural transmission, or a unit of imitation” (Dawkins, 2016a, p.249).

Dawkins elaborates on his idea:

> Examples of memes are tunes, ideas, catch-phrases, clothes fashions, ways of making pots or of building arches. Just as genes propagate themselves in the gene pool by leaping from body to body via sperms and eggs, so memes propagate themselves in the meme pool by leaping from brain to brain via a process which, in the broad sense, can be called imitation. (Dawkins, 2016a, p.249)

However, in this passage Dawkins seems to position the meme as, to a certain extent, an autonomous unit while the brain is reduced to passivity. Thus, there are problems with agency. This characterises the critique of memes, identified by Limor Shifman as the ‘Who’s the boss?’ controversy (2014, p.11), that human agency in the process of meme diffusion is seemingly denied.

Academic literature on memes that cites Dawkins tends to either make a passing reference to his work in *The Selfish Gene* as the origin of the term or quote the initial broad definition of the meme as a cultural unit and/or the above passage, as I have just done (e.g. Knobel and Lankshear, 2007; Burgess, 2008; Shifman, 2013, 2014). Either way, they are often uncritical references (Goriunova, 2014). It is worth exploring the origins of the term more critically. There is, for example, a significant point in Dawkins’ description that is often missed, disguised as it is as an imaginative poetic remark. Dawkins writes that his new replicator, the meme, “is still in its infancy, still drifting clumsily about in its primeval soup,” (2016a, p.249) the primeval soup here referring to the concoction of proto-protein amino acids and other chemicals which, along with a confluence of conditions such as gases and ultra violet light, allowed the emergence of complex molecules such as replicators, and thus eventually primordial life. Dawkins continues, “The new soup is the soup of human culture” (2016a, p.249). The significance of this point is that it is a recognition of the environment; the ‘soup’ is an environment, a medium, inseparable from interacting memes. As Jeremy Trevelyan Burman notes, a meme, as replicator,

cannot be separated from the medium of replication (2012, p.98). Highlighting this point will help in my reformulation of the online meme.

Of course, in the soup medium there are other memes, other competing ideas. "The medium is where messages are remade, and in the process of their remaking there is a competition for scarce resource" (Burman, 2012, p.98). Dawkins clarifies this point in 1982's *The Extended Phenotype*: "It is true that the relative survival success of a meme will depend critically on the social and biological climate in which it finds itself […] But it will also depend on the memes that are already numerous in the meme-pool" (2016b, p.168). He continues, "If the society is already dominated by Marxist, or Nazi memes, any new meme's replication success will be influenced by its compatibility with this existing background" (2016b, p.168).

While the soup remark goes someway in the right direction, Dawkins then seems takes an abrupt turn in the opposite direction with the definitions which are often quoted in academic meme literature. The implication of such a soup remark should have a consequence for the 'cultural unit' portion of the meme definition but Dawkins fails to follow through. Adopting a semiotic view of digital culture, Sara Cannizzaro (2016) identifies several "prohibitively vague or needlessly gnomic" (p.569) statements in early memetic studies, the first of which is the trope of "memes as cultural units of information" (2016, p.569) (I will return to Cannizzaro's second and third statements shortly). Dawkins' 'unit' definition, in some form or another, makes its way into subsequent memetic definitions:

> (1) [A] unit of cultural transmission, or unit of imitation (Dawkins 1976).
>
> (2) [The] largest units of socially transmitted information that reliably and repeatedly withstand transmission (Pocklington, Best 1997: 81).
>
> (3) The unit of cultural evolution and selection (Wilkins 1998).
>
> (4) Unit of information in a mind whose existence influences events such that copies of itself get created in other minds (Brodie 1996: 32)

(Cannizzaro, 2016, p.569)

Where memetics as a discipline comes under scrutiny is the view that seems to reduce culture into atomistic particles. Cannizzaro notes that cultural theory, informed by semiology, had already moved on from this position by the height of

memetic studies. Instead, memes should be positioned as “relational entities” rather than discrete units (Cannizzaro, 2016, p.572). This follows a move that recognises information as “a relational-systemic phenomenon, not an atomic one” (2016, p.571). In his positioning of memes as signs, Terrence Deacon (1999), for instance, suggests that the problem with memetic theory is “a kind of misplaced agency, that gives the impression that both genes and memes -- replicators -- can be understood without considering their embeddedness in a dynamic system which imbues them with their function and informational content” (no pagination). Deacon concludes that “*what counts as information is context-dependent”* (no pag., emphasis in original).

Cannizzaro quotes Gregory Bateson’s critique of Darwinian evolutionary theory, from his chapter ‘Form, Substance, and Difference’ in *Steps to an Ecology of Mind,* in which he claims it “contained a very great error in its identification of the unit of survival under natural selection” as the organism, family, or another “homogeneous set of conspecifics” (1987, p.457). Incidentally, Dawkins’ work in *The Selfish Gene,* and then continued in *The Extended Phenotype,* was intended to shift perspective; to initiate a shift so that “rather than focus on the individual organism, it takes a gene’s eye view of nature” (Dawkins, 2016a, p.ix). Rather than look inward, Bateson goes outward; Bateson instead suggests “The unit of survival is a flexible organism-in-its-environment” (1987, p.458).

While this ‘flexible organism-in-its-environment’ provides the relationality required for memes, my animal spirit takes issue with the ‘unit of survival’ aspect which would see the transference of the Darwinian evolutionary imperative of survival into culture. Indeed, a second tumble Dawkins’ soup remark takes is the implication that culture could evolve like the molecules in the primordial soup which combined to create larger, more complex molecules and thus evolve. The over-identification with evolutionary genetics is a critique that memetics faces. Shifman notes that this over-identification should be criticised “because memes behave very differently than genes, but also because reducing culture to biology narrows and simplifies complex human behaviors. The prevalent notion is thus that the meme-gene analogy should be taken with many grains of salt” (2014, p.11-12). Furthering this point, evolutionary biologist Stephen J Gould writes,

> I am convinced that comparisons between biological evolution and human cultural or technological change have done vastly more harm than good – and examples abound of this most common of intellectual traps…Biological evolution is powered by natural selection, cultural evolution by a different set of principles that I understand but dimly.
> (Gould, 1991, cited in Grosz, 2004, p.55)

Now, this is not to say that culture does not change in some way that could analogously be described as evolution, just that it is a mistake to utilise biological Darwinian evolution in which survival is imperative as a model. Keith Ansell Pearson suggests that for Nietzsche, too, the unit of study should not be the individual organism but also that motivation is not the will to survive but rather the will to power: "For Nietzsche, the organism is not to be reified as a monadic entity but to be viewed as a 'complex of systems struggling for an increase in the feeling of power' (Nietzsche 1968: section 703)" (Pearson, 1997, p.137). In response to this, my animal spirit takes inspiration from Nietzsche to suggest the imperative to utilise in discussions of memes in digital culture is power. I use Nietzsche's notion of power filtered through Foucauldian, Deleuzian, and posthumanist readings.

What is apparent from the above discussion is that any consideration of the meme should recognise the struggle with the politics of the environment *and* interactions with other memes. Memes are, then, extremely political; they are continuously engaged in a politics of power relations. Here, I have in mind notions of politics and power more akin to Foucauldian micro-physics and Foucault's conceptualisation of power. Foucault's notion of power is closer to a Nietzschean understanding of the concept (Deleuze, 2006, p.59), that is, Foucauldian power is not held and wielded by a looming power structure necessarily but is governed by the micro-physics of everyday life. "This is not a kind of power and politics that is necessarily repressive, discriminatory, or hierarchical but, rather, productive in the sense that it produces certain capacities to do and sense things" (Bucher, 2018, p.94). Power is, rather, a strategy; "one should decipher in it a network of relations, constantly in tension, in activity, rather than a privilege that one might possess; […] one should take as its model a perpetual battle, rather than a contract regulating a transaction or the conquest of a territory" (Foucault, 1977b, p.26). My animal spirit interpretation of the meme recognises this constant tension.

Returning to Dawkins, his concept of a meme itself became a meme. It is worth stating how Dawkins' meme came to be a successful meme because it will be useful when I arrive at delineating the online meme, particularly with respect to the second controversy surrounding memes, already identified by Limor Shifman (2014) as the problem with the use of biological analogies. First and foremost, the concept of the meme was simple, accessible, and engaging. As Schrage claims, the idea was capable of straddling "impenetrable academic discourse and 'pop' psychology" (Schrage, 2009 in Burman, 2012, p.91).

In a "biography" of the meme from 1976 up to 1999, Jeremy Trevelyan Burman traces the popular understanding of the meme through four stages: (1) Hofstadter and Dennett's reinterpretation; (2) the social context of the 1980s; (3) the social context of the 1990s; and (4) the publication of Susan Blackmore's *The Meme Machine* in 1999 (Burman, 2012, p.93-97). The contribution of cognitive scientist Douglas Hofstadter and philosopher Daniel Dennett's book, *The Mind's I: Fantasies and Reflections on Self and Soul* (1981), an edited collection of essays with accompanying commentaries by Hofstadter and Dennett, is recognised as significant to the uptake of meme as a widespread idea (Burman, 2012; Shifman, 2014, p.10). Burman goes further to suggest the Hofstadter and Dennett's reinterpretation contributed to a misunderstanding in popular understanding of the meme. The ambiguity of Dawkins' description in *The Selfish Gene*, no doubt, did not help.

For the chapter 'Selfish Genes And Selfish Memes', Hofstadter and Dennett included an excerpt of Dawkins' *The Selfish Gene*, which is in fact multiple excerpts assembled from the text. Compared side by side, Burman argues, the original "oratorical context" (Burman, 2012, p.81) of Dawkins' meme is lost. In Hofstadter and Dennett's excerpt(s) of Dawkins, the meme ceases to become a metaphor, it becomes more active, whereas in Dawkins' original text the meme was a "rhetorical flourish intended to clarify a larger argument" (Burman, 2012, p.77) that the replicator as a class should replace the gene as unit. Indeed, this is somewhat confirmed by Dawkins in his foreword to Blackmore's influential *The Meme Machine* (1999), and in the notes to the 40th Anniversary Edition of *The Selfish Gene* in which he writes,

> … my designs on human culture were modest almost to vanishing point. My true ambitions - and they are admittedly large – lead in another direction

> entirely. I want to claim almost limitless power for the slightly inaccurate self-replicating entities, once they arise anywhere in the universe […] In discussing memes in the final chapter I was trying to make the case for replicators in general, and to show that genes were not the only members of that important class […] My purpose was to cut the gene down to size, rather than to sculpt a grand theory of human culture. (Dawkins, 2016a, p.423-424)

The move Hofstadter and Dennett make in their excerpting redistributes the emphasis to create a new meaning. It is similar to stressing different words in a sentence: '*I* like your thesis', compared to 'I *like* your thesis'; the same words are there but by emphasising a different word you subtly change the meaning.

Dawkins quotes the feedback from a colleague, N. K. Humphrey, on an earlier draft of the meme chapter:

> "…memes should be regarded as living structures, not just metaphorically but technically. When you plant a fertile meme in my mind, you literally parasitize my brain, turning it into a vehicle for the meme's propagation in just the way that a virus may parasitize the genetic mechanism of the host cell. And this isn't just a way of talking—the meme for, say, 'belief in life after death' is actually realized physically, millions of times over, as a structure in the nervous systems of individual men the world over." (2016a, p.249/250)

This is important to note as it marks the origin of a problem in memetics. Shifman notes that one of the controversies surrounding memes is the use biological analogies (2014, p.11). Virality, in particular, seems to be folded into the contemporary understanding of the meme concept. It seems this conflation of ideas can be traced back to Dawkins' *The Selfish Gene*, yet it seems a lazy mistake for Dawkins to make, *if* he had intended the meme to be anything other than a metaphor and oratorical flourish. As Burman suggests, "The original meme is an imaginary object, and not—strictly speaking—a scientific one" (Burman, 2016, no pag.). Considering the metaphorical intention explicated by Dawkins' notes on the chapter, we can assume that the evocation of virality and active parasitization of brains were more illustrative. Illustrative, that is, of a general principle of replicators, which will be discussed shortly. This next section continues delineating the meme, however greater focus is on the Internet meme. I use the DB meme to illustrate points.

1.3. Internet Memes

Up until now, we have been talking about the meme outside of the contemporary understanding of the meme in the context of digital culture. Conceptually, the meme has moved on, and a new field of study been carved out: the study of Internet memes (Knobel and Lankshear, 2007; Shifman, 2013, 2014; Milner, 2013; Miltner, 2014). However, there remains an ambiguity as to what Internet memes are. Indeed, Shifman has called the internet meme the "conceptual troublemaker" (2013). Conceptually, memes have a tendency to buck; what is seemingly a simple manageable concept becomes difficult to control once all the work that is required of the concept is realised.

It is worth relaying the range of ways scholars have expressed what Internet memes are, from the broad to the more rigorous and considered. Michele Knobel and Colin Lankshear (2007) define the internet meme as a "term for describing the rapid uptake and spread of a particular idea presented as a written text, image, language 'move', so some other unit of cultural "stuff"" (p.202). Some scholars emphasise the inherent humour, such as Patrick Davison who suggests an Internet meme is "a piece of culture, typically a joke, which gains influence through online transmission" (2012, p.122) or Jean Burgess who claims that the popular understanding of meme is as "a faddish joke or practice (like a humorous way of captioning cat pictures) that becomes widely imitated" (2008, p.101).

Other definitions highlight the creative participatory nature of memes. Ryan M. Milner suggests memes are "discursive artefacts spread by mediated cultural participants who remix them along the way", while he also recites a comment from a student claiming an Internet meme is like "a nationwide joke" (2013, p.1). Limor Shifman (2013) describes memes as "units of popular culture that are circulated, imitated, and transformed by internet users, creating a shared cultural experience" (p.367). Bradley E. Wiggins and G Bret Bowers (2014) also highlight the participatory nature of memes as they consider memes as artefacts of "participatory digital culture" (p.6).

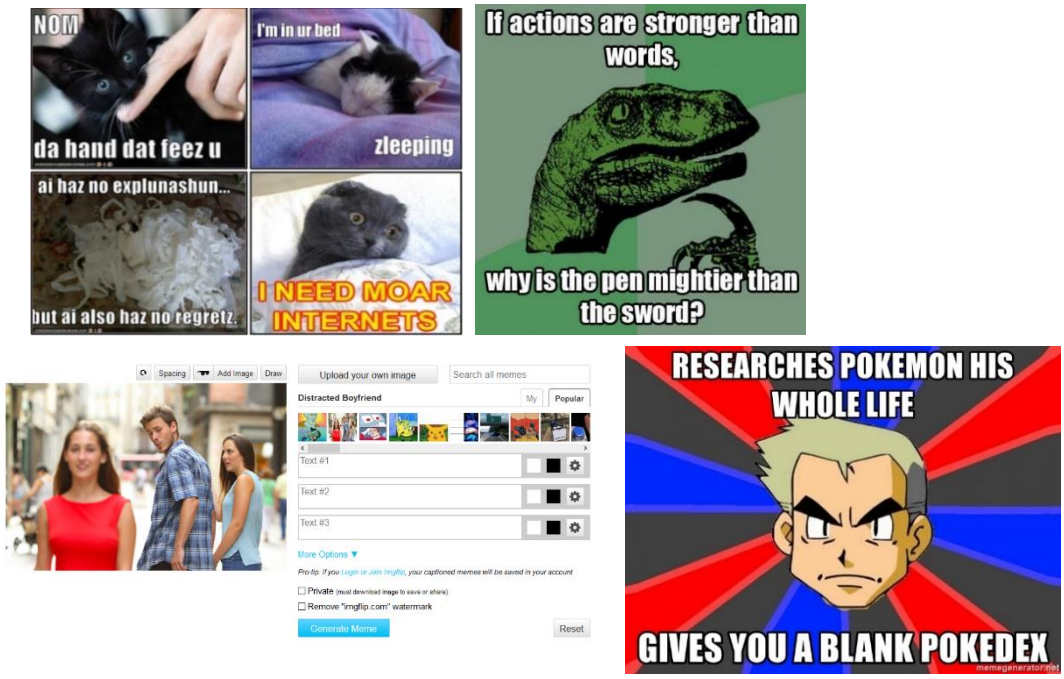

Figure 4. Clockwise from top left: Iterations of LOLcats memes (reproduced from Miltner, 2014, no pag.); Philosoraptor meme; Professor Oak/Advice Oak meme; DB meme generator (https://imgflip.com/memegenerator)

Here, the DB meme can help provide real world grounding to the definitions. The DB meme is an image macro, a broad genre of meme in which an image is captioned with text. Marta Dynel notes, "on the whole, the image macro genre captures the essence of a prototypical Internet meme: it brings together the old and the new by combining the novelty and creativity of text with the stability of an image" (2016, p.667). It is a highly prevalent form of meme, epitomised by LOLcats – a meme that has managed to stay culturally relevant in the notoriously ephemeral world of Internet memes (Miltner, 2014, no pagination; see Fig.4). LOLcats are images of cats with text captions that are intentionally misspelled to give the impression that it is "the voice of the cat in the image" (Miltner, 2014, no pagination). The misspelled text forms a language known as LOLspeak (Miltner, 2014; Procházka, 2014). In her research on LOLcats, Kate Miltner (2014) notes how users felt they were part of an inside joke, and the language of LOLspeak helped to create group boundaries. The DB meme can similarly be seen as a joke, albeit one with fewer barriers to entry as, for instance, a subcultural language is not required. The inside-ness of the joke is simply larger, and its simplicity accounts for its wide engagement.

Other forms of image macros are Advice Animals, such as Philosoraptor (see Fig.4) in which a velociraptor ponders metaphysical questions or philosophical paradoxes,

or Professor Oak/Advice Oak in which the face of the Pokémon character has overlaid text which points out the "various illogical details about the video game's world and the alleged jerkish behaviour of the character" (KnowYourMeme, 2022a, no pag.). Advice Animals typically consists of an image of an animal (although not necessarily) on a colour wheel background with text positioned at the top and the bottom (usually a 'set up' above and a punchline below) (Dynel, 2016). Once more, humour is valued; texts on Advice Animal macros "must be creative and are typically (yet not always) humorous, whether in tandem with a picture or without it" (Dynel, 2016, p.667). Image macro memes also speak to the participatory nature of memes referenced in the above definitions. Advice Animal memes are to spread quickly and easily due to Image Macro Applications such as Meme Generator (https://memegenerator.net/). Similarly, Fig. 4 shows a similar meme generator using the DB meme template. These generators encourage participation from users to easily create and circulate meme iterations.

We can see from the digital culture-based meme definitions that the concept has mutated since Dawkins' conception. These changes are identified well by Dawkins himself who claims,

> The very idea of the meme, has itself mutated and evolved in a new direction. An Internet meme is a hijacking of the original idea. Instead of mutating by random chance, before spreading by a form of Darwinian selection, Internet memes are altered deliberately by human creativity. In the hijacked version, mutations are designed—not random—with the full knowledge of the person doing the mutating.
> (Dawkins in Wiggins and Bowers, 2014, p.1891)

Gone is the idea of memes as 'self-replicating' units, replaced by a recognition of human agency spurred on by a creative and participatory ethos. Gone is the vague notion of memes as ideas, replaced by memes as identifiable cultural artefacts with more concrete boundaries. Shifman's definition returns to the idea of a 'cultural unit' albeit one which incorporates relationality and intertextuality. If we had stayed with Cannizzaro's logic of relationality mentioned earlier, we would have seen that Internet scholars do well to consider memes as relational entities, citing as she does Knobel and Lankshear's (2007) study of the 'rich intertextuality of successful

memes', and Lunenfeld's reference to memes as "image *matrix* rather than a pseudo-genetic concept transfer" (Lunenfeld cited in Cannizzaro, 2016, p.572, original emphasis; Lunenfeld, 2014, p.255). Shifman suggests that "it may be useful to turn Dawkins's definition on its head by looking at memes not as single ideas or formulas that propagate well, but as groups of content items" (2014, p.41). Shifman therefore elaborates on her understanding of memes by combining the principles and definitions mentioned above into the following definition of Internet memes as "(a) a group of digital items sharing common characteristics of content, form, and/or stance, which (b) were created with awareness of each other, and (c) were circulated, imitated, and/or transformed via the Internet by many users" (2014, p.41).

As a brief aside, this is not turning Dawkins' definition entirely on its head. The gene was defined by Dawkins "not in a rigid all-or-none way, but as a unit of convenience, a length of chromosome with just sufficient copying-fidelity to serve as a viable unit of natural selection" (2016a, p.253); the gene was portrayed as a "genetic fragment which […] does not have rigidly fixed boundaries" (Dawkins, 2016b, p.130). Thus, under Dawkins' definition, genes could be interpreted as single units, or more complex groups of units in which "a whole cluster behaves like a single gene - indeed, by our definition it now *is* a single gene" (2016a, p.41). Indeed, coming to the meme Dawkins performs that "same verbal trick" that "divided the 'gene complex' into large and small genetic units, and units within units" (p.253). Dawkins' meme, based as it is on his understanding of gene, does not necessarily neglect the possibility of "a co-adapted stable set of mutually-assisting memes" (p.256) - a meme complex - which is essentially Shifman's 'group of content items'. However, as I mentioned earlier, Dawkins arguably does not sufficiently elucidate the relationality of the meme complex to other memes, meme complexes, and the environment.

Returning to Internet memes, regardless of the move beyond Dawkins' original concept there are three qualities of successful replicators expounded by Dawkins, which "remain the definitive set of characteristics and provide a useful starting point for studying online memes" (Knobel and Lankshear, 2007, p.201). Dawkins pithily sums these up "'in a slogan reminiscent of the French revolution: Longevity, Fecundity, Fidelity' (Dawkins 1978a)" (Dawkins, 2016b, p.129). According to

Knobel and Lankshear, fidelity, or copying-fidelity, "refers to qualities of the meme that enable it to be readily copied and passed from mind to mind relatively intact" (2007, p. 201), such as being simple, memorable, and making intuitive 'sense' (p.202). In the context of Internet memes, replicability is suggested by Knobel and Lankshear as a more suitable concept than fidelity (p.208), while Cannizzaro suggests 'copying' is a gross simplification and proposes 'translation' as a more applicable concept considering the cultural variation in the multiple iterations of Internet memes (Cannizzaro, 2016, p.573). Fidelity will be explored in Chapter 1b).

Figure 5. DB meme iteration tweeted by Dolly Parton.

Fecundity "refers to the rate at which an idea or pattern is copied and spread" (Knobel and Lankshear, 2007, p.202). In their analysis of contextual systems of memes, the authors identify "three distinct patterns of characteristics" which contribute to a meme's fecundity. These are: (a) humour (p.209); (b) rich intertextuality (p.213); and (c) anomalous juxtaposition (p.215). The first two characteristics of humour and intertextuality are incorporated in the DB meme iteration that was tweeted by the country musician, Dolly Parton (Fig. 5). Here, the meme references another media text, namely, Parton's 1973 song *Jolene*. The lyrics of the song are turned into labels: the young woman wearing the red dress (Female 1) is labelled 'Jolene', the young man (Male) is labelled 'My Man', while the shocked woman (Female 2) is labelled 'Me'. The lyrics of the song tell the story of a woman begging a beautiful woman not to take her man away from her. It is clear how the song relates to the themes of "disloyalty, longing, disapproval, and

jealousy" (Byager, 2018, no pagination) inherent in the meme's image. It is a song about infidelity but is also steeped in insecurity - a common feeling which keys into the universality of the meme, even if you have not experienced cheating first-hand. This common emotion allows users to relate to the meme and encourages greater participation in creating and circulating iterations. The humour of the circumstance also helps circulates this iteration. The initial humour of the intertextuality – those with knowledge of the song are 'in' on the joke - is then compounded as it is the original artist, Parton, who tweets it.

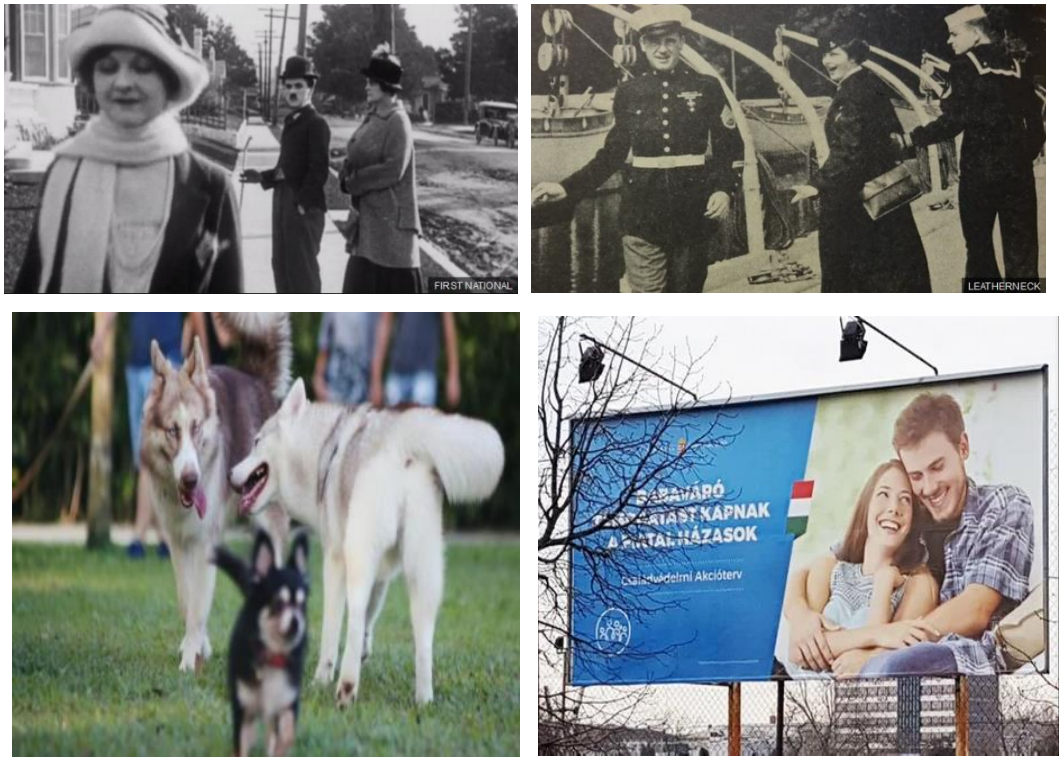

Figure 6. Clockwise from top left: Charlie Chaplin as the 'Original' DB; Marine 'Distracted Girlfriend'; Hungarian billboard with DB models; Distracted Doggo.

Finally, longevity refers to "the longer a meme survives the more it can be copied and passed on to fresh minds, thereby ensuring its ongoing transmission", the caveat being that "optimal conditions for a meme's replication and innovation" are required (Knobel and Lankshear, 2007, p.202). While all memes are of their moment, the DB meme seems to do well at persisting. This is related to the previous two factors of fidelity and fecundity. We can see in a Google Trends readout (Fig. 7) that there are frequent bumps in interest following the peak popularity at the end of August-start of September 2017. These bumps are likely due to subsequent 'spin-off' versions (Fig. 6) such as the Distracted Doggo (KnowYourMeme, 2022b), and 'discoveries'

such as Charlie Chaplin as the ‘Original’ Distracted Boyfriend (Gerken, 2018). The Charlie Chaplin image was flipped to mimic the positioning of the original DB meme which attests to the relative strength of fidelity of the DB meme.

The most recent ‘bumps’ can be accounted for with news stories from late February and early March 2019. In February, a photo from a 1950s military magazine, Leatherneck, was posted to reddit. It depicted a naval recruit being ‘distracted’ by a sergeant in dress uniform (Gerken, 2019; see Fig. 6). In March 2019, an image of a Hungarian billboard featuring the government’s pro-family advertisement was posted on social media. The models in the image are Male and Female 2 from the DB meme. Digital media users were amused by the humorous juxtaposition between the desired effect for the billboard – to promote “a family protection action plan of measures to make Hungarian women with four or more children exempt from income tax for life” (BBC, 2019, no pagination) in order to boost the population – and the unfaithfulness portrayed in the DB meme which made the models recognisable. While this is not an iteration of the DB itself, subsequent iterations were made to mock the Hungarian right-wing prime minister, Viktor Orbán, responsible for the posters.

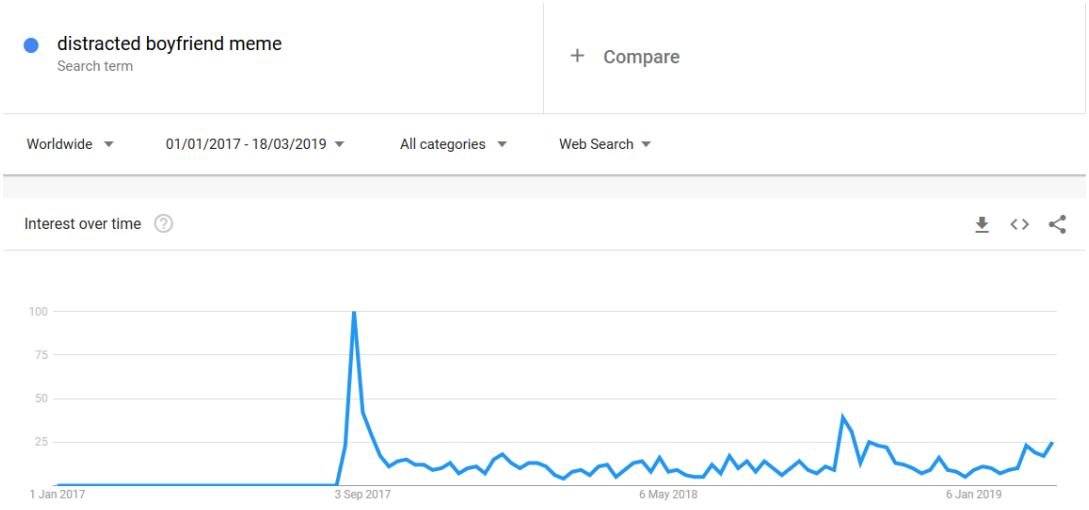

Figure 7. Google Trends. Worldwide interest for "distracted boyfriend meme" over time (1/1/2017-18/3/2019)

We can clearly see here how much work the concept of the meme is doing. To ease the burden, it is worth separating and redistributing the weight created by the most evident problem, namely the conflation of the biological metaphors; as has been

noted, ‘meme’ and ‘virality’ have been subsumed into each other (e.g. Burgess, 2008, Cannizzaro, 2016). In digital culture, the terms are often used interchangeably (Shifman, 2014, p.55). The first task is to distinguish between two types of virality (Burgess, 2008; Shifman, 2013; Marwick, 2013). In relation to YouTube videos, Burgess (2008) notes that usually ‘viral’ refers to videos viewed by a very large number of people. This can be applied to images and textual patterns too. In this first type of virality, images or videos spread verbatim whereas the second type of virality, however, encourages a participation which spawns many iterations (Marwick, 2013, p.13). Shifman would classify the former as viral and the latter as memetic (Shifman, 2011). “The viral comprises a single cultural unit (such as a video, photo, or joke) that propagates many copies, an Internet meme is always a collection of texts” (Shifman, 2014, p.56).

In the foreword to Susan Blackmore’s *The Meme Machine*, Dawkins writes, “Memes travel longitudinally down generations, but they travel horizontally too, like viruses in an epidemic” (Dawkins, 1999, p.ix). Undeniably, the two movements are inextricably linked – fidelity and longevity influence fecundity, and vice versa - so separating them definitively will be difficult. However, my proposed animal spirit intervenes by making the longitudinal and horizontal aspects of memes first and second order processes. They are different aspects of the same game, to create a neat segue. The animal spirit I propose to use as intervention is a creature from Pokémon: Ditto.

2. How Else Could the Meme Be Conceptualised?

Ditto is a fictional creature from the game franchise Pokémon. Although Ditto will be more fully elaborated on in the next chapter, of immediate interest to the present discussion is Ditto's ability to copy "an enemy's genetic code to instantly transform itself into a duplicate of the enemy" (Bulbapedia, 2019). It is based on this ability that I rethink the digital media unit of the meme. However, throughout the rest of this chapter and its twin (Chapter 1b)), I use Ditto as *more* than a model for the meme, as *more* than a metaphor. My use of this phrase 'more than a metaphor' is deliberate. I use it for two reasons: First, to express my intention to intervene or to 'do something' other than reproduce existing structures under a new vocabulary and, second, to evoke Donna Haraway's use of the phrase.

2.1. Haraway and More-than-Metaphor.

Haraway's metaphorical figures perform more functions than a simple comparison; they are "more than metaphors" (Haraway and Goodeve, 2000, p.82). When questioned as to what she means be this phrase, Haraway responds:

> I mean not only the physiological and discursive metaphors that can be found in biology but the stories. For instance all the various ironic, almost funny, incongruities. The sheer wiliness and complexity of it all. So that biology is not merely a metaphor that illuminates something else, but an inexhaustible source of getting at the non-literalness of the world. Also, I want to call attention to the simultaneity of fact and fiction, materiality and semioticity, object and trope.
> (Haraway and Goodeve, 2000, p.82-83)

Ditto, and the animal spirits in the thesis, perform a similar function. They exist between the materiality and immateriality of the digital. Ditto is not material existence, but neither is it a purely imaginary figure. It is the story which is told that becomes important.

Metaphors to help explain the world are frequently mined from the biological world, as we have seen with virality and meme/gene analogies discussed above. It seems biology is "an inexhaustible source of troping" (Haraway and Goodeve, 2000, p.82). Metaphors, particularly biological ones, are important devices for Haraway. For example, Haraway's early text, *Crystals, Fabrics, and Fields: Metaphors of*

Organicism in Twentieth-Century Developmental Biology (1976), explicitly explores the metaphorical structures of biological paradigms. For Haraway, metaphor is not just a rhetorical flourish, "not just pleasing comparison" (Haraway, 1976, p.9). Rather, metaphor has explanatory power. According to Haraway, the requirements for a metaphor to have explanatory power are "that the metaphor have neutral points of analogy to be explored, that the metaphor contain the germ of concrete expectation, and that it give definitive limits to acceptable theoretical accounts in science" (1976, p.10). Metaphor, 'good' metaphor that is, probes the boundaries and 'neutral areas' of the metaphoric system which it brings into being through its own invocation.

Clearly then, not just any metaphor will do. Haraway's use of metaphors suggests what is valuable is complexity. As we shall see, Haraway's figures are 'non-reductionist', or 'non-atomistic', metaphors, in the sense that they can't be 'broken' down into fragmentary units (Haraway, 2000, p.50). This echoes the critique of the meme/gene metaphor previously discussed. As Haraway notes, "All of my metaphors imply some kind of synergetic action at a level of complexity that is not approached through its smallest parts" (2000, p.51). They are also fully enveloped in numerous biological, cultural, and technological practices.

This is borne out by the metaphorical figures which form the basis of the majority of Haraway's texts, be it the figure of the cyborg in the famous and influential essay 'A Cyborg Manifesto' or the tentacular beings, such as jellyfish, octopuses and the *Pimoa cthulhu* spider, which function as figures for the Chthulucene, the name for our current age which Haraway proposes as an alternative to the Anthropocene or Capitalocene (2016). Accompanying these figures are other "boundary creatures" (Haraway, 2000, p.84) such as OncoMouse™, which is to be discussed shortly, and the microorganism, *Mixotricha paradoxa*, that lives in the gut of a South Australian termite which Haraway uses "as an entity that interrogates individuality and collectivity at the same time" (Haraway, 2000, p.83). *Mixotricha paradoxa* is echoed in my use of Ditto.

OncoMouse™ was a biomedical laboratory mouse genetically engineered to develop human cancer allowing for more effective oncological research. S/he was a transgenic organism, a "technobastard" (Haraway, 1997, p.78), and represents a long line of laboratory mice into which a human cancer-producing gene - the oncogene -

was transplanted. OncoMouse™ is also presented by Haraway as a cyborg entity, “a fusion of the organic and the technical forged in particular, historical, cultural practices” (1997, p.51). A consequence of this fusion and confluence of biological, technological and economic practices was that OncoMouse™ became the world’s first patented animal (1997, p.79) and “the object of transnational technoscientific surveillance and scrutiny” (1997, p.47). This intense scrutiny occurred in the different fields of interest including biotechnological sciences, laboratory practice and ethics, patent and intellectual property law, economic and commercial pressures, and personal hopes and fears (1997, p.47).

In addition to the oncogene, the line of oncomice also carried “a mouse mammary tumour virus promoter which ensures that the oncogene is activated in breast tissue so that the mice develop a human breast cancer within a few months of birth” (Anderson, 1988, p.300). Suffering is the designated state of the existence of oncomice; OncoMouse™ was thus designed to die, to be at once ‘a sacrifice, a scapegoat, and a surrogate’ (Haraway, 1997, p.47). Hence Haraway’s evocation of Christian imagery and the inclusion of Lynn Randolph’s artwork ‘The Laboratory, or The Passion of OncoMouse’ (Haraway, 1997, p.46). The artwork is an image of human-mouse hybrid with a crown of thorns sitting in a box and being observed, and scrutinised, by numerous pairs of eyes. In the image, OncoMouse™ is a biotechnological Christ figure.

I mention the religious iconography of OncoMouse for several reasons. The first of which is to emphasise the multiple and sometimes contradictory readings of metaphors and tropes. In this instance, OncoMouse is simultaneously a tool for secular and scientific progress, and a sacred figure of salvation, ‘materially reconfigured’ or ‘invented’ to relieve the suffering of human cancer (Haraway, 1997, p.47; p.79). Furthermore, I mention OncoMouse’s religious imagery to accentuate the story/stories being told by the metaphor, and the near certainty of being implicated in its construction. As Haraway notes, “nothing comes without its world” (Haraway, 1997, p.37; Puig de la Bellacasa, 2012). In the case of OncoMouse, we see Haraway’s personal history bleed into her interpretation of the figure. Despite losing her faith, Haraway is adamant (ironically, she swears to God [2000, p.141]) that her “inability to separate the figural and the literal” (p.141) originates in sacramentalism and her Catholic upbringing. Her Catholic sensibility

means she lives with a “menagerie of figurations” (p.135), a menagerie “where the literal and the figurative, the factual and the narrative, the scientific and the religious and the literary, are always imploded” (p.141). It is significant to take form this that the researcher is implicated in the knowledge being created. I am implicated in the Ditto-as-meme metaphor.

From here we can interrogate Ditto as a metaphorical figure for the meme more thoroughly. The obvious beginning point for Ditto-as-meme metaphor is Ditto’s ability to copy. The repetition of meme format in the many iterations of memes lends itself to comparison with a replicating creature. This would be beginning and end for a basic metaphor of comparison but, as suggested above, for it to have explanatory power Ditto should push its own boundaries and interrogate the limits of its own metaphor. Ditto’s Bulbapedia entry suggests that Ditto “is capable of transforming into an exact replica of any physical object” (Bulbapedia, 2019, no pagination). If this is the case, then Ditto-as-meme metaphor disintegrates as each iteration of a meme is obviously not an exact copy of the original meme because then there would be no difference between them. The boundary of the metaphor must therefore be probed by incorporating and extrapolating from more of Ditto’s story. When we consider that every Ditto have their own strengths and weaknesses when it comes to copying, that the details may be wrong if the transformation is based on memory, and that Ditto occasionally cannot change their face (Bulbapedia, 2019, no pagination), then we can see that Ditto *does not* transform into an exact replica, but rather an imperfect copy. As stated earlier, Ditto is a replication process, a process so integral to the digital, rather than the meme iterations themselves. Ditto is not copying the content or, in the words of Burgess, ‘copying the product’ but rather ‘copying of instructions’ (Burgess, 2008, p.108). The copied instructions are imperfect, and this accounts for difference in the meme.

The probing of the metaphor’s boundaries also returns us to Foucault’s preface to *Anti-Oedipus*. The final point of summary of the Non-Fascist Life is significant: one must “not become enamoured with power” (2004, p.xvi). In many ways, Pokémon is an antithesis to this directive, predicated as it is on the desire to become a Pokémon Masters, that is to capture, control, and colonize the Pokémon universe. However, an alternate reading, and one emphasised by the franchise, is based on a moral principle of friendship and ‘kinship’, as Haraway might say. The cooperative and entangled

nature of the human-Pokémon relationships is accentuated over notions of power and domination.

3. How Can We Extend This Thinking?

3.1. Ditto as "Spiritual Exercise"

It is worth taking a moment to be explicit as to what I hope to achieve with Ditto. I want to use Ditto - and all the animal spirits, for that matter - as more than a mere model, as more than a metaphor. In what is at once a grandiose claim and an exercise in simplicity, I intend for Ditto to show how one *might* live (May, 2005, p.1). Or, rather, how one *might* approach life in the digital. I aim to create the Ditto configuration to propose a form of intervention that would act as a possible route for exploring digital culture, specifically the Internet meme. To reappropriate the title of the song by the Welsh rock band *Manic Street Preachers*, Ditto is *A Design for Life* (Bradfield et al., 1996). Not *the* design, but *a* design for digital life.

Why does digital life warrant such a design? Has life not always required guidance? Yes, of course. Ditto and the animal spirits in this thesis offer an approach to a specific confluence of circumstances. Contemporary digital life exerts pressure on a multitude of scales and temporalities. This question of how one might live is embedded in many of the thinkers I have quoted in this thesis from Nietzsche through to Foucault, Deleuze, and Braidotti. They can be considered as "spiritual exercises" (May, 2000; Babich, 2016). Much of Nietzsche's philosophy can be read as guidance for living. For instance, *Schopenhauer as Educator*, the third of Nietzsche's *Untimely Meditations*, exhorts a project of 'self-cultivation', 'self-discovery', 'self-discipline', and 'self-education' (Babich, 2016), while Nietzsche's thought experiment of the eternal recurrence (to which I will return in Chapter 1b)) can be read as an ethical doctrine, a way of living which "functions as a test of the will, a test of its moral strength" (Grosz, 2004, p.138). Furthermore, we can consider the three metamorphoses in *Thus Spoke Zarathustra* (*TSZ*) in which the spirit transforms through different states as a recipe for living a meaningful life and becoming who you are. The metamorphoses also mirror the movements I make with Ditto in Chapter 1b).

First, the spirit becomes the camel, a beast of burden, which shoulders heavy loads and does not complain too much. In fact, the camel spirit desires to be "well laden" with weights so that they may "rejoice in [their] strength" (*TSZ*, Of the Three Metamorphoses). For Nietzsche, this is the stage at which most people will remain.

They will live with heavy burdens on their back. What are these burdens? They are everything you have ever been told to do, say, think or feel. They are things you have not questioned. Why are we liking that Facebook status? Is it because we have been told it is the polite or sociable thing to do? Why are we sharing that piece of content? Is it because everyone else has retweeted it and to follow suit is what is expected of us? Why do we use the concept of the meme?

At this point, for a lucky few, the spirit transforms into a lion. It is only in this state that the spirit can slay the great dragon named 'Thou Shalt'. On every scale of this great dragon "glitters golden 'Thou Shalt'" (*TSZ*, Of the Three Metamorphoses). These scales are adorned with "the values of a thousand years" (*TSZ*, Of the Three Metamorphoses) or, in other words, every value or custom we have ever been told that thou shalt do. The lion is courageous; the lion understands the burdens and the intentions behind them for what they are and can roar a sacred No and struggle to victory over the great dragon. Once the dragon is slain, the spirit must transform again. It is all very well and good to say "No" to heavy burdens, to say "No" to every 'Thou Shalt', but before long you will find that your life has become empty and devoid of meaning. Eventually, a "Yes" is required.

Despite his public reputation as a nihilist, Nietzsche's philosophy is an indictment of ascetism and nihilism. Consider digital detoxes and diets in which users unplug from their devices for extended periods of time. They are ultimately unsuccessful because there is the belief that the ascetic ideal is meaning itself when in fact it is, at best, only a partial transformation. These methods are not sustainable; they are not a real escape, they are not a viable way out of the information overload, or the digitally connected networks, or the temporal pressures of advanced capitalism. Indeed, it should not be about escaping or simplifying at all. Instead, we must 'stay with the trouble', as Donna Haraway (2016) would say, or, as Nietzsche might argue, we must follow Ariadne's thread *back into* the labyrinth, or venture out into the open sea (Harries, 1988, p.37). All these movements acknowledge the need for endurance. We must endure complexity and endure the risk of losing oneself in that complexity (Harries, 1988, p.37), because it is where creativity lies. If we "lose touch with the chaos we bear within ourselves", we also deny ourselves "the source of our creativity" (p.40).

While the spirit in lion form is capable of creating freedom or the space for new values, it cannot create new values itself, and a further transformation of spirit is required. The spirit must transform into a child. According to Nietzsche, "the child is innocence and forgetfulness, a new beginning, a sport, a self-propelling wheel, a first motion, a sacred Yes" (*TSZ*, Of the Three Metamorphoses). The child is needed for the "sport of creation" (*TSZ*, Of the Three Metamorphoses). The spirit in this stage resembles a child at play. They are present, and not held down by the weight of expectations and tradition. They are creating and enjoying new games. They are playing. Nietzsche would argue this is the stage we should be striving for.

In the context of this thesis, critique of normative digital discourse and traditional metaphors such as the meme are insufficient on their own. I have therefore sought the spirit of the child, by harnessing my own experiences. *Pokémon* played a role in my childhood. As such, I argue the Ditto-as-meme model can be seen as a playful approach to digital discourse. Indeed, this approach is consistent with a broad trend in cultural studies and scholarship which I semi-facetiously term a Pokémon turn! There has been a resurgence of the franchise with the release of the augmented reality mobile game *Pokémon Go* (2016), and *Detective Pikachu* (2019), a film which combines live action and CGI Pokémon in an attempt to appeal to a new generation while also recapturing the now-adult original fans of the franchise. Consequently, Pokémon has become a renewed source of scholarship across fields such as neuroscience (Gomez et al, 2019), medicine and paediatrics, and media studies. *Pokémon Go* alone has been used to provoke questions of digital materialities and unreal objects (O'Riordan, 2017); of "accessibility, privilege, and race" (Salen Tekinbaş, 2017); of "distributed imagination" (Giddings, 2017); and of nostalgia (Keogh, 2017).

Inspired as they were by Nietzsche, the philosophies of Foucault and Deleuze also function as ways of living. Many of their texts serve as pathways or signposts (May, 2000, p.223) for how one might "construct a meaningful life in a world that often pulls us in unhelpful directions" (May, 2000, p.227). This thesis is already familiar with one of Foucault's pathways for living. *The Use of Pleasure*, the second volume of Foucault's *History of Sexuality*, provides evidence of Foucault's spiritual exercises in the kind of curiosity which enables the "straying afield of oneself" and "thinking differently" (Foucault, 1985, p.8). Additionally, Foucault claims in his

preface to Deleuze and Guattari's *Anti-Oedipus* (2004a) that the book "is an *Introduction to the Non-Fascist Life*" (Foucault, 2004, p.xv, italics in original), a title which references Saint Francis de Sales' *Introduction to the Devout Life* (Foucault, 2004, p.xv) – a text for good Christian living, a form of spiritual guidance. Braidotti and Dolphjn (2014) note "Foucault claims that Anti-Oedipus can best be read as an 'art': an art of living, an aesthetic of the self (as Foucault called it in his last publications) that, in traversing the classifications and the hierarchies that organize us, anticipates 'another life'" (p.16).

1b) DITTO

1. What is/are Pokémon?

What is *Pokémon*? Who is Ditto? And how can Ditto disrupt the digital discourse of the meme? These are questions which will be answered in this section. I will continue to use the Distracted Boyfriend meme to show the utility of Ditto in consideration of memes. I will begin by delineating the first question, what is/are Pokémon?

Pokémon is both a Japanese media franchise, and the collective name for the fictional creatures on which the franchise is based. After originally launching as a pair of games (Red and Green versions; later released as Red and Blue outside of Japan) for Nintendo's Game Boy console in Japan in 1996, a television series, trading card game, and other merchandise were released to capitalise on its success (Allison, 2006). Pokémon became a widespread phenomenon in the mid to late 1990s, however, it "might more appropriately be described, in anthropological terms, as a 'cultural practice'" (Buckingham and Sefton-Green, 2003, p.379). Although the franchise "had clearly passed its time as a globally obsessive brand for children by the early 21st century" (Jordan, 2004, p.462), it continued to release new content to revitalise interest. In July 2016 - twenty years after the release of the original game - there was a resurgence in popularity due to the launch of *Pokémon Go* (2016), an augmented reality mobile game in which users use the GPS and camera in smart devices to play the game.

The premise of the Pokémon games is to identify, capture, train, and battle fantastical creatures known as Pokémon. The creatures are captured and stored easily in small Poké Ball devices which fit in the player's pocket, hence the etymology of the name Pokémon – a contraction of 'pocket monsters.' The anime television series, and subsequent films, followed the exploits of 10-year-old Ash Ketchum who leaves home to become a Pokémon Trainer, and aspires to be a Pokémon Master. However, the stars of the series are, undoubtedly, the titular creatures. Pokémon, as the Official Handbook claims, "come in all shapes, sizes, and personalities. Some live in oceans, others in caves, old towers, rivers, or tall grass. Some Pokémon are plantlike [sic]; some are animallike [sic]. And some are even ghostlike!" (Barbo, 1999, p.9). The creator of Pokémon, Satoshi Tajiri, used

his love of insect collecting as inspiration for the game (Bainbridge, 2014, p.402), and indeed the influence of real-world flora and fauna is clear in many of the Pokémon designs.

Perhaps, the most well-known Pokémon is the cute companion of Ash in the series, Pikachu. Pikachu became an ambassador for the franchise due, in part, to this cuteness (Allison, 2003, p.385). Pikachu is a yellow electric-mouse capable of sending lightning bolts to shock opponents but there are a wide variety of Pokémon, each with their own particular powers and abilities. The aim of the game is to capture all the different species. Indeed, the motto of the Pokémon franchise in the Western market is 'Gotta catch 'em all!'. Some Pokémon are connected by an evolutionary line; that is, some are capable of evolving into a new Pokémon providing certain conditions are achieved, such as sufficient training experience or exposure to certain elemental stones. Some Pokémon can only be acquired by way of evolution (i.e. they do not appear 'in the wild') or by trading with players of other versions of the game (e.g. players of the Red version of the Nintendo game can trade with players of the Blue version). Tajiri notes that when he saw the connecting cable for the Game Boy, he imagined "an insect moving back and forth across the cable" (Chua-Eoan and Larimer, 1999, p.3), and thus made trading a key aspect of the gameplay.

Pokémon was formative in my childhood; I watched the anime TV series in the mornings before school, and I collected the cards. If you were to be transported to any school playground in the late 1990s, you would more than likely see multiple huddles of school children. Each huddle had a central nucleus of Pokémon cards with its orbiting members proudly showing their recent acquisitions ("I got a shiny Nidoking!") and performing trades[6]. The card game functioned on trading. There were some cards that were more common than others. As such, duplicate cards were natural. Multiples, swaps, or doubles were an essential and necessary part of the process in acquiring all the cards.

[6] Twenty years on, I'm still bitter about a trade involving said Nidoking! I must be hoping that by writing this I find some form of catharsis

The spirit of acquisition, epitomized in the Western iteration of the motto, means Pokémon reinforces the logic of capitalist power relations (Buckingham and Sefton-Green, 2003; Allison, 2006; Bainbridge, 2014; Walsh, 2014). As Tim Jordan notes, "the pleasures and pains of Pokémon…are primarily of mastery and acquisition" (Jordan, 2004, p.466). It is a set of circumstances that play into the hands of exploitative capitalism, branding, and flexible modes of production and consumption (Jordan, 2004, p.468), as the artificial scarcity of certain products (e.g. rare cards), the necessity for trading with other players, and the continuous multiplication of new products keep players in the game and increases revenue. "Wherever you look in Pokémon, it multiplies" (p.467). But multiplication is not just a business strategy, it is written into the narrative and the design of some of the creatures, as will be shown later with one particular example.

The themes of multiplication and imitation are repeated in the wider Pokémon narrative. Junichi Masuda and Ken Sugimori of Game Freak (Pokémon's developer) stated there were originally plans for a Pokémon designed on Dolly the sheep, the first cloned animal made by scientists Keith Campbell, Ian Wilmut and colleagues at the Roslin Institute in Scotland in 1996. Ultimately, the plans were discarded due to fears cloning would be too controversial a topic to represent (Fahey, 2011). These fears of controversy must have abated as cloning was a pivotal plot point of the first Pokémon film. In *Pokémon: The First Movie: Mewtwo Strikes Back!* (1998), a Pokémon is cloned using genetic modified DNA of an ancient thought-to-be-extinct Pokémon known as Mew. In a story echoing both Mary Shelley's *Frankenstein* (1818/2008) and the hubris of genetic modification in *Jurassic Park* (1993), the new creation, Mewtwo, contemplates his own existence and concludes he must destroy humanity along with all the Pokémon loyal to their trainers (the film had the second subtitle *Mewtwo Strikes Back!)*. Mewtwo creates an army of clones from the trainers' Pokémon and instigates a fight between the 'originals' and their doubles.

The ethics of forcing creatures, no matter how imaginary, to duel is not the focus of the thesis but it must be noted that the series could be read in a way that not only justifies such behaviour but also advances the anthropocentric belief in human superiority with nonhuman animals as subject to the bidding of human. "Virtual animal bodies become stand-ins for the ways in which animals are sold, valued, or devalued based on their usefulness to humans" (Walsh, 2014, p.28). *Pokémon: The*

First Movie does attempt to address this. As Jason Bainbridge notes, “it is during this conflict [between Pokémon and their clones] that the hypocrisy of the *Pokémon* world is revealed” (2014, p.405). The trainers abhor the pointless violence, which implies that the battles they have between each other have a purpose and are therefore justified.

Despite this, the message at the resolution to the film is that of “a *symbiosis* between humans and Pokémon and Pokémon and the environment” (Bainbridge, 2014, p.406). As Bainbridge suggests, the cultural fascination with the ‘insect aesthetic’ in Japanese pop culture may amount to a “yearning for a time when the environment had not yet been overtaken by industrialization” (p.402). This nostalgia for the past is combined with the current technologies, and imbued in some of the Pokémon, especially Ditto. This echoes Akira Mizuta Lippitt’s argument in *Electric Animals* about media, particularly cinema, embodying the animal “as a gesture of mourning for the disappearing wildlife” (Lippitt, 2000, p.196) that until the advent of industrialisation had been commonplace. Bainbridge suggests, “*Pokémon* thereby encourages reflection on the ways in which we represent, engage and contain nature” (2014, p.409). Pokémon is thus a meditation on humanity, animality, technology and the environment. It slips between the boundaries of all these.

2. Who's that Pokémon? It's Ditto!

In the original game there were 151 different Pokémon; there are now over 800. To give an idea of the variety, the first generation of Pokémon includes: Squirtle, a Water-type Pokémon resembling a light blue turtle and is the first in the evolutionary line of Squirtle into Wartortle into Blastoise; Tangela, a Grass-type, is covered in vines giving the appearance of "a walking ball of noodles" (Barbo, 1999, p.100) and does not evolve (at least, in the first-generation game); Flareon, a Fire-type fox-like Pokémon with a yellow mane and is, along with Vaporeon and Jolteon, one of three possible final forms in the evolution of Eevee (whose evolution depends on which kind of evolutionary stone/energy they are exposed to); and Gengar, a purple Ghost/Poison-type with red eyes and a mischievous Cheshire Cat grin and is the final form in the evolutionary chain of Gastly into Haunter into Gengar. However, it is another creature introduced in this first generation of Pokémon that I adopt as an animal spirit of digital culture in this section. To use the parlance of the Pokémon trainer when throwing a Poké Ball that, with a burst of red lightning, releases the Pokémon: "Ditto! I choose you!"

[Image of Ditto removed]

Figure 8. Ditto #132 (Source: Pokémon.com > Pokédex (https://www.pokemon.com/uk/pokedex/ditto)

Ditto (Fig. 8.) is a Normal-type Pokémon resembling a pink gelatinous blob. Ditto does not evolve into any other Pokémon. Ditto's only ability is to transform. Ditto can transform into any other Pokémon and imitate their powers, and can even transform into other physical objects such as rocks. According the Pokédex, the in-game electronic encyclopaedia, in the original Red and Blue versions of the Pokémon game Ditto is "capable of copying an enemy's genetic code to instantly transform itself into a duplicate of the enemy" (Bulbapedia, 2019, no pag.).

What are we to read into the name? Like many other Pokémon, the names are a playful use of language that informs of the creature's abilities. The original Japanese name for Ditto is Metamon - a portmanteau of metamorph, meaning shapeshifter, and monster – and describes the creature's behaviour. Ditto was chosen as the adopted name for the creature in the English-speaking market. The term 'ditto' meaning "the same thing again", is derived from the Latin *dictus* meaning 'said', through a Tuscan dialectical variant of the Italian word *detto*. The word is an apt name for a creature capable of imitation.

2.1. The Biology of Ditto

It is worth quoting Bulbapedia's (a Pokémon Wiki) entry on Ditto at length for more information gathered from the series' other media formats (such as the trading card game, the manga, and the anime):

> In its natural state, Ditto is a light purple or magenta free-form blob with vestigial facial features. It also appears to have two vestigial, handless 'arms' protruding from its body.
>
> It is capable of transforming into an exact replica of any physical object, including its form and abilities. However, if Ditto tries to transform into something based on memory, it may get some of the details wrong. Each Ditto has its own strengths and weaknesses when it comes to transforming. The anime and the TCG [trading card game] have shown that *occasionally a Ditto cannot change its face*. Ditto will also be *unable to remain in a transformed state if it starts laughing*. When two Ditto meet in the wild, they will attempt to transform into each other. Ditto will also transform into a rock when sleeping to avoid attack. Ditto is never far from civilization or people. (Bulbapedia, 2019, no pag., my emphasis)

Initially, Ditto's design is in stark contrast to the obvious flora and fauna inspired designs of the other Pokémon. It seems more of a concept than a creature. However, considering Satoshi Tajiri's previously mentioned love of insect collecting, Ditto's significance becomes apparent as imitation and mimicry is prevalent in entomology. Further biological inspiration can be found in the speculation that Ditto's appearance resembles a cells or organisms like an amoeba that can change their shape (Bulbapedia, 2019). Ditto's ability also evokes the totipotent ability of cells to transform into any other type of cell. Indeed, the reversal of somatic adult cells to this embryonic totipotent state was key in Dolly the sheep's birth. Ditto also has a connection to technology and digital culture. Junichi Masuda and Ken Sugimori of Game Freak (Pokémon's developer) claimed the inspiration for Ditto came from a stalwart of computer mediated communication: the smiley emoticon, :) (Bulbapedia, 2019).

How does Ditto transform? 'Real world' biological imitation occurs as camouflage and mimicry. Reptiles, such as chameleons, and cephalopods, such as cuttlefish and octopuses, can change their colour to imitate their surrounding environment. This "rapid and reversible colour change" (Owens, 1982, p.47) is achieved through a system of chromatophores under the surface of the skin. In octopuses, for example, sacs containing pigments, controlled by contracting muscles, can change the colour of the skin "in milliseconds and across millimetres" (Mather and Mather, 2004, p. 89). As Wells notes, "the same animal can, within a fraction of a second, convert itself from a dark brown glowering creature to a pale ghost; little specimens can become almost transparent" (Wells, 1978, p.276). While I can speculate that these real world imitators, particularly insect examples, were formative in the development of Ditto's character, Ditto's method of transformation is closer to genetic cloning.

According to the Pokémon lore, Ditto copies the DNA of the opponent Pokémon. In the real world, DNA replication would likely involve needles and swabs for tissue samples, and the whirring machines of laboratory technology. Ditto obviously does not have this kind of operation set up, so the most logical means of DNA replication would be if Ditto *already* has the DNA. The blueprints of every other Pokémon must exist within Ditto. Ditto, then, is a bundle of potential, a multiplicity within a

singular. Ditto-as-meme, therefore, also questions and provokes the notions individuality and collectives.

A useful thought experiment is to consider if a Pokémon were to lose a limb. Assuming Pokémon are capable of losing a limb and were to do so, what would happen when that Pokémon encounters a Ditto? If Ditto merely mimics what they see, then the Ditto would create a copy without the limb too. However, given Ditto's means of replication, Ditto would transform into the Pokémon with the limb intact? This is because Ditto copies the DNA of the other Pokémon, and the DNA would be for the 'complete' creature since the loss of a limb would be the result of an environmental outside event and the missing limb is not encoded in the DNA. I mention this because it helps establish Ditto as a new understanding of the digital discourse of Internet memes.

In her study of YouTube viral videos, Jean Burgess (2008) writes that in order to endow explanatory power to metaphors like meme, "it is necessary to see videos as carriers of ideas that are taken up in practice within social networks, not as discrete 'texts' that are 'consumed' by isolated individual or unwitting masses – a 'copy the instructions', rather than 'copy the product' model of replication and variation" (p.108). This relates to the concept of copy fidelity when it comes to meme.

While the 'copying the product' model of replication occurs in digital culture whenever a user encounters the same content they have seen before, and could therefore apply to memes, the use of Ditto as a disruption to meme discourse relies on Ditto following a 'copying the instructions' model of replication. Now, fidelity refers to "qualities of the meme that enable it to be readily copied and passed from mind to mind relatively intact" (Knobel and Lankshear, 2007, p. 201). What gets copied is the instructions to make the meme recognisable as that meme, the format of the meme.

In relation to the DB meme, we can see how the fidelity of the instructions is relatively strong. The simplicity and versatility of the format meant the possibility for many different iterations. The meme could "map onto pretty much anything in any context and still be funny — older memes, current events, historical events, pop culture, you name it" (Romano, 2017, no pagination). Indeed, there were many iterations (Fig. 9).

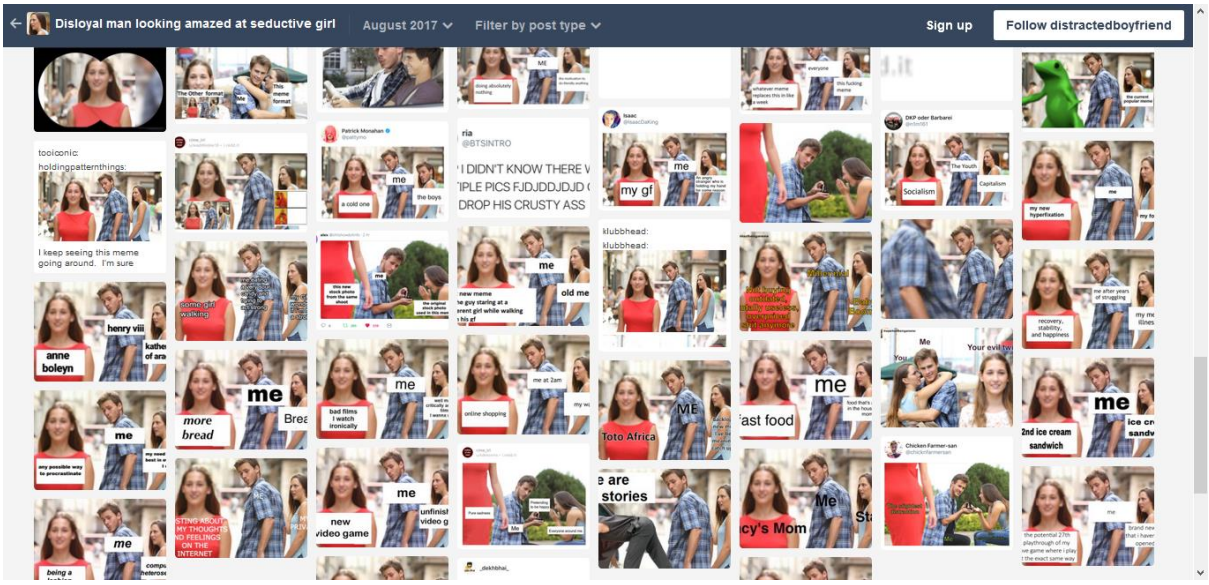

Figure 9. Selection of DB memes on the Tumblr blog @distractedboyfriend, August 2017.

In terms of the fidelity of meaning, the DB is flexible enough to develop. There is sufficient development in meaning to provide new avenues for participation and spread of the meme (fecundity) yet for the meme format to remain relatively intact (fidelity). Initially, the meaning of the meme was for conveying "disloyalty, longing, disapproval, and jealousy all at once" (Byager, 2018, no pagination). However, later interpretations demonstrated subtle re-readings of the meaning. For example, in some iterations the woman being leered at (Female 1) represented a mistake, and in others the women represent responsibility (Female 2) and risk (Female 1) which subsequently had implications of boredom and excitement. "The girlfriend came to represent the more responsible of two options, or what someone ~should~ do. The woman being ogled, on the other hand, came to represent a more desirable (even riskier) option" (Tansill-Suddath, 2018, no pagination).

3. Nietzschean Laughter: Making Ditto Laugh

Repetitions are paradoxically one of the strongest weapons in the armoury of digital flow but also the weakness through which resistance can occur, in what amounts to being hoist with one's own petard. If we see the replication process of meme iterations as the animal spirit Ditto we can then intervene, we can then disrupt. In arguing for a critical disruption to social media monopolies, Caroline Bassett has suggested that "disruption might be attempted through a toolset – silence, disruption of language, and the exploitation of language's capacity for polysemy (the metaphor and the lie) – that is not often considered as apt for such a task" (2013, p.158). Indeed, without wanting to appear flippant or to marginalise the significance of the experience of the digital flow, I propose a ludic, or comic, addition to this toolset. I would like to make Ditto more than a metaphor, more than a model for the digital cultural unit, the meme. I intend Ditto to provide an intervention; Ditto needs to intervene, provide a way of coping with the conditions created by the reiterating meme.

To do this, we must disrupt Ditto's ability to transform. How are we to do that? We must laugh, and we must make Ditto laugh! As the biography of the Pokémon mentions, Ditto cannot maintain the copy if it laughs. However, not just any laugh will do. It is not a defensive nor a decadent laughter of which we are in need, nor do we require some laughs of resignation; it is healthy, playful, and purposive laughter. It is the kind of laughter Bassett might call a "form of communicational revolt" (p.149). While Bassett suggests silence can be exploited to "make a containing space for language to be heard" (p.155), in this case, laughter aims to shake the body, and the network of power relations.

Friedrich Nietzsche, Michel Foucault, and Gilles Deleuze (along with Felix Guattari) were all humorous theorists, if not in their writing then in their personal life. Nietzsche litters his philosophy with jokes and humorous aphorisms, which are often deeply embedded in their context (Lampert, 1999, p.75). Indeed, Deleuze claims that "whoever reads Nietzsche without laughing, and laughing heartily and often and sometimes hysterically, is almost not reading Nietzsche at all" (Deleuze, 2004, p.257). Needless to say, as prominent French interlocutors of Nietzsche's,

Foucault and Deleuze each incorporated humour into their approaches. Deleuze's humour manifests as jokes, puns, and profanity. Consider the opening of Deleuze and Guattari's *Anti-Oedipus*: "It is at work everywhere, functioning smoothly at times, at other times in fits and starts. It breathes, it heats, it eats. It shits and fucks. What a mistake to have ever said *the* id" (Deleuze and Guattari, 2004a, p.1). Guattari's diaries illuminate the writing process of *Anti-Oedipus*, in which he was encouraged to just "say stupid shit" (Piepenbring, 2015, no pag.). The effect of the profanity and puns was to rupture the conventional academic discourse.

Foucault, too, engages in humour, although, as Emily Douglas notes, laughter is largely absent from the foreground of his work (Douglas, 2015, p.142). This does not mean laughter was not significant or political for Foucault. The most famous example is the opening to *The Order of Things* with Foucault's laughter at Jorge Luis Borges's recitation of a Chinese encyclopaedia; it is a fit of laughter which shatters the limits of knowledge. There are also numerous anecdotal references to Foucault's humour outside of his published texts. Interviews are often peppered with laughs (Douglas, 2015, p.144). However, it is one of Foucault's more famous published quips, which has been interpreted as a joke or 'half-joke' (Culp, 2016, p.3), that I would briefly like to analyse in more detail. The analysis of the joke foreshadows Ditto's intervention, but also demonstrates the tangle (like Tangela) of flows into and out of not just Ditto but also the three theorists of Foucault, Deleuze, and Nietzsche who inform my reading of Ditto.

In *Theatrum Philosophicum*, a 1970 review of Gilles Deleuze's two books *Difference and Repetition* and *The Logic of Sense*, Michel Foucault states that "perhaps one day, this century will be known as Deleuzian" (Foucault, 2016, p.38). Much has been made of this oft repeated quote. It had been taken at face value to mean that the 20th century (in which Foucault wrote the phrase) will come to be exemplified by Deleuze's concepts, or Deleuze's philosophy will be essential to understanding the processes and phenomena of the century. 'Boosters' have used this meaning to raise Deleuze's profile, particularly "during the initial reception of poststructuralism in America" (Culp, 2016, p.3), and possibly inflate the significance of subsequent readings and interpretations of Deleuze's work. This is not to say that Deleuze's concepts are not important or useful.

However, the consensus is now that Foucault may have been following that supposedly age-old adage to open with a joke. Foucault's mischievous prophesising (Buchanan, 1999, p.1), may have been "a wink aimed at the few Deleuzian initiates" (Stivale, 1999, p.136). It was, in other words, a joke, albeit a rather esoteric one. Deleuze himself considered it so, at least. He dismissed it as quip designed to incense those that were not 'in on it'. Deleuze, it seems, was in on it; in response to a critic, he suggests "that [Foucault's] little remark's a joke meant to make people who like us laugh, and make everyone else livid" (Deleuze, 1995, p.4). Although Deleuze acknowledges that he didn't know exactly what Foucault meant by the remark since he had never asked him, he reveals that Foucault "was a terrible joker" (Deleuze, 1995, p.88).

This is consistent with analysis of the relationship between Foucault and Deleuze. They joked with each other. For instance, Daniel Defert, a sociologist and Foucault's partner, recalls a joke shared between Foucault and Deleuze: "In March 1972, soon after the publication of *Anti-Oedipus*, Foucault tells to his friend: "We have to get rid of Freudo-Marxism." To which Deleuze replies, "I'm taking care of Freud, will you deal with Marx?"" (Morar and Gracieuse, 2016, p.232). They even joked about the unbearable and miserable. In an interview with Paul Rabinow, the close interlocutor of Foucault, Deleuze recalls his relationship with Foucault and their political activism with the GIP (Prison Information Group), a radical collective formed to circulate information on the intolerable social issues in prisons and exclusionary spaces. Deleuze suggests Foucault was "a fantastic *seer*", and that humour was a component embedded in how Foucault saw everything: "It was the way he saw people, the way he saw everything, in its comedy and misery" (Deleuze and Rabinow, 2016, p.289). The way he saw things meant he was able to capture the intolerable and the unjust. Deleuze suggests that despite being able to see the unjust, it "never stopped him from turning the intolerable into humor. Once again, we laughed a lot. It was not indignation. We were not indignant. It was two things: seeing something unseen and thinking something that was almost at a limit" (Deleuze and Rabinow, 2016, p.290). This gives a sense of Foucault's humour, and conditions for when and how he deploys it. Humour should be deployed at the limits, and then push beyond.

Returning to the ‘Deleuzian century’ remark, it is worth quoting the original French here: “*Mais un jour, peut-être, le siècle sera deleuzien”* (Foucault, 1970, no pag.). An insight provided by Paul Rabinow reveals a double meaning of this statement (Faubion, 1998, p.xi, p.xli n30; Rabinow, 2016), which hinges on *le siècle*. According to Rabinow,

> The famous pronouncement “*le siècle sera Deleuzian*” has been massively misinterpreted in the so-called Anglo-Saxon world […]. It is actually quite cutting: “*le siècle*” refers to eighteenth century courtiers steeped in flattery and rhetoric. Although hardly immune to the rewards of le siècle that had grown steadily around him, Foucault had become increasingly encircled and felt stifled by it. […] He knew what a mixed blessing fame could be.
> (Rabinow, 2016, p.286)

It seems the interpretation of the meaning of the quip which focuses on the term ‘century’ [le siècle] is correct when we consider Foucault’s own explanation for the remark. His explanation appears in a 1978 interview “buried in his four-volume collected interviews and occasional pieces, *Dits et Écrits*” (Stivale, 1999, p.136), which is yet to be translated into English. He suggests that he used the term ‘century’ [le siècle] in its pejorative sense; meaning “l’opinion commune” [common opinion] rather than the elites. It is cutting but not aimed at Deleuze necessarily. In the 1978 interview, “he added, “Et je dirais que ça n'empêchera pas que Deleuze est un philosophe important” (And I would say that this takes nothing away from Deleuze’s being an important philosopher)” (Stivale, 1999. p.136). Here, it seems Foucault confronted the daunting excess of fame, yet accepted it, and laughed at it. In a very Nietzschean sense (as will soon become clear), Foucault laughs at himself by making a joke, and a warning, to his friend. To echo Deleuze’s remembrance of Foucault, he turned the intolerable into humour.

However, we may never fully know what he meant by the quip (Buchanan, 1999, p.1) despite Foucault’s explanation. For Foucault revels in being elusive and shifting position at will. In *The Archaeology of Knowledge,* Foucault responds to questions about what his speciality is, about his shifting positions, and about where he is coming from. He responds,

> No, no, I'm not where you are lying in wait for me, but over here, laughing at you.
> What, do you imagine that I would take so much trouble and so much pleasure in writing, do you think that I would keep so persistently to my task, if I were not preparing – with a rather shaky hand – a labyrinth into which I can venture, in which I can move my discourse, opening up underground passages, forcing it to go far from itself, finding overhangs that reduce and deform its itinerary, in which I can lose myself and appear at last to eyes that I will never meet again. I am no doubt not the only one who writes in order to have no face. Do not ask who I am and do not ask me to remain the same: leave it to our bureaucrats and put police to see that our papers are in order. At least spare us their morality when we write.
> (Foucault, 2010, p.17; de Certeau, 2000, p.193)

Foucault did not want to be pinned down. He is evasive, and we can see that his humour is too. It can be one thing then the other, then back again. It can be two contradictory things at once. We can assume, then, the polysemic nature of Foucault's humour. We can see the intensive labour the quip does; it works to push the comprehension of itself to the limits. With this statement then, Foucault used the, at times, hyperbolic language of academic reviews to reaffirm a philosophical friendship, while also to annoy their critics. He disguised in the form of flattery a critique of the very notion of flattery. Foucault encoded a warning to his friend about the nature of inevitable fame (that he knew Deleuze would despise) within a 'joke' that only he and those initiated in his philosophy would recognise as such. It is at once a joke, a warning, a prophecy, and perhaps even a subtle jab at the timeliness of Deleuze's concepts - a timeliness which runs counter to Foucault and Deleuze's shared indebtedness to Nietzsche (Culp, 2016).

So, what does this mean for Ditto? I take this to be indicative of Ditto's sense of humour. This is how Ditto must be made to laugh: iterations should be pushed to and beyond their polysemic, linguistic, and referential limits. Where are the limits of Internet memes? I see the linguistic and visual puns and meta memes as the limits to be pushed beyond. Meta, deriving from the Greek for 'after' or 'beyond', refers to levels of abstraction in which a concept is behind, or beyond, another concept. When the memes become meta (i.e. a meta-meme) they refer to their own format, their

own existence as memes, and their relation to other memes. As the *Memetic Lexicon* defines it, a meta-meme is "any meme about memes" (Grant, 1990, no pagination).

The intervention I propose is not only in making Ditto laugh, but in the laugh itself which disrupts Ditto's ability to hold the transformation. Shifman claims that "although [memes] spread on a micro basis, their impact is on the macro level: memes shape the mindsets, forms of behaviour, and actions of social groups" (2014, p.18). Corresponding to these different levels, it would be appropriate to conclude that there must be two different laughs. These laughs are on different scales; they exist on a micro level and a macro level. I believe the DB meme demonstrates these different laughs well.

First, I look to Nietzsche here for help delineating the required laughter and in determining the means of achieving the desired laugh on the micro level. Nietzsche's philosophy is laden with laughter, both in rhetorical style and in content. It is worth showing the development of Nietzsche's philosophy of laughter which culminates in laughter's relation to the idea of the Eternal Recurrence. I begin with *Human, All Too Human (HH)* in an aphorism entitled O*rigin of the Comic*:

> If one considers that for some hundred thousand years man was an animal susceptible to fright in the highest degree, and that anything sudden or unexpected meant that he was ready to do battle, perhaps to die; indeed, that even later in social relations, all security rested on the expected, on tradition in meaning and activity; then one cannot be surprised that at every sudden, unexpected word or deed, if it comes without danger or harm, man is released and experiences instead the opposite of fright. The cringing creature, trembling in fear, springs up, expands wide: man laughs. This transition from momentary fear to short-lived exuberance is called the *comic*. (*HH*, 169)

Nietzsche relates laughter to prehistoric instincts; laughter is at its core animalistic. The above aphorism subscribes to the release theory of humour, in which pent up energies are released. Later in *HH*, Nietzsche seems to consider laughter as purposelessness, a proposition turned on its head by the end of Zarathustra:

> How can men take joy in nonsense? They do so, wherever there is laughter-in fact, one can almost say that wherever there is happiness there is joy in

> nonsense. It gives us pleasure to turn experience into its opposite, to turn purposefulness into purposelessness, necessity into arbitrariness, in such a way that the process does no harm and is performed simply out of high spirits. For it frees us momentarily from the forces of necessity, purposefulness, and experience, in which we usually see our merciless masters. We can laugh and play when the expected (which usually frightens us and makes us tense) is discharged without doing harm. It is the slaves' joy at the Saturnalia. (*HH*, 213)

Here, Nietzsche suggests laughter is a kind of refuge from the power relationships – "the merciless masters" – if only for a moment. This is also not the kind of laughter that Ditto requires. Ditto's laughter is not "discharged without doing harm"; it is purposive.

Initially then, Nietzsche's laughter was portrayed as the domain of the multitudes (Gunter, 1968, p.501), or of the herd. *Thus Spoke Zarathustra*, however, marks a change in which Nietzsche comes to believe that laughter, done correctly, can raise the one who laughs. Laughter becomes key to one of Nietzsche's key concepts: the Superhuman. Although the figure is also known as the Übermensch, or the Overman, or the Superman, I refer to the figure here as the Superhuman so as not to presume gender, and also to more closely align the concept with the posthuman logic of the thesis (Braidotti, 2013).

In *Thus Spoke Zarathustra*, the titular Zarathustra returns to the town of The Pied Cow, sometimes known as Motley Cow, after a decade alone in the mountains to share the wisdom that he has accumulated. In the marketplace, Zarathustra uses the opportunity afforded by a performance of a tightrope walker to make the pronouncement of the Superhuman to the assembled crowd. ["I teach you the Superman. Man is something that should be overcome […] What is ape to men? A laughing stock or a painful embarrassment. And just so shall be man to the Superman: a laughing stock or a painful embarrassment" (*TSZ*, Prologue, 3). The bewildered townsfolk laugh at Zarathustra's pronouncement. It is a "scornful, mocking laughter" (Lippitt, 1992, p.39); they do not 'get it', and as such dismiss Zarathustra. "There is ice in their laughter" (*TSZ*, Prologue, 5). Zarathustra leaves saddened. The laughter of the townsfolk is the "laughter of the herd" and is not the

kind of laughter required for the Ditto. Rather, the Ditto needs to laugh a "laughter of the height" (Lippitt, 1992, p.39).

How do we reach a "laughter of the height"? Zarathustra reaches the height with the embrace of eternal recurrence (Lippitt, 1992, p.20). Nietzsche's famous thought experiment of the eternal recurrence is first laid out in *The Gay Science* – the book preceding *Thus Spoke Zarathustra* – and most notably in the section entitled '*The Greatest Weight'* (GS, 341). In the thought experiment, Nietzsche asks how you would respond if a demon came to you in "your loneliest loneliness" and said:

> This life as you now live it and have lived it, you will have to live once more and innumerable times more; and there will be nothing new in it, but every pain and every joy and every thought and sigh and everything unutterably small or great in your life will have to return to you, all in the same succession and sequence – even this spider and this moonlight between the trees, and even this moment and I myself. The eternal hourglass of existence is turned upside down again and again, and you with it, speck of dust! (*GS*, 341)

I have always imagined this demon as a Mogwai/Gremlin type creature creeping into my room in the dead of night, sitting on my chest in a reiteration of Henry Fuseli's 1781 painting *The Nightmare*, and demanding an answer. The thought experiment asks, would you curse the demon, or would you proclaim them a god? Would the weight of every decision and every action, repeated innumerable times again and again, crush you or change you? Most would consider, the idea of the eternal recurrence as paralyzingly pessimistic, and as too daunting a prospect. Indeed, Nietzsche calls it his "most abysmal thought" (*TSZ*, Of the Vision and the Riddle, 2; *EH*, TSZ, 6).

Of significance for the Ditto and my purposes is Nietzsche's return to this thought experiment in the third section of *Thus Spoke Zarathustra.* In "Of the Vision and the Riddle", Zarathustra recalls a vision in which he is walking along a mountain path when he encounters a dwarf, the Spirit of Gravity. The encounter allows Zarathustra to elucidate his abysmal thought of the eternal recurrence. Zarathustra and the dwarf find themselves in front of a gateway with the engraving of 'Moment' above it. The gateway is where two paths meet: eternity stretches behind, and eternity lies ahead. The dwarf replies, "Everything straight lies" […] "All truth is crooked, time itself is

a circle". Zarathustra angrily dismisses this. His conception of time is thus of a long path, stretching ever forward and behind into eternity. Everything that can run must have already run along the lane, and everything that can run must also run one again forward along the lane (*TSZ*, Of the Vision and the Riddle, 2).

A barking dog, a shepherd's dog, either wakens Zarathustra from the dreamlike vision or alters his perception of the vision. Zarathustra then encountered "a young shepherd, writhing, choking, convulsed, his face distorted; and a heavy, black snake was hanging out of his mouth" (TSZ, Of the Vision and the Riddle, 2). The snake had bitten down and become lodged in the shepherd's throat, and, despite the tugs of both the shepherd and Zarathustra, could not be pulled loose. Zarathustra implored the shepherd to bite the snake's head off. The shepherd did so and spat the decapitated snake's head clean out. The shepherd's reaction is to laugh:

> No longer a shepherd, no longer a man – a transformed being, surrounded with light, *laughing*! Never yet on earth had any man laughed as he laughed!
> O my brothers, I heard a laughter that was no human laughter – and now a thirst consumes me, a longing that is never stilled.
> My longing for this laughter consumes me: Oh how do I endure still to live!
> And how could I endure to die now!
> (*TSZ*, Of the Vision and the Riddle, 2)

The snake in the vision represents the eternal recurrence invoking as it does the ancient symbol Ouroboros, an already well-established symbol of infinity with a serpent eating its own tail. The shepherd choking on the snake must surely represent the inability to come to terms with, or to 'swallow', the idea of the eternal recurrence.

The image of the snake does invoke a certain danger, prejudiced as it is by Biblical connotations of the serpentine seduction of Eve. In *Hiking with Nietzsche: On Becoming Who You Are* (2018), John Kaag notes in how, for him, the eternal recurrence had been best understood by the Ouroboros symbol. "Vicious and all-consuming, eternity destroys and creates in equal measure. […] But perhaps the "eternal return" didn't always have to be bleak and sinister" (2018, p.75). Instead, Kaag draws attention to another ancient symbol: "Three rabbits, conjoined by interlocking ears, chasing one another in a perpetual merry-

go-round" (p.75). This rabbit symbol, or "three hares" symbol, is used by Kaag as an ornamental typographic device to mark section breaks throughout his book.

In the book, Kaag hikes the same routes to the Swiss peaks surrounding Sils-Maria where Nietzsche wrote *Thus Spoke Zarathustra* and first came upon the idea of the eternal recurrence. Weathered "three hares" symbols, Kaag observes, are carved in some farmhouses as you walk through Alpine valleys towards the mountains (2018, p.75). Although this is mere speculation, it is possible Nietzsche was aware of such a symbol from his hiking treks, but also due to its religious symbolism. As a son of a Lutheran minister, and with a strong theological background, Nietzsche may have been aware of the symbolism, which is not limited to Christianity. The earliest evidence of the symbol seems to be located in a network of fifth century Buddhist temples in caves in Northern China, but the symbol has been found in medieval places of worship from the Far East, across the Middle East, and to Western Europe, particularly Germany and England. It is theorised that the symbol journeyed along the famous Silk Road trading route in the form of textiles (Fleming, 2016).

There are many interpretations of the image - none definitive, which is perhaps the point. Often the hare has divine or magical associations due to its elusiveness and links to femininity and the lunar cycle. There is also a "theory of the Ancients that the hare was hermaphroditic and could procreate without a mate led to the belief that it could give birth to young without loss of virginity" (Chapman, 2018, no pagination) and has consequently been associated with the Virgin Mary. Rabbits and hares are also linked to fertility and rebirth, hence their association with Easter in the Christian tradition. According to Kaag,

> the three hares meant many things: recovery, fertility, tranquillity in motion, endless return. But the Buddhist hieroglyph also had a single meaning, simple and perplexing – a way of expressing the verb *to be*. Existence itself. Or maybe this is all wrong – still too serious and complex – and the "three hares" are just one's rising laughter when watching animals run in circles. (2018, p.217)

I raise this connection to the three hares to not only draw attention to yet more animal imagery, but also as a recognition of the shared urge of Nietzsche and

Kaag to temper the viciousness of the snake, and to make the idea of the eternal recurrence the "highest formula for affirmation" (Nietzsche, *EH*, TSZ, 1). Kaag experiences a "reassuring sense of their eternal return" (2018, p.217) when considering the playful hares rather than the self-devouring snake. Likewise, Nietzsche's response also embodies a playfulness. Whereas Kaag is soothed by the three hares rather than a daunting and difficult to swallow eternal recurrence, Nietzsche chooses to emphasise courage and laughter in the face of such an abysmal thought. Nietzsche's 'solution' is to raise up laughter to the level of the Superhuman. We can thus see Nietzsche's conception of laughter has followed a similar trajectory to his ideas for the human: "Man is a rope, fastened between animal and Superman" (*TSZ*, Zarathustra's Prologue, 4). Nietzsche's conception of laughter begins with the animalistic release of tensions and ends with Superhuman laughter.

By the end of *TSZ*, Zarathustra is "the laughing prophet" (*TSZ*, Of the Higher Men, 18) exhorting those 'higher men' "to play and mock" (*TSZ*, Of the Higher Men, 14) and to "learn to laugh at yourself as a man ought to laugh" (*TSZ*, Of the Higher Men, 15). Nietzsche's subsequent texts continue in this vain, in describing how to achieve this Superhuman laughter. "Every artist," Nietzsche claims in *On the Genealogy of Morals*, "first attains the ultimate pinnacle of his greatness when he can see himself and his art as subordinate to him, when he can laugh at himself" (*GM*, 3, 3). In *Beyond Good and Evil (BGE)*, in a chapter called *What is Noble?* Nietzsche takes aim at Hobbes for denigrating laughter describes laughter ('laughter is a bad infirmity of human nature which every thinking man will endeavour to overcome' (*BGE*, 294)), while exhorting a golden laughter, a superhuman way of laughing. That is, to laugh in the face of all that is serious and holy: A superhuman laughter would come "at the expense of all serious things! Gods are fond of mockery: it seems they cannot refrain from laughter even when sacraments are in progress (*BGE*, 294). These principles for Superhuman laughter will be carried across, along with the above lessons of Foucault's humour, to digital culture and to Ditto formulation of the Internet meme.

How does the eternal recurrence relate to digital flow, Ditto, and the meme? Nietzsche's eternal recurrence has two components: a physical and ontological

doctrine, and an ethical dimension as a moral principle (Grosz, 2004). Ontologically, Nietzsche's eternal recurrence takes as its skeleton his understanding of 19th century thermodynamics (Grosz, 2004, p.136) onto which Nietzsche hangs, what he believes would be, a corresponding implication for time. However, John Lippitt (1992) suggests "The most important point about eternal recurrence is not the ontological question of whether this is the way the world actually is. Nietzsche's predominant concern is rather with the individual who could affirm eternal recurrence" (p.40). Essentially, the eternal recurrence is a moral principle, or a way of living life well for the individual. The ideal would be to create such a joyous life for oneself and at the end courageously conquer death by proclaiming "Was *that* life? Well then! Once more!" (*TSZ*, Of the Vision and the Riddle, 1). Or in the Nietzschean words of W.B. Yeats, "I am content to live it all again" (Yeats, 2008, p.200). It is an affirmation of life, the whole of it not just the joyous but all the regrets, failings, and tragedies too. As Gunter suggests, to live well is only "possible to those who achieve a vantage point from which "tragedy itself no longer seems to operate tragically" and it is possible to laugh at "all tragic plays and tragic realities"" (Gunter, 1968, p.502).

Nietzsche considered eternal recurrence "the core of his prescription for life and health" (Grosz, 2004, p.137); it is a way of living well. Of the two components, the moral principle is the most convincing aspect (Lippitt, 1992; Grosz, 2004, p.147). This is not to say that the ontological doctrine is completely dismissed. Indeed, as Grosz (2004) suggests, the two components are intricately linked. However, it is the moral principle that is of most use for my purposes. Therefore, I recite Nietzsche's eternal recurrence not to necessarily make an ontological statement about the nature of the digital. Although, the 'everything-that-occurs-has-already-happened' logic of eternal recurrence may explain why some memes, including the DB meme, seem to be reminiscent of things seen before, a déjà vu, lending them a certain universality and authority. I intend, however, to use a similar moral principle of eternal recurrence applied to Ditto as a model for living well digitally. This is what makes Ditto a better way of thinking about digital cultural unit, the meme. It not only describes the replication process but also provides a 'prescription' for how to cope with that very process, the very existence in digital culture.

In a digital culture swimming in information, the volume of content and the repetition of memes can get exhausting. It can be daunting too, much like the prospect of eternal recurrence. It is difficult to confront this reality let alone escape. We feel caught in the digital flow, despite disillusionment. “The once fabulous aura”, Geert Lovink (2017) writes, “that surrounded our beloved apps, blogs, and social media has deflated. Swiping, sharing, and liking have begun to feel like soulless routines, empty gestures. We’ve started to unfriend and unfollow, yet we can’t afford to delete our accounts, as this implies social suicide” (p.1). Effective resistance is not forthcoming. Lovink continues, “since this [resistance] is not happening, we feel trapped and console ourselves with memes” (2017, p.1).

This ‘consolation with memes’ overlooks the different functions a meme may perform. Ditto’s role in this process is to not only realise a higher function but also the implicated and intertwined nature of the experience of digital culture. Lovink (2013) notes the “internet and smart phones are here to stay” (p.1); they will not be put back in their box. “They blend smoothly into our crisis-stricken neoliberal age, which is characterised by economic stagnation, populist anxieties, and media spectacles. The question no longer concerns the potential or the social media impact of “new media,” but how to cope with them” (p.1). “We” are part of the problem. “We” are *in* the problem. Extracting oneself, elevating oneself out of the situation is not realistic. Much like Braidotti’s Deleuzian inspired nomadic approach, what is required, then, is “a great effort of self-analysis […] You have to start from where you are at and acknowledge that you’re part of the problem, and then read the situation from there to become part of the solution” (Braidotti and Regan, 2017, pp.191-192).

Furthermore, consolation is not an accurate description, or rather it is not the complete description, for Ditto’s formulation of the meme. Once more, I turn to Nietzsche, specifically his ‘Attempt at a Self-Criticism’, a critique of his own *The Birth of Tragedy* (*BT*), in which he responds to the question of the value of pessimism. “Must the tragic man in that culture, trained through his self-education for seriousness and terror, not inevitably yearn for a new art of metaphysical consolation, tragedy” (*BT*, Attempt at a Self-Criticism, 7). Nietzsche responds that ‘No, this is not the necessary end point’. Rather than *metaphysically* console oneself

to tragedy, rather than console oneself to memes in the face of the inescapable trappings of the digital,

> you ought first to learn the art of *this-worldly* consolation - you should learn to laugh, my young friends, if you are determined to remain pessimists; perhaps as laughers you will consign all metaphysical consolations to the devil – and metaphysics in front of all the rest! Or, to say it in the language of the Dionysiac monster called Zarathustra:
>
> > Lift up your hearts, my brothers, high, higher! And don't forget your legs! Lift up your legs, too, good dancers, and even better: stand on your heads! This laugher's crown, this rosary crown: but I myself put on this crown, I myself pronounced my laughter holy. I could find no one else today strong enough for that.
> > Zarathustra the dancer, Zarathustra the light one, who beckons with his wings, poised for flight, beckoning to all the birds, poised and ready, blissfully flighty.
> > Zarathustra the soothsayer, Zarathustra the soothlaugher, not impatient, not unconditional, who loves leaps and caprices; I crown myself with this crown! This crown of the laugher, the rosary crown: to you, my brothers, I throw this crown! I pronounced laughter holy: you higher men, learn – to laugh!
> > (*Thus Spoke Zarathustra*, Part IV, 'On the higher man')
>
> (BT, Attempt at a Self-Criticism, 7, p.11-12)

Turning to the digital cultural unit of the meme, how does this superhuman laughter manifest itself? It is not enough that the DB meme, for instance, causes the users across social media platforms to laugh. Users may retweet a meme iteration with multiple Face with Tears of Joy emojis (😂) (e.g. Parton, 2018), post skull emojis (💀) meaning 'I'm dead' (i.e. the user is *dying* from extreme laughter), caption a Tumblr iteration "funny af" ("Funny as fuck"), or type with caps lock on, but this is not the kind of laughter that disrupts Ditto's transformation.

How do we make Ditto laugh the 'right' laugh? As Bassett suggests, "the focus is on finding and enabling resources in language" (2013, p.155). We should pun, we

should play with language, we should poke fun at the images. We should appropriate and repurpose the repetitions and inject them with a self-aware, self-referential humour. This is echoed by Braidotti's claim that, in the face of destabilizing rhetoric on the political stage, universities should teach students not to get depressed but to "become word craftsmen, literary engineers who make words matter in a world that liquefies everything because it's in meltdown" (Braidotti and Regan, 2017, p.184). For me, making Ditto laugh is similar practice. Rather than get bogged down, we're making the repetitions matter for us. As Braidotti suggests, the job to be done is "to inject a visionary, imaginative but not utopian energy into the world with words, texts, concepts, festivals and public engagements. We need to send out counter-codes" (Braidotti and Regan, 2017, p.191). These counter-codes, I would argue, echo the principles learned from Bassett, Braidotti, Foucault, Deleuze, and Nietzsche expressed above. They are polysemic, self-referential, and evasive, they laugh at themselves, and they are playful in the face of all that seems intolerable.

In terms of the DB meme, users began creating iterations which not only referenced other memes but referenced itself. The abundance of memes is turned into a laughter *at* the abundance. This laughter intends to disrupt, to shake the body, and to disturb the flow of the digital. In Fig.10, we see three instances of self-referential DB memes, or meta memes. One laughs at the structure of the meme format itself by flipping the image to highlight the "increased structural clarity of reading the meme left to right" (Fig.10) to coincide with the traditional way of reading, while another uses a stock image from the same series to poke fun at the inability to use the 'right' photo.

The final example combines the DB meme with the Galaxy Brain, or Expanding Brain, meme. The Galaxy Brain meme is "a multi-panel exploitable image series comparing the brain size of a person relative to other variables" (KnowYourMeme, 2022c). It is used to demonstrate a gradation of superiority with the top panels representing the base level of quality of a thing or idea. As the reader moves down through the panels, the thing or idea is 'upgraded', culminating in the final bottom panels representing the superior or most complex version of the thing or idea. The meme may also be used ironically, to mean the opposite.

In the DB-Galaxy Brain example, the iteration overloads the meme with multiple meme iterations. Other images in the stock photo series are used to create meme iterations referencing the original DB meme. In the final panel, the DB- Galaxy Brain meme iteration itself is reproduced as part of the most complex version of the DB meme. The iteration pushes the DB meme further and further, almost to the point of dissolution and nonsense. We can also discern that the position this meme iteration takes is, like Foucault's humour, elusive and evasive? It is playful, but it is also mocking. Certainly, it can be read as an indictment of the volume of memes. Is it mocking the DB meme, the Expanding Brain meme, both, or all memes?

These meme iterations only work because of the recurrence of the DB meme itself. Their function relies on the very replication they are mocking. They are laughing at the meme format, and by extension laughing at themselves. They have accepted the daunting recurrence of the DB meme, but rather than be crushed by the weight of the numerous iterations, they decide to laugh.

Figure 10. Self-referential or meta iterations of the DB meme.

2a) PROCESS (Consumption)

The digital process I am disrupting in this chapter, and its twin chapter 2b), is digital media consumption. I consider the flows of information and the structures shaping the use of the information, particularly the conceptual model of filter bubbles. This chapter engages with the metaphors used in the various conceptualisations and models used to describe the processes involved in the consumption of digital media content. I closely examine the conceptual model of filter bubbles (Pariser, 2011a). Following Donna Haraway, I argue that the metaphors, the stories, and the imaginaries that we use in digital discourse are important. Haraway claims, "it matters what stories we tell to tell other stories with […] It matters what stories make worlds, what worlds make stories" (2016, p.12). Why does it matter? It matters because, as the theoretical∞methodological framework made clear, the way we talk about something determines how we are capable of thinking about it.

1. How Has Digital Media Consumption Been Conceptualised in Media Theory?

There are numerous conceptualisations of the patterns of digital media use and the online structures shaping the information diets of users. The conceptualisations range in outlook from the more utopian perspectives of digital technologies increasing the democratisation of information and participation (Benkler, 2006; Jenkins, 2006) to the more critical readings which express concern with the processes of fragmentation and subsequent polarisation of public debate. These latter conceptualisations include reputation silos (Turow, 2011), cyber-Balkans (Van Alstyne and Brynjolfsson, 2005), information cocoons, enclaves, and echo chambers (Sunstein, 2001; 2007; 2017); and filter bubbles (Pariser, 2011a). The concerns on which these conceptualisations are based are often reactions to the "utopian rhetoric" (Papacharissi, 2002, p.9) of the early web and idealist readings of public interaction, some of which predate the current trends in online culture such as personalization and algorithmic recommendation systems.

An influential concept is Jurgen Habermas's notion of the public sphere which suggests that public opinion could be formed through informed discussion and rational public debate in a common domain of social life (Habermas, 1989; Papacharissi, 2002). The health of the public sphere, we are assured, is determined

by the quality of deliberation. Alongside the development of digital technologies, and specifically the Internet, were promises that these new technologies would increase democratic participation. It was argued that these new technologies would have the potential to "augment avenues for personal expression and promote citizen activity" (Papacharassi, 2002, p.9-10), thereby rejuvenating the public sphere. However, the notion of the public sphere is countered by Todd Gitlin's (1998) concept of public sphericules (1998). Gitlin questions whether the concept of *the* public sphere is still viable. He argues that the "public sphere is in trouble […] the unitary public sphere is weak, riddled with anxiety and self-doubt, but distinct communities of information and participation are multiplying, robust and brimming with self-confidence" (p.170). He asks, "does it not look as though the public sphere, in falling, has shattered into a scatter of globules, like mercury?" (Gitlin, 1998, p.173). These globules – the distinct communities of information and participation – are what he terms 'sphericules'. Gitlin's argument echoes Nancy Fraser's (1990) rethinking of the public sphere, in which she argues against a unitary public sphere and what is required is a "critical political sociology of a form of public life in which multiple but unequal publics participate" (Fraser, 1990, p.70).

The reasons my analysis begins with the public sphere and Gitlin's counter-conceptualisation are twofold. Firstly, it is a useful point to initiate thinking on the use of metaphor and, secondly, it encapsulates well a recurring problem in digital discourse on the process of digital consumption, which I argue is a misplaced circularity. By this I mean, the conceptualisations utilise the spatial metaphors of encompassing boundaries at the expense of temporal thinking. The point of the conceptualisations is the borders, which encircle and enclose. I argue the emphasis on spatiality in these metaphors is problematic, or rather, neglectful of a temporal circularity, a recursivity, exploration of which could provide a richer critique. Conceptualisations based on spatial boundaries tend to lock us into a linear thinking of cause and effect.

If we take a closer look at the notion of public sphere and Gitlin's counter-conceptualisation, it is easy to see why the sphere metaphor captures the imagination. The metaphor of the public sphere is a powerful one; it became the "God-term of democratic discourse theory" (Gitlin, 1998, p.168). Gitlin notes why the sphere is a prevailing image:

> The rounded sphere displays a perfect symmetry. The sphere looks the same from each point on its surface. It permits no privileged vantage point. No direction is superior to any other direction. On the surface of the sphere, each point is equal—equidistant from the center or, if one likes, equally marginal. Roundness, fullness, ripeness: the image of the public sphere conveys the sense of a planet, a fruit, something complete. The sphere in its perfection is, of course, an abstraction that nature only approximates; even the earth is flattened at the poles. Yet the sphere remains a Platonic form, easily identifiable and august. All spheres may be mapped onto all other spheres. (Gitlin, 1998, p.168)

While acknowledging that the image of unity represented by the single sphere is pleasing, it is the singularity of the public sphere with which Gitlin takes issue. Habermas' concept is proposed as *the* sphere rather than *a* sphere (1998, p.168). Indeed, Gitlin's critique leaves the shape of the sphere relatively unscathed. His argument is not with the shape, but with the number. His contribution is to offer more spheres, a plurality of publics. It is still spherical thinking.

It seems difficult at times to think in terms other than the sphere or, more broadly, the notion of being enclosed within boundaries in what could be described as natural and artificial approximations, echoing Gitlin. Indeed, these metaphors are reproduced in the conceptualisations of the effects of personalisation and recommendation systems - consider the conceptualisations I have previously mentioned: geographical borders, silos, cocoons, enclaves, chambers, and bubbles. Linguist George Lakoff would argue that with the continued use of this metaphor we are accepting the framing of the discourse (Lakoff, 2014), making any reframing and effective criticism difficult because the subsequent discourse has ceded to the terms of the metaphor.

It could be further argued that the conceptualisations I mentioned above are examples of 'container object' metaphors. The metaphor of containment is an ontological metaphor in which we understand something abstract, like the idea of public debate, in terms of something more concrete, something we recognise from our experience of everyday life, in this case a container: public debate *within* a sphere. Similarly, we understand the effects of personalisation and algorithmic filtering, for example, as placing us in silos, locking us inside bubbles, being safe

within cocoons. Thus, a container metaphor suggests the concept has an inside and an outside, and it also suggests the concept can hold something else.

Along with orientational metaphors (e.g. up-down, front-back), ontological metaphors, such as that of containment, are derived from the experience of the world. Ontological metaphors are derived from the experience of physical objects. We project our experiences into language. In *Metaphors We Live By* (2003), Lakoff and philosopher Mark Johnson note,

> We are physical beings, bounded and set off from the rest of the world by the surface of our skins, and we experience the rest of the world as outside us. Each of us is a container, with a bounding surface and an in-out orientation. We project our own in-out orientation onto other physical objects that are bounded by surfaces. Thus we also view them as containers with an inside and an outside […] But even where there is no natural physical boundary that can be viewed as defining a container, we impose boundaries – marking off territory so that it has an inside and a bounding surface – whether a wall, a fence, or an abstract line or plane. There are few human instincts more basic than territoriality. And such defining of a territory, putting a boundary around it, is an act of quantification. (Lakoff and Johnson, 2003, p.29)

As I will argue later, this act of territorial quantification which is determined by the use of the metaphor of containment, causes problems for analysis for how it limits our understanding. In the case of the filter bubble model, for instance, we will see that analysis gets stuck on this point resulting in a reductionist model of a closed system. Lakoff and Johnson further note that metaphors may "be a guide for future action. Such action will, of course, fit the metaphor. This will, in turn, reinforce the power of the metaphor to make experience coherent. In this sense metaphors can be self-fulfilling prophecies" (2003, p.156). This can be seen as akin to the accepting of the framing. Once more, this will play out in my discussion of the filter bubble model.

The problem for analysis is further confounded by metaphorical entailments. Entailments are what carries over from the source domain of the metaphor to the target domain, usually an abstract idea. According to Lakoff and Johnson, "metaphors have entailments through which they highlight and make coherent

certain aspects of our experience" (2003, p.156). A metaphor is chosen for a specific reason because the concrete source has a certain aspect we wish to highlight, but as we have rich knowledge of the concrete source domain some of this additional knowledge can get mapped across from the source to the target (Kövecses, 2010). Entailments can give metaphors internal consistency and coherence with other metaphors.

In this section, I work through the different metaphors of containment that have been used to describe the fragmenting effect of digital technologies, some of which specifically relate to the processes of personalisation and algorithmic filtering. Each metaphor of containment has a slightly different source domain and, consequently, different aspects from the knowledge of that source domain can be carried over. I do not argue that the containment metaphor for these conceptualisations is, in itself, wrong. On the contrary, it is and has been useful in highlighting particular aspects. Clearly there is something of use in the metaphor, a kernel of efficacy, for it to be repeatedly invoked. My point is precisely that it highlights certain things at the expense of others. It makes us think certain ways. I am asking: What does the containment metaphor highlight, downplay, and make us think about? What does it mean to be in the containers described by the digital conceptualisations?

In a broad answer to the above questions, the conceptualisations that tap into the containment metaphor almost all use it to force us to think about entrapment, constraint, and, ultimately, control. The conceptualisations establish boundaries and set up a dichotomy in which to be outside of the boundary is to be free from the effects while to be inside is generally considered to be, at worst, nefariously constrained, or, at best, protectively contained. Some conceptualisations tend to portray media as external to us; technologies, platforms and algorithms are portrayed as outside actors imposing containment upon hapless users. The conceptualisations also engage us in linear thinking; there is a strict yet simple chain of cause and effect. These themes will be explored more in the following discussion.

In a similar move to Gitlin, Van Alstyne and Brynjolfsson (2005) respond to an influential concept in the history of media studies which also has a resonance in digital culture. They invoke Marshall McLuhan's concept of the Global Village and respond with a conceptualisation of cyber-Balkanisation. In what can now be seen as prescient of the Internet, McLuhan described the Global Village as global

interdependence due to electric communication and the contraction of the world to the size of a village. This concept has been reduced to the idea that the world has been *unified* in a global village, as everyone living united in in friendly village community. Here we can see the same sense of completeness Gitlin identified in the sphere metaphor manifesting itself despite the nuance in McLuhan's original global village concept. McLuhan writes, "we live in a single constricted space resonant with tribal drums" (1962, p.31), but there is a tendency to forget everything after 'single constricted space'. In response to a reductionist critique of his concept, McLuhan notes,

> There is more diversity, less conformity under a single roof in any family than there is with the thousands of families in the same city. The more you create village conditions, the more discontinuity and division and diversity. The global village absolutely insures maximal disagreement on all points. It never occurred to me that uniformity and tranquillity were the properties of the global village […] The tribal-global village is far more divisive - full of fighting - than any nationalism ever was. Village is fission, not fusion, in depth […] The village is not the place to find ideal peace and harmony. Exact opposite. (McLuhan in Stearn, 1967, p.272; Gordon, 2010, p.24-25)

Although the title of Van Alstyne and Brynjolfsson's original 1996 conference paper (and their later 2005 article), 'Global Village or Cyber-Balkans?', somewhat misconstrues McLuhan's term and positions their concept almost as McLuhan's opposite, the concept of cyberbalkanization rather seems to extend McLuhan's thinking. Their conceptualisation of cyberbalkanization describes the division of online special interest groups (Van Alstyne and Brynjolfsson, 1996; 2005). The term is constructed from the two terms 'cyber' and 'Balkanisation', the latter referring to pejorative term for the fragmentation and factionalism of the states in the Balkan region of southeast Europe, while the former is used to suggest the processes have been created by and are driven by digital technologies.

The cyber-Balkan conceptualisation taps into what Lakoff and Johnson describe as one of the most basic human instincts: territoriality. It does assume the existence of a singular territory to be broken up in the first place. The metaphor of international borders, particularly in a region of the world that has experienced repeated division does potentially open our thinking to the arbitrariness of borders being continuously

redrawn to coincide with shifting power dynamics, but these aspects are neglected in the conceptualisation. The conceptualisation is useful in that it acknowledges the role of digital technologies in the fragmentation and polarisation of users. The appeal to Balkanisation builds into the metaphor a recognition of conflict between individual groups. The knowledge of the source domain (Balkanisation) carries over into the metaphor the pejorative or negative connotations of the term. Although Van Alstyne and Brynjolfsson's conceptualisation does acknowledge the great potential of the Internet for interaction, diversity, and connectivity, this is somewhat lost to the power of the metaphor.

To offer another example, Joseph Turow's reputation silos (2011), referring to the large cylindrical grain storage containers used in agriculture, are described as "automated packaging of commercial messages and editorial matter that present individuals with content—advertising, information, entertainment, and news—that has been customized to reflect the data mining's profiles of them" (Turow, 2011, p.118). They are personalized structures in which we – as individual online users - are surrounded by messages and worldviews based on the labels that advertisers and marketers have created. Our value as consumers is in these labels. This conceptualisation utilises the metaphor of enclosing users, of locking us in. It also makes the comparison between different economic resources: we consumers become like the grain in a silo - valuable as a commodity. There is a passivity to the users here too. Turow claims that these silos mean that there could be "sectors of your life labelled by companies you don't know, for reasons you don't understand, and with data that you did not grant permission to use" (2011, p.192). People are characterised as "unwitting pawns who are segregated by data-driven systems" (Webster, 2014, p.2), a characterisation that is echoed in Pariser's (2011a) filter bubble conceptualisation, as we shall see shortly.

In a now familiar move, Turow's conceptualisation is reacting to the optimistic vision of consumer power promised by the introduction of digital technologies, specifically Nicholas Negroponte's vision in *Being Digital* (1995) of *The Daily Me,* a newspaper in which the content would be customized and personalised by the consumer – a newspaper "printed in an edition of one" (p.153). In fact, the title of Turow's text, *The Daily You: How the New Advertising Industry Is Defining Your Identity and Your Worth* (2011), from which the "reputation silos" conceptualisation

is taken, is a reference to Negroponte's vision. To some extent, *The Daily Me* came to be realised in terms of personalisation but Negroponte did not envision the governing role algorithms, tech companies, and advertisers would play in this filtering process. Negroponte's *The Daily Me* conceptualisation hints at the danger of too much personalisation, envisioning a volume control knob or sliders to turn levels of personalisation, such as editorial tone, up or down. He notes that there are also times when the reader may wish to "experience the news with much more serendipity, learning about things we never knew we were interested in" (Negroponte, 1995, p.154).

Cass Sunstein has also been critical of idealistic Negroponte's optimistic prediction with each iteration of his *Republic* series opening with this vision of The Daily Me (2001; 2007; 2017). He provides several metaphors over the course of his consideration of fragmentation and polarisation: information cocoons, enclave deliberation, and, most prominently, echo chambers (2001; 2006; 2007; 2017). Echo chambers are the most famous of these terms attributed to Sunstein, and they will be discussed in conjunction with the main focus of this chapter, the filter bubble conceptualisation, due in part to their frequent use as synonyms. A critique levelled at Sunstein is that echo chambers are ill-defined (Weinberger, 2017). This is a critique that is echoed in the criticism of the filter bubble model.

Broadly, Sunstein's echo chamber concept twists the traditional 'utopian rhetoric' that digital media and the Internet enable people to find like-minded others into a concern that this homophily can go too far and lead to fragmentation, polarisation, and extremism. However, he does acknowledge that "not everything that looks like an echo chamber is one" (Weinberger, 2017, no pag.). With the aid of another conceptualisation tapping into the containment metaphor, he identifies the concept of enclave deliberation, which is "that form of deliberation that occurs within more or less insulated groups, in which like-minded people speak mostly to one another" (Sunstein, 2017, p.86). It is another conceptualisation that appeals to a geographical metaphor: an enclave is a territory that is surrounded or enclosed by foreign territory/ies. It is also "a group of people who are culturally, intellectually, or socially distinct from the majority of the population" (OED, 2022b). Unlike Balkanisation, there is not a negative connotation to the term. Sunstein argues that there is value in enclave deliberation as it "promotes the development of

understanding, knowledge, and positions that would otherwise be invisible, silence, or squelched in general debate" (2017, p.86-87). The case for enclaves is that they incubate new ideas and improve diversity and social deliberation. However, these benefits rely on enclaves speaking to each other and not becoming isolated. It is when enclave deliberation becomes too isolated it becomes a concern.

Sunstein often uses the terms information cocoons and echo chambers in the same breath. He defines information cocoons as "communications universes in which we hear only what we choose and only what comforts and pleases us" (2006, p.9). This suggests safe, "warm, friendly places where everyone shares our views" (p.9). Our knowledge from the metaphor source domain suggests that isolation from dissenting and differing opinions is self-imposed. Biologically, cocoons are constructed to protect caterpillars during the pupation stage of their life cycle. Given the lack of definition and the frequent mentions together, Weinberger suggests this self-imposed isolation could also be the case for echo chambers (2017). We can see a progression in Sunstein's concepts from enclave deliberation towards the more isolated and more problematic information cocoons and echo chambers, but of interest in these iterations is the inability to think outside of the containment metaphor of boundaries and enclosures.

This brings us to filter bubbles. The term "filter bubble" was coined by entrepreneur Eli Pariser in his book *The Filter Bubble: What the Internet is Hiding From You* (2011a). The phrase was further popularised when Pariser's TED Talk 'Beware of Online "Filter Bubbles"' (2011b) went viral online. Pariser explains the filter bubble through an anecdote:

> In the spring of 2010, while the remains of the Deepwater Horizon oil rig were spewing crude oil into the Gulf of Mexico, I asked two friends to search for the term "BP". They're pretty similar – educated white left-leaning women who live in the Northeast. But the results they saw were quite different. One of my friends saw investment information about BP. The other saw news. For one, the first page of results contained links about the oil spill; for the other, there was nothing about it except for a promotional ad from BP. (Pariser, 2011a, p.2)

Pariser made the term famous, however, we can see that the term is a development of processes that have long existed. Indeed, there is a conflation of some terms with the two prominent concepts 'echo chambers' and 'filter bubbles' are frequently used interchangeably. The two concepts are certainly related but are different. David Sumpter claims that "the difference between 'filtered' and 'echoed' cavities lies in whether they are created by algorithms or by people" (2018, p.137). This distinction seems more true of early iterations of echo chambers but Sunstein's most recent consideration, *#republic: Divided Democracy in the Age of Social Media* (2017), does recognise the role of algorithmic interventions in the filtering process, making the distinction more difficult to see and the concepts seemingly more entwined.

It is clear from the widespread use and scholarly attention that the filter bubble metaphor has been useful in making us think about the role technology plays in determining what users see and experience online. This was its purpose: the filter bubble model was designed to highlight the assumptions of online search and social media feeds and expose the potential risks of personalization and recommendation systems in an accessible manner. With a TED Talk (Pariser, 2011b) amassing millions of views and a 'popular nonfiction' book (2011a) for a wider audience than academics and scholars, in this sense, it was a model fit for purpose. Bernhard Rieder (2016) concurs as he claims Pariser's filter bubble model "has the merit of having introduced a broad audience to a phenomenon that is undeniably real and arguably significant: algorithmic procedures – and the larger configurations they are embedded in – have indeed started to '[transform] the world we experience by controlling what we see and don't see' ([Pariser, 2011] p. 48)" (Rieder, 2016, p.101). However, Axel Bruns questions whether this purpose has been surpassed and whether the filter bubble metaphor is still useful as a concept (2019a). Bruns claims that it has increasingly become "clear how much we are *hampered, misled and distracted* from more important questions by the metaphors of echo chambers and filter bubbles" (2019a, p.vi, my emphasis). I agree with his claim that the model makes us think about certain aspects at the expense of others and neglects important questions. To return to Gitlin's point, the roundness and abstraction of the sphere metaphor, in this case the bubble, conveys a completeness and a level of smoothness that doesn't leave enough room for nuance.

It appears Bruns' concern is less with the metaphor or imagery of the conceptualisations but with the lack of solid definition around the concepts, so his approach is to inject definitional certainty into them. He claims that both echo chambers and filter bubbles are ill-defined concepts. They are taken to be established concepts but with definitions varying widely from the generic to the context-specific (2019a, p.28). Consequently, he offers his own definitions suitable for social media:

> An **echo chamber** comes into being when a group of participants choose to preferentially *connect* with each other, to the exclusion of outsiders. The more fully formed this network is (that is, the more connections are created within the group, and the more connections with outsiders are severed), the more isolated from the introduction of outside views is the group, while the views of its members are able to circulate widely within it.
>
> A **filter bubble** emerges when a group of participants, independent of the underlying network structures of their connections with others, choose to preferentially *communicate* with each other, to the exclusion of outsiders. The more consistently they exercise this choice, the more likely it is that participants' own views and information will circulate amongst group member, rather than any information introduced from the outside.
>
> (Bruns, 2019a, p.29, original emphasis; also see Bruns, 2017)

Bruns thus distinguishes between the two concepts by emphasising the attributes of connection and communication. You will also notice that these definitions do away with explicit reference to algorithms and automated recommendation systems. Bruns suggests that we need to reject the technological determinism of the filter bubble concept (2019a, p.28), and thus he repositions "filter and recommendation algorithms as one, but not the only contributing factor that drives the emergence of echo chambers and filter bubbles" (p.28). This should be how personalization and algorithmic filtering should be conceptualised: as an entanglement of many actors and forces.

Reflecting on the purpose of his definitions, Bruns suggests that the echo chamber and filter bubble concepts "will continue to be used and misused by journalists, politicians, and the general public even if scholars abandon them" (2019a, p.33), which is a valid concern. Earlier in his text, Bruns makes the point

that the filter bubble has provided a handy slur, akin to President Trump's use of 'fake news', for politicians and commentators to throw at their opponents to imply they are out of touch with the mood of the public, a public comprised of real ordinary people outside the 'elite' (2019a, p.8). This use of the metaphor is unlikely to be given up merely in the face of scholars abandoning the term due to a lack of definitional rigor and the inability to produce empirical evidence. This is because of the everyday discourse or the circulation of 'capillary power', to invoke the language of Foucault. Bruns, however, suggests that, rather than abandoning them, scholars should instead "promote more precise definitions" and should "use these definitions to rigorously evaluate the claims" (2019a, p.33) of the concepts. There is an understanding of the concept that has been widely disseminated and has already captured the imagination of the public and indeed other commentators. Bruns' approach therefore relies on the ability of the 'precise definitions' to tame the common understanding. Arguably, the proverbial horse has bolted, has it not? If it is true that the misleading and distracting concept will continue to be used - an assertion I agree with – then, in this instance, it feels like to refine the definition is somewhat akin to nailing your revisions to the swinging stable door. Offering a redefinition is not necessarily going to allow the more important questions that have been ignored to be answered if the imagery and the metaphor itself doesn't allow us to think differently about the processes involved. The animal spirit approach on the other hand, recognises there was a purpose, and are even strengths, to the filter bubble metaphor, but also acknowledges it is problematic in other ways. I offer an alternative configuration of the processes, which opens up new ways of thinking, to evoke Deleuze, that were overlooked and even concealed by the filter bubble conceptualisation.

Bruns' desire for definitional certainty is a product of his quest for empirical evidence. The confusion surrounding the terms, Bruns argues, "does not aid our ability to develop methodologically sound and empirically rigorous tests for the existence and strength of echo chambers or filter bubbles" (Bruns, 2019b, p.3). Furthermore, it has been noted that the conceptualisations of audience attention and fragmentation, some of which I have presented here, often "depend on anecdotes or a theoretical model of how people are expected to behave to buttress their conclusions" (Webster, 2014, p.132). The filter bubble model, for example,

was initiated by Pariser's questioning of his friends differing online feeds, which suggests the "phenomenon is observable on the personal level" (Vaidhyanathan, 2018, p.90), but for Bruns this reliance on "little more evidence than hunches and anecdotes" (2019a, p.vi) is not sufficient. Consequently, for Bruns the question he asks in his title - *Are Filter Bubbles Real?* – can only by efficiently answered with objective observable evidence based on a positivist methodology.

However, the question of whether filter bubbles empirically exist is, to a certain extent, irrelevant for my purposes. The filter bubble concept can be said to exist as part of what Charles Taylor (2004) would call the 'social imaginary', by which Taylor means "the ways people imagine their social existence, how they fit together with others, how things go on between them and their fellows, the expectations that are normally met, and the deeper normative notions and images that underlie these expectations" (Taylor, 2004, p.23). Taina Bucher takes up this idea of the imaginary but reconceptualises it in her notion of the 'algorithmic imaginary' (Bucher, 2017; 2018, p.113). For Bucher, the algorithmic imaginary is what "emerges in the public's beliefs, experiences, and expectations of what an algorithm is and should be" (2018, p.114). The filter bubble is not an algorithm itself but rather the effect of a confluence of multiple algorithmic processes. It is a model which helps to describe the everyday encounters users have with the work that algorithms perform. Therefore, much like the 'algorithmic imaginary', I argue that the filter bubble model exists as a prominent means by which people understand the assemblage of socio-material relations that comprise digital culture.

According to Taylor, the way people imagine social reality is "carried by images, stories and legends" (2004, p.23) rather than social theories. We can see that the personal stories and 'hunches and anecdotes' that Bruns would dismiss as insufficient proof of the concept, are in fact significant in a "generative and productive sense" as they enable users to understand the relationship "with one's lived presence and socio-material surroundings" (Bucher, 2018, p.123). We might say that the filter bubble model is a kind of 'storying', to evoke Donna Haraway (2016); a storying of how algorithms help to shape the experience of the digital. The anecdotes and conjectural evidence based on personal stories do not stand alone in Pariser's formulation of the filter bubble effect, nor in the

algorithmic imaginary. In his book, Pariser interviews executives (2011a). He also uses publicly released communications such as conference talks and blog posts from engineers and executives at Internet giants such as Google and Facebook. The content of these communications provides reasons for joining or for using their sites; it is 'part of the pitch', so to speak. They want users to take their explanations at face value. The power of the filter bubble model is that Pariser uses their own explanations of how they function to suggest a reasonable potential consequence of these actions. As Siva Vaidhyanathan claims, we are prepared to believe in the existence of the filter bubble phenomenon because social media companies and search giants like Facebook and Google "tell us what their companies do. They tell us – roughly and without precision or clarity – why we see certain content and not other content" (2018, p.94).

One reason why the filter bubble model is a particularly powerful storying and has been able to capture the attention of scholars and commentators critical of social media platforms, in particular, is the way the argument for the filter bubble model has been constructed. These companies are caught in a peculiar situation where they simultaneously need to convince their users they have the power to deliver on what they promise, and consequently justify their huge financial worth, but also argue that their algorithms and modes of operation are not powerful enough to have the kind of influence that their own promotional content suggests they do, and thereby not be accountable for any potential consequences. We can see this dilemma play out in the study by Facebook researchers to be discussed shortly.

Following Marilyn Strathern, Haraway reminds us, "it matters what ideas we use to think other ideas (with)" (Haraway, 2016, p.12). She continues:

> It matters what matters we use to think other matters with; it matters what stories we tell to tell other stories with; it matters what knots knot knots, what thoughts think thoughts, what descriptions describe descriptions, what ties tie ties. It matters what stories make worlds, what worlds make stories. (2016, p.12)

Thus, the question that Bruns uses as the title of his work is, for me, the wrong question. The question is not 'are filter bubbles real?' because, in this imaginary

sense, they are very real, but rather the questions I would ask are ‘what do filter bubbles makes us think about?’, ‘what does the model do for the storying of digital culture’, or ‘how does the filter bubble metaphor shape digital discourse?’ Nevertheless, there are times in the following critique of filter bubbles when I will engage with the research of those scholars, such as Bruns, whose work is concerned with the empirical evidence of the existence and strength of filter bubbles. I do this only insofar as it is necessary to pull out themes and problems which can subsequently inform my conceptualisation.

1.1. Filter Bubble Critique

In this next section there will be a more sustained critique of filter bubble conceptualisation. However, as is suggested above, I approach my critique not from an empiricist perspective but from a perspective that questions what the metaphor does to digital discourse. In this critique, there are four interconnected facets which build on each other: (1) The algorithms which supposedly create the filter bubble effect are to a certain extent *unfathomable* without transparency on the part of the companies who use them; (2) The filter bubble metaphor is *reductionist,* creating a technological determinist model; (3) The model suggests *a closed system,* and consequently; (4) the model *doesn’t sufficiently allow for change*. There are more critiques folded within the discussion, but this is the path the critique will take.

i) Unfathomable

There are several layers to this first critique that I have broadly categorised as filter bubbles being unfathomable. The first layer suggests that the data required to measure the filter bubble effect is difficult to attain. Writing in the context of the filter bubble effect on Facebook, Siva Vaidhyanathan argues that “the power of filter bubbles remains unmeasured and perhaps unmeasurable, despite many efforts to do so” (2018, p.90). Vaidhyanathan continues, “it’s almost impossible to measure the effects of the filter bubble without access to user data that only Facebook has” (p.90). Here, Vaidhyanathan is referring to the proprietary nature of data that social media companies hold which limits who can access the data and, consequently, what research can be done.

An infamous study by Facebook researchers Bakshy, Messing and Adamic (2015) published in *Science* claimed that "compared with algorithmic ranking, individuals' choices played a stronger role in limiting exposure to cross-cutting content" (p.1130). In this context, cross-cutting content is content that a user is less likely to agree with (Sandvig, 2015); it is content that "cuts across ideological lines" (Bakshy et al. 2015, p.1130). Their study does not dismiss the role of algorithms entirely but suggests that the effects are lighter than commonly thought (Vaidhyanathan, 2018 p.91). Ultimately, Bakshy et al. suggest, "the power to expose oneself to perspectives from the other side in social media lies first and foremost with individuals" (Bakshy et al., 2015, p.1132). Pariser critiqued the study as he argued ultimately "Facebook gets to decide what studies get released, and it's not possible for an independent researcher to reproduce these results without Facebook's permission" (Pariser, 2015, no pag.). Vaidhyanathan makes the same argument regarding the Bakshy et al. study (Vaidhyanathan, 2018, p.90-91). I will return to a more in-depth critique of this study later, however, for now what is important is the fundamental unknowability of the filter bubble phenomenon because any research relies on access or, at the very least, transparency on the part of social media companies, which is unlikely to be forthcoming.

Given this lack of access and transparency, it is understandable for Bruns (2017) to turn to network analysis. Bruns can claim his approach provides evidence as to the existence and strength of filter bubbles because he has adapted the definitions of filter bubbles and echo chambers to fit what is capable of being shown through network analysis. He uses network analysis to see the connections between Twitter users – who is connected to whom (echo chambers), and who communicates with whom (filter bubbles). This is not to say Bruns' work is not useful or carefully constructed but rather that it is a partial claim which seems to hide its artificiality under the guise of objectivity.

Furthermore, the problem with an empirical approach such as this is that it assumes filter bubbles are a purely technological phenomenon. While it is true that the filter bubble effect is 'to do with' technology, the process it describes is actually how technology influences the affective everyday experiences of users. What network analysis does not show are these more affective experiences. What

is the affective experience of connecting across divides and of encountering cross-cutting content? Such a network analysis seems to miss how the users are discussing posts. Do users retweet content with their own comment, for example? These questions are not well served by the empirical approach.

Bruns would, and does, argue that the original definitions are too vague and lack sufficient rigour for a platform specific analysis – Twitter, in Bruns' case – so the definitions must be redefined. Bruns criticises the vague definition provided by Pariser for the filter bubble phenomenon, and Cass Sunstein for echo chambers too, because they "remain somewhat of a moving target in both public discourse and scholarly inquiry" (Bruns, 2019b, p.3). He critiques Pariser and Sunstein because they have "pivoted [their] subsequent writings from a concern with search engines as the driver of filter bubble formation to a focus on social media platforms and their algorithms" (Bruns, 2019b, p.3). Bruns considers this a strike against the concepts but it is possible that this is a strength. I would argue that the approach encapsulated by Bruns misses the virtue of versatility and the value of conceptual flexibility. Pariser, and Sunstein, seem to put forth concepts that are responsive to change. In a digital media environment with a high pace of change, an adaptable yet still recognisable concept is useful. If filter bubbles are *only* an empirical phenomenon, then the definitional ambiguity may indeed be problematic, but if we also consider them as a kind of imaginary or storying, as I have suggested, then the versatility allows the premise of the storying to survive without the need for numerous concepts and separate site-specific definitions. The versatility grants the warning at the heart of the concept, that is, the power of social media companies to shape our information diet, a degree of longevity in the face of changing technologies, trends, and terrain. This is a characteristic that I can pull out for my own conceptualisation.

The second layer to the first critique of unfathomability is that not just the data but the algorithms themselves are unknowable. The algorithms that construct the filter bubble effect are said to be "impenetrable and secretive, concealed behind a "veil of code" and trade law (Perel and Elkin-Koren, 2017)" (Bucher, 2018, p.41). This phenomenon is commonly known in science and technology studies (STS) as 'black boxing', a term which refers to the black boxes in an engineer's

technical drawings used to denote that the operations within are ‘opaque’, we only know the inputs and the output.

Why is this important? Essentially, the argument goes: ‘if we cannot ‘see’ the algorithms, then how can we be sure about what they are actually doing?’. Taina Bucher encapsulates why the notion of black boxing is problematic, as she argues that it fundamentally represents something ‘unknown’, which runs counter to the Enlightenment ideals of science and rationality. Bucher claims the black box is “deemed problematic because it obscures vision and, ultimately, undermines the Enlightenment imperative *aude sapere*: “‘dare to know,’ ‘have the courage, the audacity, to know’” (Foucault, 2010:306)” (Bucher, 2018, p.44). Thus, the common refrain to encountering black boxes is to open them up (e.g. Pasquale, 2015), to shine a light on them, and to make them transparent, in the hope of attaining knowledge and, eventually, accountability. Similarly, there is a desire to know what filter bubbles actually look like, which leads to attempts to map and visualise them (e.g. Kelly and Francois, 2018). This emphasis on the visual is reflected in the language used in the so-called ‘algorithmic turn’, such as transparency. All this is part of a broader epistemological claim and, indeed, the final layer to this first critique of unfathomability, which will be picked up again in section 2 of this chapter.

However, there is a difficulty in opening black boxes of algorithms. Besides, the technical competencies required to understand the operations and interactions of all the algorithms, Bucher also gestures towards the obstacle of law and the proprietary nature of the technology. As Bernhard Rieder would say, the algorithms are “protected both by technical and legal door locks” (2005, p.28). Furthermore, there has been a turn away from the virtue of transparency of algorithms, or rather, there are complications and nuances to the argument for seeking it (Reddy et al., 2018; Ananny and Crawford, 2018). Reddy, Cakici and Ballestero, for example, argue that

> adopting an approach that builds uncritically on enlightenment epistemologies that assume that ‘‘*seeing* a phenomenon creates opportunities and obligations to make it accountable and thus to *change* it’’ (Ananny and Crawford, 2018: 2, emphasis theirs) is not sufficient.
> (Reddy et al., 2019, p.2)

Bearing this in mind, we can sense a broad unfathomability to algorithms and filter bubbles themselves that seems to be in no danger of changing. We could instead shift our understanding of the filter bubble model. The filter bubble model could instead be seen as a way of reconciling, as best we can with the knowledge we have and with what we can infer, all the 'facts' that have been communicated about algorithmic filtering. These facts and knowledge include the notion that algorithms (and the platforms that employ them) are powerful, they are inscrutable, and perform their work invisibly. These are themes we should therefore feel and draw attention to with our further conceptualisations.

ii) Reductionist

This unfathomability leads into the part two of the critique: the filter bubble model is too simplistic. To a certain extent, this appeal to simplistic or reductionist models is an inevitability due to the knowledge gaps described above. The filter bubble concept becomes an approximation. As I suggested above, it is a way of reconciling, as best we can, all the 'facts' that have been communicated about algorithmic filtering.

Simplistic models are often effective in engaging the imagination. The simplistic understanding of the filter bubble model argues that algorithms and the social media companies that employ them are to blame for fragmentation and polarisation. The simplicity of this argument is powerful. Here, I return to the infamous Bakshy et al (2015) study. Although I am less interested in the empirical results and more in the framing of the study, I must briefly explain what the study asserts and specifically the criticism of the study's use of comparison in order to build to my argument regarding the framing. Due to the status of the authors as Facebook researchers, Bakshy et al were able to analyse the activity of 10.1 million Facebook users who identified their political affiliation between 7 July 2014 and 7 January 2015. The study is much criticised by data scientists and researchers for many reasons including 'burying the lede' (Tufekci, 2015), the limitations of sampling which leads to the overstating of conclusions (e.g. Hargittai, 2015), and the aforementioned use of comparison (e.g. Sandvig, 2015; Jurgenson, 2015). Bakshy et al suggest that "compared with algorithmic ranking, individuals' choices played a stronger role in limiting exposure to cross-cutting content" (2015, p.1130). Data scientists criticised this

attempt to compare findings because they are not comparative but are additive (Tufekci, 2015; Jurgenson, 2015; Sandvig, 2015). Bakshy et al suggest that Facebook's algorithms measurably reduce cross-cutting content. According to Sandvig, "the algorithm ***filters out 1 in 20 cross-cutting hard news stories*** that a self-identified conservative sees (or 5%) and ***1 in 13*** cross-cutting hard news stories that a self-identified liberal sees (8%)" (Sandvig, 2015, no pag., emphasis in original). The Facebook researchers then reports "a *separate* finding that individual choice to limit exposure through clicking behavior results in exposure to 6% less diverse content for liberals and 17% less diverse content for conservatives" (Tufekci, 2015, no pag., emphasis in original).

Bakshy et al draw this comparison in order to conclude that "the power to expose oneself to perspectives from the other side in social media lies first and foremost with individuals" (Bakshy et al., 2015, p.1132). What is important here is the framing, and I argue this partly comes down to the success of the filter bubble model. The filter bubble model has a simple common understanding: that algorithms work invisibly to influence information consumption. Their study in fact proves that the algorithms modestly suppress content diversity (Tufekci, 2015) but the framing of this study attempts to shift the blame back onto the users; it is an attempt to avoid accountability. Indeed, Sandvig dubs the Facebook research the "It's Not Our Fault" study (2015, no pag.). While Jurgenson makes a broader claim that the study represents Facebook's attempt to deliberately evade responsibility for its own journalistic role in news production and consumption (2015), I suggest that it can also be seen as an attempt to push back against the popularity of conceptualisations such as the filter bubble. As Jurgenson claims, "power and control are most efficiently maintained when they are made invisible" (2015, no pag.). However, as Pariser's filter bubble concept was a warning of the invisibly working algorithmic filtering and this warning has been embraced and spread, the 'power and control' have become more visible. The study attempts to disguise the processes once more.

Despite the power of simple models, they are nevertheless reductionist. Naturally, a reductionist approach reduces the complexity of phenomenon and processes to emphasise certain aspects at the expense of others. (This links into the third critique which I will get into shortly.) In this case, the filter bubble emphasises

the power of algorithms and technology which leads to the critique of technological determinism. It should be stated that Pariser's original filter bubble model does have more nuance but the popular understanding of the model that exists in the social imaginary planes this down; smoothing out the complexity into a simpler model. The simple filter bubble model too easily allows the blame to fall at the feet of technology. The argument, Sebastian Meineck (2018) suggests, is a "desperate attempt to make technology responsible for such social problems" (no pag., my translation) as fragmentation and extreme polarisation. As already stated, Bruns (2019a) argues that we must reject the technological determinism of the filter bubble model. He argues, "we cannot absolve ourselves from the mess we are in by simply blaming technology" (p.7). Here, is where Bruns' and my own thinking align.

The technological determinist filter bubble model suggests it is "monstrous online platforms that perfidiously push their helpless visitors into opinion bubbles" (Meineck, no pag., my translation). This is an argument which robs online users of any agency. This is not to say that it is the fault of the users either, which is what the Facebook study attempts to argue. My conceptualisation should avoid technological determinism but also needs to be wary of swinging too far in the opposite direction which raises the risk of being labelled naïve to the influence and impact on technology. As Vaidhyanathan notes, "the arguments about whether the filter bubble exists or how much it matters too often get bogged down in a false dichotomy: is it the fault of technology or is it the fault of humans? The answer is always yes" (2018, p.91). There is an urge to argue, then, that what is needed is a conceptualisation that acknowledges both the influence of algorithms and the agency of the user but also does not absolve the technology and online giants of responsibility. However, the trap here is on thinking that there needs to be *one* conceptualisation. As I have shown (and will continue to show), in addition to legitimate problems with the filter bubble model, there are strengths in what it does and what it makes us think about. So, my conceptualisation just needs to offer something else; it must make us think differently about the processes of consuming information, personalisation, and algorithmic filtering. A conceptualisation that emphasises another aspect of the underlying processes can sit alongside the filter bubble model.

It is worth noting that this idea of multiple conceptualisations can be seen in Pariser's original book. The bubble is not the only metaphor Pariser uses, although he uses it most frequently. Pariser notes that "one of the best ways to understand how filters shape our individual experience is to think in terms of our information diet" (Pariser, 2011a, p.14). He quotes danah boyd's speech at the 2009 Web 2.0 Expo:

> Our bodies are programmed to consume fat and sugars because they're rare in nature….in the same way, we're biologically programmed to be attentive to things that stimulate: content that is gross, violent, or sexual and that gossip which is humiliating, embarrassing, or offensive. If we're not careful, we're going to develop the psychological equivalent of obesity. We'll find ourselves consuming content that is least beneficial for ourselves or society as a whole. (boyd quoted in Pariser, 2011a, p.14)

Later, Pariser combines this idea of information diet with an animal analogy as he compares the food-seeking behaviour of mice with our habits of information consumption. "Mousetraps work", Pariser claims, "because mice generally establish food-seeking route within ten-feet of where they are, returning to it up to thirty times a day […] Most of us are pretty mouselike in our information habits" (2011a, p.223). I mention this because it neatly feeds into my own conceptualisation and prefigures my own use of ingestion.

iii) Closed System

This next critique is heavily linked to the critique of the filter bubble as a reductionist model in that it is concerned with what the metaphor makes us think about at the expense of other aspects. The third critique is that the bubble conjures the idea of a closed system (Webster, 2014, p.132). This is exacerbated by rhetoric that envisions algorithms as "locking us in or hermetically sealing us off from alternative perspectives" (Beer, 2019, p.26), which further fuels the technological determinist criticism. Filter bubbles are not alone in conjuring ideas of a closed system. As I have shown above, they are accompanied by a long line of conceptualisations that invoke the same idea. These spatial conceptualisations were never meant to be thought as truly impenetrable. Turow, for instance, states, "of course, reputation silos *will never be hermetically sealed*. People will see

other choices, and the serendipity of meeting untargeted, unlikely content will remain" (2011, p.196, my emphasis). Writing about Facebook and filter bubbles, Vaidhyanathan feels "it's important to note that *no filter bubble is sealed*, and no News Feed is exclusively limited to interests expressed by the Facebook user. *Sometimes surprises puncture the bubble*" (2018, p.6, my emphasis). Despite these assertions, the force of the metaphorical imagery repeatedly drives this misunderstanding that they are closed systems. Furthermore, the (mis)understanding of these conceptualisations as hermetically sealed systems with an assumed nonporous barrier wall or bubble 'membrane' leaves the concepts open to an easy critique. Empirical studies need only show evidence of some cross-cutting content to undermine the argument. This is the weakness of the spatial metaphor. It is now time we abandon the metaphor in favour of a conceptualisation that emphasises something different.

The metaphor of the bubble is also problematic when it comes to 'solutions' to the problem of the closed system. The common refrain in response to the filter bubble is that we need to 'burst' or 'pop' the bubble (e.g. Tait, 2016; Pariser, 2012). This idea has also been taken up by the academic community (e.g. Resnick et al., 2013). However, I argue we are not well served by the imagery of the bubble. It gives an unrealistic expectation of how easy it is to mitigate against algorithmic filtering. Consider a soap bubble, for instance. They are light and fragile. They are easy to puncture. This lulls us into thinking that the process of bursting the filter bubble will be easy; the imagery belies the difficulty of the process. The metaphor of the bursting bubble also suggests the solution is a one-off event. Once a soap bubble is burst, they stay burst.

iv) Static

The final critique builds on the previous critiques as I suggest that the filter bubble concept is too structurally, ideologically, and temporally static. As a result of filter bubbles being reductionist and conjuring ideas of a closed system, the model does not adequately account for change and/or growth. The model does not adequately describe what happens when users do encounter content that does not fit with their world view because in the model this kind of content should not make it past the filter bubble 'membrane'. Of course, this depends on how the filter bubble effect is articulated. There are subtleties in how the effect is phrased.

A basic articulation suggests that the algorithms show users what they might *like*, determined by the decisions the users made previously. It is a prediction of future behaviour based on past behaviour.

2. How Else Could Digital Media Consumption Be Conceptualised?

From the above critiques, I can pull out themes which inform how the process of digital media consumption should be conceptualised. Pulling in what I have learned from the analysis of filter bubbles above, I begin with a critique of vision and gesture towards another kind of comprehension. This new comprehension is entangled with Donna Haraway's tentacular thinking.

I begin by returning to the first critique. There is a final layer, a broader epistemological point, which the two layers of unfathomability speak to. My use of the term unfathomability has been deliberate. With its etymology, the term prefigures my use of Donna Haraway's tentacular thinking as well as my own conceptualisation. As Melody Jue (2020) reminds us by quoting the marine biologist and explorer Sylvia Earle, the root word 'fathom' derives from "the Old English faethm, meaning 'the embracing arms.' It was once defined by an act of Parliament as 'the length of a man's arms around the object of his affections,' and later became a nautical term for six feet. As a verb, 'fathom' means to plumb the ocean depths, to probe their mystery" (Jue, 2020, p.65). It is now also used in the figurative sense meaning "to get to the bottom of, dive into, penetrate, see through, thoroughly understand" (OED, 2022c) or to comprehend (another word with grasping etymology). We should also note here that there is a dogged persistence of sight and vision ("see through") which breaks through even when there is an emphasis on a different sensory mode of touch. I could equally have used the term ungraspable, but as fathom is commonly used in a nautical context and, thus, the use of unfathomability evokes the ocean, it aids the flow of my argument. It helps when I later submerge myself as I reach for and embrace the animal spirit figure which I offer in Chapter 2b), a conceptual figure that recognises the unfathomability, a figure that encapsulates both the desire for knowledge and the inherently unknowable.

The two layers to the critique of unfathomability can be broadly seen as a critique of knowledge, or more specifically the inextricable link between knowledge and vision. This link is reflected in the language we use and the metaphors we deploy. As Lakoff and Johnson note, metaphors structure our conceptual understanding. They note the metaphors 'Understanding is Seeing'; 'Ideas are Light-Sources';

'Discourse is a Light Medium' along with common expressions that are cases of this metaphor: "I *see* what you're saying […] The argument is *clear*. It was a *murky* discussion. Could you *elucidate* your remarks? It's a *transparent* argument. The discussion was *opaque*" (p.48, emphasis in original). Similarly, in their text *Philosophy in the Flesh* (1999), the above metaphors are expressed as 'Knowing is Seeing'. They note that a lot of our knowledge is attained through vision, and so our conceptual system is vision oriented. Consequently "our language about our mental activity is thus pervaded with expressions based on this underlying vision metaphor" (p.354).

The language sets up a dichotomy: clear, transparent, light = good; dark, obscure, murky = bad. We have seen this play out in the discussion of algorithms as black boxes needing to be *opened* and *transparency* being required for algorithmic accountability. It also plays out in Bruns' desire for definitional certainty. Fred McVittie (2015) notes that the phraseology of 'good science' attempts to figuratively place oneself in a "clear space offering unimpeded views" (p.72). This phraseology is characterised as 'unbiased', standing at a distance', and 'hygienically clean' (p.72-73). In this we can see the tying of other positive traits of health and hygienic cleanliness to the light=good dynamic, thereby reinforcing the metaphor in our conceptual system. Bruns' desire for robust, clear and specific definitions can be seen as a "pursuit of a hygienically clean language", in the belief that it will construct "a similar clean, clear, open space in which the object of knowledge may appear visible" (McVittie, 2015, p.73).

What is important is that our conceptual understanding of knowledge is embodied. However, I will argue that this embodiment is made more complicated by the vast amount of information, digital technology and, in this case, algorithmic filtering, resulting in the need for a way of thinking differently. It is difficult to think outside of our body, and consequently it is difficult to shed the reliance on vision because it is so embedded in language. Indeed, as I mentioned above vision even breaks through metaphors based on a different sensory mode. Earlier in this chapter, expressions of vision related to knowledge were utilised in my own argument. For instance, I noted that "I offer an alternative configuration of the processes which *opens up* new ways of thinking, to evoke Deleuze, that were *overlooked* and even *concealed* by the filter bubble conceptualisation" (p.99

of this thesis, my emphasis). The new way of thinking made possible by thinking through the figure of the animal spirit, does not replace the 'Knowing is Seeing' (Lakoff and Johnson, 1999) metaphor but should be thought alongside.

The linking of knowledge and vision is not in itself necessarily problematic, but rather when it is tied to claims of objectivity. Donna Haraway's concept of 'situated knowledges' (1988) is useful here to think how we should conceptualise algorithmic filtering in digital media consumption, and to also begin to lay the groundwork for extending this thinking. In her 1988 essay *Situated Knowledges: The Science Question in Feminisms and the Privilege of Partial Perspective*, Haraway puts forth the idea of situated knowledges, which argues for "the view from a body, always a complex, contradictory, structuring, and structured body" (1988, p.589). Thus, situated knowledges are always *partial*; there is no one definitive knowledge position.

In the essay, Haraway reclaims the "much maligned sensory system" of vision from how it "has been used to signify a leap out of the marked body and into a conquering gaze from nowhere" (1988, p.581). The *persistence* of vision is not necessarily the trouble but the *privileging* of a certain kind of vision, a disembodied vision. Haraway calls this disembodied vision "the god trick" (1988, p.581). It is a "sleight of hand through which a visual metaphor is transformed into a claim for omniscience" (McVittie, 2015, p.74).

The desire to *see* the filter bubble effect through visualisations, and to prove the existence through objective and empirical research can be seen as enacting this trick. The construction of the filter bubble metaphor – how algorithms work invisibly to create boundaries - forces our hand. It makes us think we are required to 'stand at a distance' (McVittie, 2015) in order to see the phenomenon. From this distance and following the Enlightenment ideal in which scientific rationality illuminates an obscuring darkness to reveal a Truth - an en*light*ening -, the empiricist approach takes the filter bubble effect to be an 'object' that needs to be discovered and so endeavours to not only reveal but also capture and hold it in the moment of visualisation or network analysis. However, as Haraway notes, the "codes of the world are not still, waiting only to be read. The world is not raw material for humanization […] In some critical sense that is crudely hinted at by

the clumsy category of the social or of agency, the world encountered in knowledge projects is an active entity" (p.593).

Haraway's critique comes in response to technological advancements to human vision. Since the publication of her '*Situated Knowledges'* essay over three decades ago, Haraway's claim that "visualising technologies are without apparent limit" (p.581) has been proved correct. Digital technology not only helps to visualise but produces and collects masses of information. A symptom of the digital age, we are told, is that there is an abundance of information to the point of overload; there is a deluge of data. Yet, we are determined to remain with vision as the primary conceptual metaphor for knowledge, even though there is more information than can possibly be visualised let alone comprehended. So, what should we do when the primacy of vision fails us, and it is not possible to know everything?

I am reminded of the opening to H.P Lovecraft's famous 1926 story, *The Call of Cthulhu*:

> The most merciful thing in the world, I think, is the inability of the human mind to correlate all its contents. We live on a placid island of ignorance in the midst of black seas of infinity, and it was not meant that we should voyage far. The sciences, each straining in its own direction, have hitherto harmed us little; but some day the piecing together of dissociated knowledge will open up such terrifying vistas of reality, and of our frightful position therein, that we shall either go mad from the revelation or flee from the deadly light into the peace and safety of a new dark age. (Lovecraft, 2002, p.139; also quoted in Bridle, 2019, p.11)

James Bridle quotes this passage and uses the final phrase as the title for his text, *New Dark Age: Technology and the End of the Future* (2019). I invoke Bridle's use of Lovecraft here for the stylistic reason as there is an echo of Lovecraft's tentacled faced monster-god Cthulhu in my upcoming use of Donna Haraway's tentacular thinking but also to progress the epistemological argument I have been making. Bridle invokes Lovecraft in order to make an epistemological claim about the quantity and complexity of information that is available. The darkness, Bridle writes of, is not supposed to be an "expression of nihilism or

hopelessness"; it is not a "literal darkness" or "an absence or occlusion of knowledge" but Bridle suggests it refers to "both the nature and the opportunity of the present crisis" (2019, p.11). He hopes that through acknowledging the darkness, and with it acknowledging the inability to act meaningfully on what is in front of us, we might be able to "seek new ways of seeing by another light" (2019, p.11). He argues that to survive in the new dark age we need "the ability to think without claiming, or even seeking, to fully understand" (p.6). There will be times when we cannot fathom enough about our experience, but this must not stop us thinking.

While I agree that we cannot know everything, as I have shown in the above filter bubble critique, and that we must find ways of working and living in the 'darkness' (i.e. the inability to know what is in front of us), Bridle's assertion that we seek another light to see by seems to return us to the kind of thinking I would like to think about differently. It falls back into the comfort of 'knowing as seeing'. I suggest we can embrace to opacity of darkness through thinking through different sensory mode(s). However, I acknowledge that the visual metaphor is so dominant in our conceptual system that it is unlikely that it is possible for it to be removed entirely from epistemological claims. For me, we do not need a new light, but new eyes - eyes that are like ours but also not. But it is also not *only* new eyes that are required; we need new eyes *as well* as a new sensory mode.

2.1. Tentacular Thinking

What is needed is a more 'poetic epistemology' which displaces the dominance of vision in favour of more sensational 'performative knowledge' (McVittie, 2015). Haraway's situated knowledge is useful for its emphasis on position, yet it still relies on vision as the underlying metaphor. It is about 'point of view'; it is an embodied partial view rather than from nowhere, but *still* a point of view.

As McVittie notes, many "critiques of epistemologies that make extensive use of visual metaphor to confer authority are mounted through the deployment of the same metaphor structure" (p.74). McVittie raises George Lakoff's point that this process is 'accepting the frame' (McVittie, 2015, p.74, n5; Lakoff, 2014), which refers to when, in an argument or debate on any metaphorically framed point, the

parties are usually required to use the same metaphor structure, thus giving the advantage to those who determine the frame. Writing in the context of US politics, Lakoff (2014) suggests that effective reframing is a matter of priming, it is a preparing of the ground to recognise a reality or new understanding (p.49). This is the value of Haraway's situated knowledges: it 'prepared the ground' for her later reframing into 'tentacular thinking'. Haraway's 'tentacular thinking' can be considered as building on situated knowledges. (In my mind, it should be reformulated as 'tentacular knowledges'.) It recombines the idea of knowledge always being *complex, embodied,* and *located,* and thus always *partial*, with the attempt to move knowledge beyond its privileging of vision. As Haraway reminds us, "*tentacle* comes from the Latin *tentaculum*, meaning "feeler," and *tentare*, meaning "to feel" and "to try"" (2016, p.31). Furthermore, tentacular thinking acknowledges the partiality of knowledge and pushes it further by breaking down the notions of "human exceptionalism and bounded individualism" (p.2016, 30), and arguing that 'we', and thus our knowledges, have always been densely tangled and knotted together.

What does this mean for algorithms and filter bubbles? I argue that through 'tentacular knowledges', reached through a consideration of cephalopod ontology, we can rethink algorithmic filtering embodied and tentacular. By doing this, we can shift our thinking away from the dominant spatial metaphors of spheres and boundaries, which have simplified and externalised algorithms. Algorithms have been made into convenient villains; the filter bubble model sets algorithms up as a predominantly external power that traps users into spheres, chambers, and silos. Thinking in terms of embodiment through a cephalopod ontology internalises the processes of algorithmic filtering and allows us to think differently about algorithmic accountability and the temporality of digital media consumption, as my animal spirit will go on to address.

3. How Can We Extend This Thinking?

I suggest that we engage in a thought experiment. I suggest we consider what would happen if we approached the digital media consumption and processes of algorithmic filtering from a different ontology. We have seen above how human ontological experience, that is our experience of being, of reality, shapes and is shaped by the language, concepts, and metaphors we use. Marshall McLuhan and Eric McLuhan speak to this when they quote Wilhelm von Humboldt (himself quoted in Ernst Cassirer's *Language and Myth* [1953]) who writes,

> Man lives with his objects chiefly – in fact, since his feeling and acting depends on his perceptions, one may say exclusively – as language presents them to him. By the same process whereby he spins language out of his own being, he ensnares himself in it; and each language draws a magic circle round the people to which it belongs, a circle from which there is no escape save by stepping out of it into another.
> (McLuhan and McLuhan, 1992, p.226)

This chapter demonstrated this ensnarement by showing how we have habitually returned to metaphors for the processes of algorithmic filtering and personalisation which have tapped into the idea of containment and are derived from our bounded experience (Lakoff and Johnson, 2003). If our language spins out of our terrestrial being then it stands to reason that another medium, another environment, could produce a different ontology which would, in turn, produce a language and a set of metaphors that emphasise something else. The exploration of this could allow us to think differently about media consumption, personalisation, and algorithmic filtering processes. Melody Jue (2020) conducts this process of stepping into another circle through what she describes as 'conceptual displacement', that is, a "method of defamiliarization to make our terrestrial orientations visible" (p.6). In *Wild Blue Media: Thinking Through Seawater*, Jue uses her experience of scuba diving in the ocean to step out of the 'magic circle' drawn by terrestrial based language, and literally dive into another milieu. Jue submerges her media theory underwater. What does this do? Displacement into the ocean, Jue argues, shows us "how our uses of metaphor and figurative language – the ways we habitually speak – fall within a milieu-specific, or surface-specific, way of talking about the world" (2020, p.7).

The digital as oceanic is already an established metaphor, with experience of digital technologies being described in fluid terms. As Jue reminds us, "information technologies are frequently described through watery verbs: surfing the web, flows of information, seas of data" (2020, p.115). What is significant for my purposes, however, is Jue's subtle tweaking of prepositions as she describes where her media theory is conducted. Jue is unequivocal about the fact her media theory asks us to consider media and mediation not *in* the ocean but *through* the ocean (2020, p.22). Jue insists "the preposition matters" because 'in' suggests that the ocean is simply a container, whereas 'through' "positions the ocean as an optical and sensory medium that the observer actively orients within" (2020, p.22). It is an epistemological shift that "cultivat[es] a certain humility" (2020, p.22). It allows us to begin to 'think differently' (Foucault, 1985) or 'story otherwise' (Haraway, 2016); it allows us to begin to think from "another embodied point of view in the milieu of the ocean" (Jue, 2020, p.22). Thinking through the environment, through milieu-specific analysis, is only the first stage. We must also consider those for whom the environment is home, those whose being has been massaged by the medium, to evoke Marshall McLuhan. In addition to milieu specificity, we must think through species specificity; we must make the effort to think through sea creatures.

How do we go about doing so? Jue's 'milieu-specific' approach argues "specific thought forms emerge in relation to different environments" (2020, p.3). Obviously, the ocean offers different conditions for humans than land does, conditions such as the increase in pressure, three-dimensional movement, the refraction of light, and different acoustics (Jue, 2020, p.3; Peters, 2015). Jue's thinking begins from her own experiences of diving, in which the human body is augmented with breathing apparatus and wetsuits. This form of oceanic thinking, however, will only be partially successful, as Jue acknowledges. Divers are working on a 'limited passport' (Earle in Jue, 2020, p.65); their time underwater is only temporary, before too long the constraints of oxygen levels, pressure, and tissue saturation will demand they return to *terra firma*. Jue recognises this limitation as she describes her thought as amphibious. This amphibiousness, however, is an excellent place to begin to think and to imagine.

No matter how we augment ourselves, we cannot be under the impression that because we submerge ourselves underwater then we now know exactly what it

means for a sea creature to be underwater. Imagination is the best technique we can employ, and amphibiousness can certainly be useful in fuelling this, but there will always be a degree of anthropomorphism to our imaginings. As Thomas Nagel notes in his essay *What is it Like to Be a Bat?* (1974), it is impossible to know the subjective experience of another animal; we cannot know what it feels like *from the inside* (Godfrey-Smith in Penaluna, 2016) to be another animal, including another person. It is possible for me to imagine what it would be like to be a bat but, Nagel argues, I will be restricted to the resources of my own mind that are fundamentally inadequate for the task (Nagel, 1974, p.439). As such, these imaginations will only create a "humanised view of animal life" (Ryan, 2015, p. 37). I could imagine what it would be like to have wings and hang upside down like a bat but this "tells me only what it would be like for *me* to behave as a bat behaves" (Nagel, 1974, p.439) and not "what it is like for a bat to be a bat" (p.439).

Nagel's is a contentious paper in the philosophy of consciousness[7], and the majority of the intricacies of the debate are beyond the scope of this thesis. What I am suggesting here, however, is that whether it is possible or not should not discourage the attempts to imagine. Furthermore, the *reason* for the imaginations is key. Referring to Vilém Flusser's peculiar text *Vampyroteuthis Infernalis* (2012), to which I return throughout Chapter 2b), Jue makes the argument that the end goal matters (2020, p. 85). Nagel approaches the question from the aspiration to "know the experience of the animal from the disembodied I/eye of science" (Jue, 2020, p.85), whereas Flusser speculatively imagines the phenomenological world, culture, and art of the vampire squid "in order to develop an epistemic check on human objectivity" and thus to "critique the disembodied I/eye" (Jue, 2020, p.85). This kind of "imaginative leap", to borrow the words of Peter Godfrey-Smith (2019), into another animal's point of view demonstrates that anthropomorphism does not necessarily have to reinforce anthropocentrism. Here, the *how* of how we go about thinking through sea creatures also begins to answer the *why*, and what this kind of thinking offers us: de-anthropocentrising our thought.

[7] See, for instance, Daniel Dennett's *Consciousness Explained* (1991), pp.441-448; Richard Dawkins' *The Blind Watchmaker* (1986), pp.33-37; Douglas Hofstadter and Daniel Dennett's *The Mind's I: Fantasies and Reflections on Self and Soul* (2001), Chapter 24, pp.391-414.

The benefit of theorising through the imagined embodied POV (point of view) of sea creatures is the reconceptualising of normative expectations and anthropocentric biases. Jue notes, sea creatures inherently "destabilize our expectations of heteronormativity, individuality, and perception across species" (2020, p.28). To concur with Jue's assertion we need only consider hermaphroditic fish such as clownfish and kobudai, also known as Asian sheepshead wrasse (Cormier, 2017), and colonial organisms, such as the Portuguese man o'war, which is often mistaken for a single organism like a jellyfish but is actually comprised of genetically distinct organisms. Like the sea creatures mentioned above, I argue that the figure of an octopus, which I have foreshadowed throughout this chapter and is my animal spirit for thinking through the digital in Chapter 2b), also destabilises normative ideas of individuality, identity and subjectivity, as well as ideas of knowledge production, specifically when it comes to talking about the personalisation and algorithmic filtering processes that the filter bubble model aims to address. Furthermore, underlying these destabilisations is a reconfiguring of our thoughts of power and control.

2b) CEPHALOPOD

1. Introduction

At the end of Chapter 2a) - this chapter's twin - I suggested that we engage in a thought experiment. What would happen if the ontological experience, that is our experience of being, where we get our metaphors and conceptual understanding of the world was not derived from embodied human knowledge but rather from a nonhuman animal that lives in a medium where up and down have different meaning. What about an animal for whom, in the wild, containment is not as much an issue because they are elastic and soft, and they can stretch and squeeze, and can easily escape? How would such a creature conduct media theory? How would they conceptualise power and control? How would such a creature conceptualise processes of digital media consumption? I argued, what if we thought through a member of the class Cephalopoda in the phylum Mollusca? What if we thought with and through an octopus?

1.1. Why Think with an Octopus?

As we shall see in this section, octopuses have been and continue to be good figures to think with. Indeed, I argue that this chapter engages in what I playfully call the 'Cephalopod Turn' in the fields of media and communication studies, and cultural studies. I see the Cephalopod Turn being enacted by such theorists as Vilém Flusser and Louis Bec in the aforementioned *Vampyroteuthis Infernalis* (1980/2012), as well as Melody Jue's (2020) chapter on the media concept of inscription in *Wild Blue Media* which extends the vampire squid fable. Other points in the Turn include Jaron Lanier's articulations on cephalopod and virtual reality (2006; 2010); Dan Mellamphy and Nandita Biswas Mellamphy's chapter, 'From the Digital to the Tentacular, or From iPods to Cephalopods: Apps, Traps, and Entrées-without-Exit' (2014); the iterations of Eva Hayward's article (2005; 2019) on Jean Painlevé and Geneviève Hamon's surreal science film, *The Love Life of the Octopus*; Akira Mizuta Lippit's paper *Oectopus* (2005); Eugene Thacker's 'An Exegesis on Tentacles' in *Tentacles Longer Than Night* (2015); William Brown and David H. Fleming's recent book *Squid Cinema from Hell: Kinoteuthis Infernalis and The Emergence of Chthulumedia* (2020); and, of course, Donna Haraway's tentacular approach expressed in *Staying with the Trouble* (2016), which, while not explicitly a

cephalopod tentacularity, refers to octopuses and squids at certain points to aid her argument.

Some of these cephalopod considerations are more useful for my own conceptualisation than others – I have previously mentioned and will continue to mention the proponents Haraway, Flusser, and Jue, and I will briefly elucidate Thacker's contribution to the Turn shortly. Each inductee into the Turn has their own focus; they vary in what and how much they take from the cephalopod, and how they subsequently apply it to their respective areas of interest, but they do each find something about the cephalopod that disrupts and challenges normative approaches or forges new productive directions in thinking. Speaking to this, Sy Montgomery claims in her book *Soul of an Octopus* (2015) that she embarked on the project to meet an octopus in order to "touch an alternate reality" (p.2). Athena, a giant Pacific octopus she met, was for Montgomery not just an individual, not just a member of a radically different Phylum, not something abstract, but she was also a "portal". Athena led Montgomery to "a new way of thinking about thinking", "she was enticing [Montgomery] to explore" (2015, p.13). She and her kin help us by forcing us to think differently. Why is this? What prompts this compulsion to think differently?

The beginnings of a possible answer may lie in their paradoxical and mysterious nature. Octopuses begin to question our assumptions about knowledge production as it seems that as we learn more about them, the less we seem to *know* about them. As we learn about their peculiar, puzzling, and paradoxical array of features, such as their apparent colour-blindness yet startling camouflage abilities and the "combination of vertebrate-like cognitive and behavioural capacities and a functionally decentralized nervous system" (Carls-Diamante, 2019, p.463) together with an unusually short lifespan, only more questions seem to arise. While scientific knowledge never claims to be absolute or is even capable of reaching a state of completion, this state of uncertainty reiterates a need for a reconsideration of our knowledge practices: it urges a certain humility in the limits of knowledge, a humility which transfers well to my application to algorithmic filtering.

We also seem to be in a state of paradoxical closeness and distance to octopuses and their cephalopod relatives. Fathoms below the waves, in a milieu much different to our own, there is a creature which is simultaneously like and unlike us, is both

fathomable and un-, both familiar and un-, as we shall see in more detail in later sections. Points of convergent evolution such as similar eye design may suggest octopuses are excellent figures to think with. Vilém Flusser's fable of *Vampyroteuthis Infernalis,* for instance, argues that the vampire squid and humans are not only able to acknowledge each other, but also "recognise in each other something of ourselves" (Flusser and Bec, 2012, p. 26). As such, for Flusser, we "need each other – not, in the Platonic sense, to complete one another in a state of perfection […] but rather to reflect one another" (2012, p.25). Melody Jue amends this insight by questioning whether reflection is correct, and instead asks "does it refract a view of humanity (to borrow Eva Hayward's optical and watery term), estranged but still recognizable?" (2020, p.89).

A further reason to think with a cephalopod is that they, as Nakajima et al. (2018) note, are boundary subjects who connect seemingly unconnected fields. Indeed, as this chapter demonstrates, placing cephalopods alongside something seemingly unrelated inspires the imagination to think about both differently. Significantly, this is not a one-way process. This is most evident in neuroscience, cybernetics, and robotics. Nakajima et al. (2018), for instance, summarise the contemporary synthesis between cephalopods and science, art and engineering. They argue "cephalopods are explicitly and repeatedly mentioned as a natural template for soft robotics" and an "important source of inspiration for many bio-roboticists" (2018, p.35), while also being important in the development of artificial intelligence, the concept of 'embodied intelligence' (p.36), and camouflage technology (p.36-37).

Cephalopods are also boundary subjects in the sense that they frequently defy physical boundaries. For instance, there are numerous anecdotes, both historical and recent, of octopuses escaping the confines of buckets and tanks. Perhaps most famously, Henry Lee (1875) relates a story of a captive octopus crawling out of the water during the night and into the next tank to eat the fish before returning (Lee, 1875, pp.37-48; also see Mather et al., 2010, p.181-183). Octopuses have also been observed to leave the water, "walk and venture on land, as if transgressing the borders between our world and [their] own" and, Marco Benoit Carbone suggests, thus becoming "potential invader[s] of our cognitive safe space" (Carbone, 2018, p.65). In this sense that "nothing is safe" (p.65), there is an opportunity to partner with cephalopods, especially octopuses, to reconfigure a model that reiterates the

same spatial bounded metaphor into a model that reconsiders the very nature of boundaries.

Humans have long been enraptured by the mysterious octopus; it is not a new fascination. There are suckerprints across many human cultures. There are representations of octopuses throughout antiquity and art; in literature, most prominently in science fiction, horror, and Weird fiction; and in contemporary media such as film, television, and video games. These representations intend to evoke a wide array of sometimes contradictory emotions and symbolic meanings; they are simultaneously represented as beautiful and ancient, seductive and destructive, and powerful and libidinous. The representations of octopuses in antiquity and art are likely due to their beauty and aesthetic value (Nakajima et al., 2018, p.37), as well as their symbolism. Nakajima et al (2018), for instance, describe a gold pendant and a ceramic pot from the late Minoan civilization in which representations of octopuses are believed to be symbolic of regeneration, birth, and fertility (p.37). Undoubtedly, the most famous artistic representation is Katsushika Hokusai's 1814 woodprint *The Dream of the Fisherman's Wife* which depicts a naked female pearl diver in the sexual embrace of two octopuses. This can be considered a forerunner to tentacle erotica in Japanese animation and manga, and reveals "a male gaze that objectifies the feminine body [and an] undercurrent of normalization of violence and rape culture" (Carbone, 2018, p.67) that can be seen in online subcultures, such as 4chan's imageboards.

For my purposes, what is significant are the stories, specifically how cephalopods appear in the stories fuelling the popular cultural imagination, because this has resonance with what I intend to do with the digital cultural imaginary of processes of personalisation and algorithmic filtering. As Haraway reminds us, it matters what stories tell stories (2016). As such, a brief elucidation of the representation of cephalopods in literature and other popular media is required. In literature and popular culture cephalopods are most frequently utilised to evoke horror. The giant squid or octopus has become the Haunter of sailors' nightmares: the powerful penetrating arms breaking ships and dragging men kicking and screaming beneath the waves was long the fear of the seafarer. The creatures are the subject of Alfred Tennyson's 1830 sonnet *The Kraken*, and the antagonists in Victor Hugo's *Toilers of the Sea (1866)* and Jules Verne's *Twenty Thousand Leagues Under the Sea*

(1870). According to Roger Caillois, Hugo's *Toilers of the Sea* bears a large responsibility for solidifying in public imaginary what amounts to a defamation of octopuses as monstrous, as it popularised already circulating 'observations' by naturalists (Caillois, 1970, p.82). Despite the obvious hyperbole intended to instil terror into the reader, such as octopuses draining their victim dry of blood through their suckers, there are instances where Hugo's prose is not entirely inaccurate. When Hugo writes that the victim is breathed in "by a thousand dreadful mouths" (Hugo in Caillois, 1970, p.86), he is correct in that the suckers *are* mouths, of sorts, tasting what they touch as I will elucidate shortly. We can see the power of the cultural imaginary over scientific fact when even Jacques Cousteau and Phillipe Diolé admit they fail to shake the nagging thought of a quotation about being clasped by the sucker disks of Hugo's 'monster' octopus: "the disks are you, entering into the flesh of the monster" (1973, p.45).

Many representations utilise cephalopods to evoke a fear that is derived from both their alien otherworldliness and their ancient of-this-worldliness. Regarding the former, we can consider, for instance, the Martians described in H.G. Wells' *War of the World;* the television show *Red Dwarf*'s (1992) Despair Squid, a genetically engineered squid which is the result of rapid planet terraforming; and *The Simpsons'* space aliens Kang and Kodos, almost always reserved for Halloween episodes. More recently, the film *Arrival* (2016) introduces a cephalopod-esque alien species called Heptapods, seven limbed intelligent extra-terrestrials who communicate their written/visual language using ink-like cloud formations. Regarding the latter, terror inspired by cephalopodic otherness derived from their ancient existence on the planet is epitomised by Cthulhu, the tentacle-headed cosmic entity described as a Great Old One in H. P. Lovecraft's writings classed as key in the Weird literary genre. Cephalopods have long existed below the waves, neighbours to Cthulhu and "his dark house in the mighty city of R'lyeh under the waters" (Lovecraft, 2002, p. 154).

In Eugene Thacker's third volume in his *Horror of Philosophy* trilogy, entitled *Tentacles Longer Than Night* (2015), the horror writings of Lovecraft, Edgar Allen Poe, and others, are read as philosophy. His project is to question and push the boundaries of the human being and anthropocentric knowledge. In the short section "An Exegesis on Tentacles" (p.150-156), he explores these questions through the

cephalopodic-horror literature of Lovecraft, Vilém Flusser, and China Miéville. In Miéville's novel *Kraken* (2010) a giant cephalopod at the Natural History Museum is subject to worship by a cult. The cephalopod becomes god-like, and "becomes at once an object of religion and of science – an object of religion because of science" (Thacker, 2015, p.151). It is their boundary-defying alien-ness, their inherent multiplicity – "never just one tentacle, but many" (p.150) – the fact that their coherence seems to "fall apart once one tries to make sense of the whole creature" (p.150), as well as their inducing of disgust (p.154), that Thacker takes as the Horror in this Philosophy. Specifically, cephalopods are a "radically unhuman" (p.154) life form that brings into stark relief the fact that we are enmeshed in a world indifferent to human knowledge, while they also help to serve as a rebuke for failing "to relate to that which is not human, other than in terms of utility for us as human beings" (p.155). This is how Thacker reads the cephalopod: as a figure to de-anthropocentrise the world and human knowledge.

I mention this brief elucidation of Thacker's contribution to the Cephalopod Turn as it is here that we can begin to see a maturation of cephalopods from simplistic science fiction antagonism and the nameless indescribable horror in the Weird fiction of Lovecraft towards, but not quite reaching, an embrace of the paradoxical and the contradictions. This is where my analysis needs to be. It is not the monstrosity of tentacular arms that is important for my conceptualisation of digital media consumption. It is not about being enveloped by writhing and wriggling suckered limbs to be swallowed whole by a terrible beast. Instead, what is important is what the physiology of the arms does to our thinking about digital culture. This mature reading of tentacular arms makes us reconsider ideas of inside-outside boundaries, multiplicity, and autonomy, which ultimately allows us to rethink power and control.

2. "Nothing Comes Without Its World".

The figure of an octopus – the cephalopodic animal spirit - I offer in this chapter is not merely replacing the metaphor of the filter bubble with another metaphor, she[8] is more akin to the figurations with whom Rosi Braidotti and Donna Haraway think. As such, she is more than a metaphor. According to Braidotti, figurations such as her nomadic subjects are "not figurative ways of thinking, but rather more materialistic mappings of situated, embedded, and embodied positions" (Braidotti, 2011, p.13). A figuration is a cartography, or "a living map, a transformative account of the self" (p.14). For Haraway, the figures she thinks with are also "more than metaphor" (Haraway and Goodeve, 2000, p.82), "more than props for the imagination" (Haraway, 1976, p.41; Goodeve, 2019, p.424).

In her conversation with Haraway, Thyrza Nichols Goodeve comments that Haraway gets inside her metaphors, inside the "object of knowledge or culture"; she inhabits them and lives them until she knows their structure, and, from there, she moves inside of the "webs of meaning" she discovers (Haraway and Goodeve, 2000, p.82). Thus, the metaphor is not about the piece of language, the figure of speech, but rather it is about the stories, and about the complexities. The reason Haraway inhabits her metaphors is because "nothing comes without its world, so trying to know those worlds is crucial" (Haraway, 2018, p.37). For Haraway, "understanding the world is about living inside stories" (2018, p.107) and bodies are stories *par excellence*: They house the story of our habits, habitat, and history; they generate *what* stories are told and *how* they are told. We need, Haraway would argue, the complexities of body and world. Abstracting the figures or metaphors from their world reduces and simplifies. As I will show, a common problem with this act of simplifying is that it tends to produce a comforting story. This applies even to stories that are not, on the face of it, comforting. As I will show later, the filter bubble model is one such example.

As I have argued above, an imaginative leap is required to imagine an alternative milieu and a differently embodied ontology. Following the lead of Haraway (2016) and Jue (2020), this chapter harnesses the imaginative thinking derived through an appeal to fiction. Jue describes her methodology of 'conceptual displacement' as a

[8] I refer to my figuration as 'she' in recognition of individual animal subjectivity, and to avoid the reifying 'it'.

science fiction strategy and invokes Darko Suvin's influential definition of science fiction as 'cognitive estrangement', which is the creation of an "imaginative framework alternative to the author's empirical environment" (Suvin, 1979, p.8). It entails a 'cognitive' function, that is, something continuous with known reality or a "plausibility within scientific knowledge of the universe" (Jue, 2020, p.7), and the introduction of something new, a *novum*, that estranges or forces an alienation effect. For Jue, the effect of thinking through seawater defamiliarizes terrestrial modes of thinking and theorising media. Throughout *Wild Blue Media*, Jue (2020) estranges the media concepts of interface, inscription, and the database by thinking through their submergence underwater. The science fiction component is compounded in her chapter on inscription, in which she extends Vilém Flusser's fable of the *Vampyroteuthis Infernalis,* as her thought is not only submerged but then also thought through the vampire squid.

Haraway's emphasis on storying is also realised in an appeal to science fiction. Populating Haraway's thought is the figure of SF, an acronym meaning variously Science Fiction, Speculative Fabulation, Science Fact, String Figures, Speculative Feminism, So Far (e.g. Haraway, 2016). She also engages with feminist science fiction works throughout the corpus of her work. For Haraway, science fiction is a multi-layered methodological tool. Her use of science fiction is not to make her ideas more engaging, although it does; it is not simply to add style to the substance, although it does; and it is not simply a form of critique, although it does this too. Goodeve notes that SF is a model for Haraway's theoretical work: "[Haraway is] not just doing one layer of analysis—say of critique or unmasking relationships—but [she is] also involved in building alternative ontologies, specifically via the use of the imaginative" (Haraway and Goodeve, 2000, p.120; Grebowicz and Merrick, 2013, p.112).

In the following section, I utilise 'the imaginative' in the form of the 'classic' science fiction tropes of time travel and metamorphoses. Science fiction is not simply used as a rhetorical device or "source of creative inspiration" (Grebowicz and Merrick, 2013, p.112) to facilitate the imaginative leap into the cephalopodic animal spirit but is a chance to rethink normative digital discourse. I do not scour science fiction texts and tropes just to plunder 'better' stories (p.112). I follow Haraway who utilises SF "to write theory; i.e., to produce a patterned vision of how

to move and what to fear in the topography of an impossible but all-too-real present, in order to find an absent, but perhaps possible, other present" (Haraway, 2004b, p.64; Grebowicz and Merrick, 2013, p.112).

Haraway works with a certain kind of science fiction text which acknowledges a ceding of control, and confronts the troubles contained within such an acknowledgement. Instead of the "rather pulpy, technophilic escape fantasies for boys" (Grebowicz and Merrick, 2013, p.115) that characterises a large part of 'mainstream' science fiction, Haraway predominantly utilises feminist texts that do not focus on escaping from the 'real world' problems to a new utopian world (p.113), or on building a blueprint for a better 'elsewhere' (p.122). She draws on texts that acknowledge that there is often no possibility of a 'return to an Edenic garden' (p.113). Rather, they explore "a way of thinking differently about what it means to be human" (p.122). Haraway uses the science fiction of Octavia Butler, for instance, to reimagine the immune system and reconceptualise notions of vulnerability and individuality. Rather than being thought of through a discourse of invaders and battlefields[9], the immune system is instead thought of as "shared specificities in a semipermeable self that is able to engage with others (human and nonhuman, inner and outer), as Butler's civilization of gene traders is able to" (Haraway and Goodeve, 2000, p.70). Haraway highlights how Butler's characters in the novel *Dawn* are "completely webbed into a universe of living machines, all of which are partners - not enemies - in their apparatus of bodily production" (p.70).

Additionally, in Haraway's use of a specific form of science fiction we can see the roots of her assertion that we should be 'staying with the trouble', the maxim which became the title of her 2016 text. In this phrase, there is an urge for a realignment of the temporalities on which we focus. For Haraway, the best science fiction is not *really* about the future, even though much of it might be set there/then. It is also not necessarily about securing 'our' place (neither spatially nor existentially) in the world. When there is trouble – which Haraway takes to mean turbulent, "disturbing"', or "mixed-up times" (2016, p.1) – there is a tendency to project into the future, to attempt to make an imagined future safe, to stop a looming catastrophe

[9] A mode of discourse that has been revitalised in the age of COVID-19, where war metaphors are rife. See https://theconversation.com/war-metaphors-used-for-covid-19-are-compelling-but-also-dangerous-135406

from happening, and clear away the present and the past to make way for the future (p.1). However, Haraway's 'staying with the trouble' instead "requires learning to be truly present, not as a vanishing pivot between awful or edenic pasts and apocalyptic or salvific futures, but as mortal critters entwined in myriad unfinished configurations of places, times, matters, meanings" (p. 1). In the following sections, a science fiction-inspired approach is applied, in which we embody a cephalopodic animal spirit in order to be able to think differently about digital discourse. It is through this new embodied position and speculative cephalopod ontology that we can 'stay with the trouble' of algorithmic filtering processes, focus on neglected temporalities which are missing from current models and metaphors, and better attend to the work of digital media consumption.

Analysis will bubble up like gas escaping from beneath the ocean floor through the evolutionary history, environment, morphology, physiology, and behaviour of cephalopods, with particular attention paid to octopuses. It is a move designed to aid the inhabitation of the (more-than) metaphor, is evocative of Haraway's Science Fact, and it taps into the plausibility side of science fiction's cognitive estrangement. I also perform this move to pre-emptively counteract the possibility of the Harawayan critique of perpetuating lazy animal stereotypes and the accusation that I do not have any interest in *actual* animals. Haraway criticises Deleuze and Guattari for this in *When Species Meet* (2008) as she works through their *A Thousand Plateaus* (2004b). Haraway is furious with "the profound absence of curiosity about or respect for and with actual animals" (2008, p.27). Haraway criticises their utilisation of the wolf pack, in particular. She argues "mundane, prosaic, living wolves have no truck with that kind of wolf pack" (p.27). Like Derrida's cat, Haraway claims, real wolves aren't invited into the encounter, they are not asked to join in the conversation (2008, p.27-28). Deleuze and Guattari's wolf pack is a cherry-picking of a caricatured characteristic. They want the 'exciting' animal without adequate acknowledgement of their everyday lives, without putting the work in to understand them. Haraway's suggests that this undermines the hard work Deleuze and Guattari do "to find the rich multiplicities and topologies of a heterogeneously and nonteleologically connected world" (Haraway, 2008, p.27). Of course, the following Science Facts presented below are nowhere near exhaustive but, unlike Deleuze and Guattari, the necessarily selective facts are at least based on

actual rather than stereotyped or caricatured creatures. As much as possible, I invite real animals into the conversation.

2.1 Evolutionary History

It follows that if the subsequent cephalopod Science Facts are not, and indeed cannot be, exhaustive and are therefore necessarily selective then I do not offer in this subsection *the* evolutionary history of cephalopods, but *an* evolutionary history. I am not claiming a privileged position of knowledge in which I can see and relay the complete history of cephalopods. Even more accurately, I should say I offer an evolutionary *narrative*. It is a storying, in the words of Haraway; if we slow down, we realise that evolutionary histories could be nothing other than this.

In this subsection, over half a billion years of evolution unspools before us. Obviously, a one thousand or so word subsection (let alone a section, a chapter, a thesis, a monograph, a life's work, a library, a library network, or the collective sum of human knowledge) can hardly do justice to every mutation, every variation, every contingency in evolution. Inevitably then, there can only ever be an edited linear narrative. By arguing that evolutionary histories are narratives, I am not suggesting the theory of evolution is not scientific fact. I am also not wishing to hierarchise 'facts', 'theories', or 'stories', in a similar manner to how creationists, for example, attack evolution as 'only' a theory, which implies 'theory' is merely a "rung in a hierarchy" that runs "downhill from fact to theory to hypothesis to guess" (Gould, 1983, p.254). As Stephen Jay Gould notes, "Facts are the world's data. Theories are structures of ideas that explain and interpret facts" (1983, p.254). I take a cue from Isabelle Stengers who, in the article *Towards a Speculative Approach to Biological Evolution* (2009), is interested in the *discourses* of evolution. Stengers accepts evolution as scientific fact but, in an echo of Haraway's assertion that "it matters what stories we tell to tell other stories with" (Haraway, 2016, p.12), is also attentive to "the remaining questions, which turn around the question of knowing *how to recount or tell the story of* this evolution" (Stengers, 2009, p.79).

Here is where, I believe, an overt appeal to genre fiction becomes an advantage. Utilising the familiar science fiction trope of time-travel, I propose that it may be beneficial to imagine the events in the following narrative of evolutionary history as

if viewed from behind a great glass window of a time machine. As Haraway (1988) noted in her 'God trick' critique, to be able to view "everything from nowhere" (p.581) is a myth. By accentuating this science fiction element, I draw attention to this artificiality of evolutionary history. It highlights how evolutionary history is by its very nature speculative. It is necessarily the case that we cannot directly observe evolutionary processes in the past. 'We' do not know exactly what happened, so a 'What if…?' question is posed. Traditionally, the question is not overt. It is obscured by the banner of scientific theory. By acknowledging the artificiality from the outset, I can instead focus on *how* I need to tell the story of cephalopod evolution; it allows me to pick out and emphasise certain theories (that are resting on solid scientific inference), which I need to make my speculative and imaginative leap. This brief evolutionary narrative of cephalopods will be useful to delineate some of their "peculiar combination of features" (Godfrey-Smith, 2017, p. 173), especially those of octopuses, and will help us move towards a speculative cephalopod ontology. Although the octopus can be said to have progressed down a different evolutionary line and "has, consequently, a different tale to tell" (Godfrey-Smith, 2017, p.13) this does not mean that we cannot learn something from her about the tales we tell about 'ourselves' and 'our' technology.

A fork in the evolutionary path around 600 million years ago separates one branch of the tree of life on which sits human animals, fish, and other vertebrates from another branch holding invertebrates such as arthropods and cephalopods (Godfrey-Smith, 2017, p.41). Cephalopods are marine invertebrates, members of the phylum Mollusca, and include amongst their ranks the octopus, squid, cuttlefish, and nautilus. The traditional image of molluscs is that of the snail or oyster, which "produce a hard calcareous shell to protect the body" (Boyle and Rodhouse, 2005, p.7). Cephalopods evolved from these early shelled molluscs which crawled along the ocean floor. It seems likely that these shells were the mollusc's evolutionary response to "an abrupt change in the lives in the animals: the invention of predation" (Godfrey-Smith, 2017, p.44). Growing a hard shell and living within this protective casing was the mollusc's approach to dealing with being surrounded by creatures that wanted them as a meal and could see and hunt them better.

So great was the predatory pressure from these more agile and visual predators (bony fishes), that the calcareous shell was not enough protection. Indeed, in the

most well-accepted and established theory of the evolution of cephalopod cognition (Vitti, 2013; Carls-Diamante, 2017), teuthologist Andrew Packard (1972) proposed a scenario in which the still-externally shelled cephalopods were "forced farther out into open waters by predation and competition by teleost (bony) fishes" (Carls-Diamante, 2017, p.1275). We can argue that it was the result of predatory pressure and competition which began the unique changes to the cephalopod body plan or brought about the "morphological novelties" (Nödl et al., 2016, p.2). According to Boyle and Rodhouse, some of the early benthic (bottom-dwelling) molluscs evolved a buoyancy mechanism within their shells which allowed them to take on a pelagic existence (2005, p.36), that is, to arise from the seabed and entered the water column. Once aloft, the dependence on the foot for crawling along the seabed decreased and the need for swimming increased. A new mode of locomotion developed, namely jet propulsion, in which water is directed and forcefully expelled through a flexible muscular funnel developed, thereby solving the growing need to swim. Furthermore, the foot itself was freed for grasping and manipulating objects. There is seemingly a scientific consensus that the distinctive cephalopod limbs 'flowered' from the molluscan 'foot' (Godfrey-Smith, 2017, p.45; Nödl et al., 2015, 2016; Boyle and Rodhouse, 2005). These limbs are often erroneously described collectively as tentacles, but it is more accurate to describe them as arms (although some species do have tentacles).

Cephalopods can have either eight or ten limbs. Those with ten limbs, known as Decapodiformes, have eight arms and two tentacles and include squid and cuttlefish. Over the course of evolution, it is thought that octopuses lost an arm pair and so only have eight arms (Nödl et al., 2015, p.2; Nödl et al., 2016, p.2), and are therefore known as Octopodiformes. What is the difference between arms and tentacles? Arms are shorter than tentacles and stay the same length whereas tentacles are thinner and stretchier. Tentacles tend to be coiled up and 'shoot out' to capture prey (Staaf, 2020, p.6). Arms have suckers along the length of limb, while the suckers on tentacles only appear on the tips. Squid tentacles tend to widen at the tips to form a "tentacular club" (Staaf, 2020, p.6; Hanlon et al., 2018, p.21; Boyle and Rodhouse, 2005, p.15, p.70) which is covered in suckers or, in some species, suckers modified into hooks. The morphological change of the molluscan foot into grasping arms enabled a more active predatory lifestyle.

In the *Packard scenario*, “the water pressure of the deep sea led to the loss of the external shell, significantly increasing their mobility” (Carls-Diamante, 2017, p.1275), and allowing them to grow in size and complexity, which brought a corresponding increase in cognitive ability. These morphological changes would eventually allow the now-coleoid (soft-bodied cephalopods) to return to coastal waters and successfully compete with teleosts (Carls-Diamante, 2017, p.1275; Vitti, 2013, p.398). With the increase in body complexity and cognitive ability, a repertoire of clever and flexible behaviour developed to avoid predation. With the loss of the relative security of a protective shell there was a gain in the speed and flexibility to catch and devour prey; having given up their shell, “this balled up energy bursts forth” (Flusser and Bec, 2012, p.16) to become an even more effective predator to act as competition. Modern cephalopods have largely abandoned their shell, with the nautilus as the notable exception. In squids and cuttlefish, the shell has been greatly reduced and internalised to add some rigidity to their structure, while octopuses have lost the shell altogether.

If we return to Lakoff and Johnson’s point that the experience of the world is shaped by our existence and as such ‘we’ are physical beings, bounded by our skin, and experience the world as outside of us (Lakoff and Johnson, 2003, p.29), then I would argue that the abandonment of the molluscan shell would mean she - the cephalopodic animal spirit - would have a different relationship with the notion of containment. I am not arguing that she would have *no* understanding of containment. Of course, she would be familiar with the concept due to aspects of her own physiology and behaviour, as well as in the concept being imposed on her by other entities (i.e. if humans keep her in captivity). She would recognise boundaries expressed in territoriality as she builds and maintains her den. She could understand boundaries as protective. For example, some octopuses have been observed carrying halves of coconuts which they pull together and hide inside for shelter (Finn, Tregenza, and Norman, 2009). Furthermore, her method of predation relies heavily on containment by grasping prey with her arms and holding them in her brachial web.

My point, however, is that the abandoning of the shell meaning a loss of a rigid definitive shape would lessen the significance of containment as ontology. Her ontological metaphors based on a cephalopodic experience of the world would be

based less on bounded physicality, because her body contorts, squeezes, and stretches. As Godfrey-Smith notes, evolution yielded for the octopus a "body of pure possibility" (2017, p.48). The octopus can seemingly 'flow' like fluid, a characteristic that makes octopuses excellent escapologists. Octopuses do not recognise a fixed posture, they can squeeze through areas no smaller than the hardest part of their body, usually the beak or the eye. As I have noted, there are frequent anecdotes of octopuses escaping their tanks by lifting weighted lids, squeezing into drains or through the necessary holes for pipes (e.g. Montgomery, 2015, p.179; also see Lee, 1875, pp.37-48; Mather et al., 2010, p.181-183*).* Wood and Anderson claim "octopuses are nature's ultimate Houdini; they are able to squeeze through holes that are a fraction of their body sizes" (2004, p.105).

Instead, her ontological metaphors would be based more on bound*less* fluidity. She does not experience the world as outside of her, at least not to the same extent as 'we' do. She has a slippery relationship with notions of inside and outside. This is evident in her use of her mantle cavity for jet propulsion which she would use for swimming, but particularly as a means of quick escape when she feels threatened (Boyle and Rodhouse, 2005, p.13). Mather et al. (2010) note, "the fluid in the octopus's mantle cavity is an inside part of the outside ocean, vital for respiration and removal of waste" (p.13). The outside is drawn inside to breathe, and this formerly outside inside is forcefully expelled outside once more for jet propulsion. Jue reminds us of Bachelard's point: "a being dedicated to water is a being in flux. [S]he dies every minute; something of [her] substance is constantly falling away" (Bachelard, in Jue, 2020, p.19). Water is always flowing, water flows through her, and so she is flowing. Unlike the bounded physicality of 'our' experience which reinforces the boundaries of an individual and the notion of a relatively stable identity, she is becoming. So, what is important for her is continual process. For her, metaphors of *in and out,* while being recognisable, would pale in comparison to metaphors of *through*.

A consequence of the abandonment of their protective shell was that cephalopods also became even more vulnerable to faster fish with larger teeth. As the octopus does not have a rigid skeleton, they evolved a means of movement based on the principle of the muscular hydrostat. Essentially, their bodies are an "unprotected package of protein" (Mather et al., 2010, p.99). Much of this muscle is in the arms,

"more than half the body's volume" (Mather et al., 2010, p.82). Therefore, octopuses are, as Boyle and Rodhouse note, rich in protein (2005, p.236) making them and their arms a "delectable mouthful" and "the preferred dish" for predators (Schweid, 2014, p.30). Consequently, cephalopods developed a complex nervous system, intelligence, and corresponding behavioural traits for avoidance of other predators and their own predatory requirements. As Boyle and Rodhouse claim, "the soft, unarmoured body of the cephalopod leaves them with little structural defence and they depend heavily on behavioural mechanism to avoid predation" (2005, p.236). Predatory avoidance techniques include inking and camouflage, the latter of which may also be beneficial to their own predatory behaviour.

Speaking to octopus intelligence and learning behaviour, Jennifer Mather claims that while much of cephalopod brain processing is still unknown, observed abilities and documented behaviour suggest "we should add cephalopods to the groups of animals that might have primary consciousness" (Mather, 2008, p.45). It is likely that their complex nervous system accounts for this intelligence and learning behaviour. I hesitate to say the octopus has a complex *central* nervous system, although accurate in the sense there is a 'central' brain. According to biologist Martin J. Wells[10], "the ganglionated cords of the arms alone contain almost three times as many neurones" as the 'central' brain (Wells, 1978, p.7), while more recent research puts the figure as just over twice as many neurons in the arms than in the central brain (e.g. Mather et al., 2010, p.86; Godfrey-Smith, 2017, p.67). Mather et al. (2010, p.22) and Montgomery (2015, p.14) suggest the arms contain three-fifths of their total neurons. Sidney Carls-Diamante puts the figure at 350 million of the 500 million neurons in the arms (2019, p.471). Thus, it is more accurate to consider the octopus in terms of a distributed nervous system. The next subsection will elaborate on this complex distributed nervous system and what it means for the cephalopod ontology as it is critical for reconfiguring ideas of identity and individuality, as well as notions of power and control in my application to personalisation and algorithmic filtering.

As I have argued above, evolutionary histories are inherently narratives or, as Elizabeth Grosz writes, a "fundamentally retrospective, reconstructive, piecing

[10] In a pleasing resonance with the science fiction theme in this chapter, biologist Martin J. Wells is the grandson of H.G. Wells.

together [of] fragments to provide a narrative or story that is already over" (2005, p.38-39). In the narrative above, it is tempting to say that the abandoning of the protective shell was an evolutionary risk that paid off. However, this ascribes a form of agency that is removed from the relational processes involved in evolutionary change. The abandoning of the shells was not a decision; it was not choice made by an individual or even as a collective. Grosz continues, "given a moment in history, it is impossible to predict what will follow, what will befall a particular trend or direction, let alone a particular individual, what will emerge from a particular encounter, how natural selection will effect individual variation, and how individual variation will respond to and transform natural selection" (2005, p.39). I note this to demonstrate that the evolution of a species cannot be reduced to a single line. Evolutionary narratives are in fact many species knotted together; they are lines which helix and spiral around one another, intertwine, intersect, and fray. These entanglements are themselves also entangled with the environment. Speaking to this, Flusser argues

> the environment is that which we experience and we, in turn, are that in which the environment is experienced: Reality is a web of relations. The entities of the environment are nothing but knots in this web and we ourselves are knots of the same sort […] Both the environment and the organism are abstract extrapolations from the actuality of their entwined relations. An organism mirrors its environment; an environment mirrors its organisms, and if the arena of their relations is altered in some way, neither the environment nor the organism will be left unchanged. (Flusser and Bec, 2012, p.31)

I speak to this knotting of relations above, as the presented narrative suggests that evolving alongside a "highly diverse range of vertebrate competitors" in a competitive environment under strong "selection and predation pressures", influenced the "versatility of octopus behaviour", producing not only their complex nervous system and intelligence but also behavioural traits such as camouflage (Carls-Diamante, 2019, p.468). Behaviour and physiology do not evolve in isolation. John Durham Peters makes a similar point in his use of cetaceans (i.e. whales and dolphins) to perform a similar move to both Flusser and Jue in considering what 'media' would be for creatures with 'alien' sense ratios in an aquatic environment. He claims, "the natural history of sense organs shows the incorporation of the

environment in the body, the core topic of media ecology" (Peters, 2015, p.62). For Peters, "brains and bodies bear record of the stresses of habitat and history" (p.59). This should be kept in mind in the next subsection as I pull out specific physiological features.

2.2 Physiology

The speculative cephalopod ontology continues into this subsection in which I have identified two features of octopus physiology - their arms, and their biological processes of ingestion and digestion – which, later, will help us to think through and reconceptualise digital media consumption and the filter bubble phenomenon. The body plan of octopuses is altogether different from vertebrates. Humans, for instance, go head, shoulders, knees and toes, while octopuses go body, head, and tentacular limbs (This is not as catchy as a children's song, I admit). Flusser describes cephalopods are "our antipodes: elevated intelligent abdomens, unelevated brains. Their brain, however, is more complex than ours" (Flusser and Bec, 2012, p.18). I find his claims to the significance of digestion in these 'intelligent abdomens' extremely useful, especially when considered alongside the complexly distributed cognition.

i) Ingestion and Digestion

Cephalopods are, according to Flusser, "whirlpool-animals" (Jue, 2020, p.78[11]) inexorably sucking in the environment. Arms encircle their mouths, and "originally served to direct food towards the digestive tract" (Flusser and Bec, 2012, p.38). But what is the reality of this so-called voracious whirlpool? What is the actuality of consuming *as* an octopus? Here, I appeal to a second science fiction trope, namely body swapping (or metamorphosis), to help de-anthropocentrise our thinking. I propose a Franz Kafka meets *Fantastic Voyage*-esque (1966) thought experiment in which we imaginatively leap into a different body, and then speculatively experience ingestion and digestion. Not only does this convey the required details of octopus

[11] Jue cites an edition of *Vampyroteuthis Infernalis* from Atropos Press, translated by Rodrigo Maltez Novaes. This 'whirlpool-animal' phrase does not appear exactly in this form in the translation/edition I have been using elsewhere: the edition published by the University of Minnesota Press, and translated by Valentine A. Pakis.
Jue cites: Flusser, V. 2011. *Vampyroteuthis Infernalis.* New York: Atropos.

physiology for my later use in my conceptualisation of algorithmic filtering in an engaging way, but it also functions to develop my overall argument. Firstly, speculatively imagining the process of ingestion and journeying *through* the digestive tract helps to reinforce my earlier claim of the likely predominant cephalopod ontological metaphor. Secondly, by slowing down and attending to the process, we initiate the required reconceptualising of the dominant storying of consumption (as will be explored in section 3.1.).

Imagine that one day you awake from an uneasy dream to find yourself transformed into an octopus. You are no longer sitting in a chair reading this text, you are now in the underwater in a rock crevice under the sea. You feel the pressure pushing against the skin of your being, and you feel the cool deep-sea water sluicing through your body. As you make sense of your new configuration, you gently expel water from your funnel lifting sand and silt, which causes a startled movement outside your den which draws the attention of your eye, an eye that is remarkably like that you owned in your former life. It is the movement of a crab, a crustacean that is a significant component of your diet. Your suckered arm reaches out of your shelter towards the crab, which is a movement you were almost sure was not made by you. You've caught the crab! And they are now fully ensconced in your brachial web despite their struggles and protests. After capture, the suckered arms transfer the crab towards your mouth where feeding can begin. At least, this is where the process traditionally begins.

There is evidence to suggest that some cephalopods produce a toxin which paralyses their prey while it is in the brachial membrane. There is further suggestion of partial external digestion (Nixon, 1984) in which the salivary papilla penetrates the carapace or shell of prey and delivers a secretion of enzymes to loosen the muscles and tissue allowing for the easier access to bivalve or crustacean shells (e.g. Wells, 1978, p.69; Boyle and Rodhouse, 2005, p.223). This is all *before* being ingested; "part of the digestive process takes place *outside* the octopus' body" (Cousteau and Diolé, 1973, p.87, my emphasis). The crab's struggles are thus getting weaker as the 'cephalotoxin' (Ghiretti, 1959) paralyses. Their protective casing is torn apart, the flesh is removed, and is now about to be consumed.

In the buccal mass (i.e. the mouth), behind the lips, which are themselves packed with receptor cells like the arms' suckers, there are two beaks. The beaks, much like

those of a parrot, are composed of a hard chitin-protein (Hunt and Nixon, 1981). Your upper and the lower beak chop the crab flesh into small digestible pieces, as the rasping radula rakes the pieces into your buccal cavity and the lateral buccal palps push them towards the oesophagus. In Altman and Nixon's (1970) experiments, the radula, the upper beak and the lower beak were surgically removed to determine the role of the beak and the radula in digestion. According to Altman and Nixon, the lower beak removal had a greater impact on the removal of tissue from and cleaning of prey shells and carapaces, which may be due to the bite being the "result of the raising and lowering of the upper beak on to the lower one, which does not move. Contraction of muscles attached to the wings of the lower beak cause the upper beak to close, and it is suggested that the lower beak functions mainly as a support for the beak muscles" (1970, p.36). Thus, the significance of the lower beak is in providing a stable surface for the upper beak to work against.

The masticated-crab is pushed along your oesophagus by peristalsis - waves of muscle contractions. You notice the narrowness of the tract. Consider a sharp piece of the crab's hard exoskeleton has managed to stay attached to the flesh as the rest of the carapace fell away and is forced through the oesophagus. The contractions rotate the shard causing it to pierce the chitinous cuticle lining of your oesophagus (a different chitin-protein composition than the beaks). An oddity of cephalopod evolution is that the oesophagus runs through the brain. Logically, having the brain surround the oesophagus, "significantly constrains the diameter of the oesophagus and the size of the food that can be swallowed" (Boyle and Rodhouse, 2005, p.2). As Godfrey-Smith writes, "This seems all wrong; surely there was never supposed to be a brain there. If an octopus eats something sharp which pierces the side of its "throat," the sharp objects goes straight into its brain" (2017, p.66). Indeed, Nixon and Budelmann (1984) refer to earlier research which notes an instance of crustacean exoskeleton in an octopus brain, while their own research notes occurrences of barbs or harpoon-like bristles of polychaete worms embedded in the brain.

ii) Arms

There are three aspects I wish to delineate regarding the arms of octopuses. The first is their role as "digestive organs" (Flusser and Bec, 2012, p.39). The second is their relationship to their other senses. The third and final aspect is the relationship

between the distributed neurones in the arms and the 'central' nervous system. More specifically, I am interested in what this means for my speculative cephalopod ontology in terms of individuality and identity, as well as notions of power and control.

If you look back on your childhood drawings of creatures from under the sea, you will usually see an octopus with a bulbous smiling head and eight waving squiggly limbs. Martin Wells (1978) writes, "the layman's octopus is an animal that consists of arms. In amongst the arms, somewhere in the middle, is a head with almost human eyes; children and cartoonists usually forget about the body" (p.217). This is an anthropomorphised conception of the octopus (e.g. Figure 11.). Wells continues, "in a way the laymen, children and cartoonists are right; the arms make the octopus. They comprise the greater part of the weight of the body and they contain most of the nervous system (1978, p.217). Their arms are much of what they are, but they are also much more than their eight arms, as my cephalopod evolutionary narrative and physiology demonstrates. Furthermore, their arms are much more than *just* arms.

Figure 11. 'Octopus doodle' by Niall Voice

The human hand and the opposable thumb hold the responsibility of many a varied action crucial to everyday life. Likewise, the prehensile arms of the octopus are used for a variety of purposes including feeding, movement, defence, and examining objects and the surrounding environment (Wells, 1978, p.217). Octopus arms are

lined with two rows of suckers. Depending on the size of the octopus, each arm carries approximately two hundred suckers. While squid suckers are more rigid, an octopus' suckers are more flexible. Each sucker has a range of motions. According to Mather et al., "suckers can also be a separate moving unit" (2010, p.82), meaning they are not static; they reach for things, they stretch, they can squeeze, and they form pincer grasps akin to a human thumb-and-finger pincer grasp. With these range of motions, the suckers can perform delicate operations. Indeed, they have been known to untie surgical silk (Wodinsky, 1977, cited in Mather et al., 2010, p.83).

The surface of the suckers has touch and chemical receptors. There are roughly ten thousand receptor cells (Schweid, 2014, p.35; Godfrey-Smith, 2017, p.67). This means that when the suckers grab your finger, they are *tasting* you with their touch (e.g. Godfrey-Smith, 2017, p.44; Wells, 1978). Describing Kali, (another giant Pacific octopus she met) Montgomery writes, "even without touching her neighbors, Kali can taste them. Her chemoreceptors can pick up chemical information from a distance of at least 30 yards" (2015, p.156). Indeed, they can taste with their entire bodies, but it is in the arms and suckers that this ability is most developed (Montgomery, 2015, p.5). As Mather et al. note, "Flies "taste" with receptors on their feet, and octopuses "taste" with receptors in their suction cups" (Mather et al., 2010, p.83). The suckers are used to attain information and determine if something is edible. Alongside the cephalotoxin and secreted enzymes, the arms are part of the *external* digestion process. As I have suggested, the cephalopodic animal spirit has a slippery relationship with the concepts of inside and outside.

Thus, to borrow the words of Flusser, the arms of an octopus can be described as "digestive organs" (Flusser and Bec, 2012, p.39). Flusser makes the comparison between how humans and vampyroteuthis comprehend the world. He argues:

> [O]ur method of comprehension is active – we perambulate a static and established world – its method is passive and impassioned: it takes in a world that is rushing past it. We comprehend what we happen upon, and it comprehends what happens upon it. Whereas we have "problems," things in our way, it has "impressions." Its method of comprehension is impressionistic. (p.39)

I am not entirely convinced by this comparison as it seems to imply that cephalopods are too passive and just wait for 'free-floating objects' in the current to "happen to tumble upon" them (p.39), which neglects the hunting behaviour of effective predators who actively search for and hunt. Although Flusser does acknowledge the "predatory velocity" of vampyroteuthis, he suggests that this "could not have transformed the vampyroteuthis into an active subject of a passive and objective world, as was the case with us". He claims, "the objective world did not become, for it, a sphere of activity but one of experience" (p.41). While I may disagree with Flusser on this point of relative activity and passivity of human and vampyroteuthis comprehension, and with the distinction of sphere of activity and experience – why can it not be both? – I think he broadly makes a valuable point when he claims that 'culture', by which Flusser means the "manipulation of the world on the part of the subject", for vampyroteuthis is "an act of discriminating between digestible and indigestible entities, that is, a critique of impressions. Culture is not, for it, an undertaking against the world but rather a discriminating and critical injection of the world into the bosom of the subject" (p.39).

The sensory capacity of arms does not stop at touch and taste. Some cephalopods also have mechanoreceptors, which allow them to "detect disturbances in their local environment from small water movements" (Boyle and Rodhouse, 2005, p.28). This sensitive system, analogous to the lateral line (the ability to sense movement, vibrations, and changes in pressure) in fish, is invaluable when in environments "unsuitable for high acuity vision", such as deeper, dark and murky waters (p.29). There is also evidence to suggest that "cephalopods can sense light with their skin" (Knight, 2015), a process which may help to explain how they conduct camouflage and body-patterning behaviour (Ramirez and Oakley, 2015; Kingston et al., 2015). An octopus' skin, which of course covers the length of their arms, could then also be considered an 'eye'. So, octopuses can touch, taste, and see with their arms*;* they are not just arms, but complex multipurpose organs. Indeed, as Brown and Fleming notes, "the cephalopod arm is not just an arm, but also a sexual organ, a brain, an eye, a tongue, and a gut. In other words, the cephalopod arm is at least five different organs simultaneously" (Brown and Fleming, 2020, p.143). It seems the boundaries between organs and between senses are not so easily delineated.

So, what does this mean for my speculative cephalopod ontology? For the cephalopodic animal spirit, there would be an abundance of sensory information, which is sensed all over her body. She would sense in every direction all at once. As Brown and Fleming speculate, cephalopod existence could be "one of sensory overload – as each experience involves all sense being triggered simultaneously, rather than the typical human existence that separates out and puts senses into a hierarchy" (2020, p.144). As Haraway's (1988) critique claims, there is a persisting dominance of vision, which suggests a hierarchy with vision at the top. Brown and Fleming suggest that, for humans, taste and smell are perceived as more primitive senses due to the evolutionary bodily shift to standing on two legs and walking upright which "separated their snouts from the ground" (2020, p.144), and caused a supposed superiority of vision as they opened their eyes to the horizon (Flusser and Bec, 2012, p.18).

Vision is evidently also important for cephalopods, especially for epipelagic (the sunlit upper zone of water column) cephalopods and coastal benthic octopuses. According to Boyle and Rodhouse, the evidence confirms "the importance of the visual environment to cephalopods for orientation, prey capture, avoidance of predators, competition for mates etc." (2005, p.26). The eyes have received the most scientific attention on octopuses (e.g. Wells, 1978; Dröscher, 2016). Consequently, Wells suggests "we know more about the structure and physiology and the use that an octopus makes of its eyes than about all the rest of the sense organs put together" (1978, p.141). Through this attention, biological science claims the octopus' eye represents an example of convergent evolution due to its remarkable similarity to those found in vertebrates - both cephalopods and vertebrates have evolved similar camera-like eyes which work on the same basic principle of focusing an image onto a retina. However, scientific efforts have, to some extent, been distracted by the eyes of octopuses; it is not by hypnosis, but, rather, research has been blinded by anthropocentric bias as human experience is itself so dependent on vision, and so experiments examining vision are easier to devise. While the visual acuity of the cephalopodic animal spirit would be high, she does not rely solely on vision. She would be able to call on a wealth of sensory information including chemical and tactile cues.

As already mentioned, cephalopod body plans are very different from those of humans. Likewise, the organisation of the brain and nervous system is completely different. In vertebrate brains, there is a common architecture. Scientists are able to map the brains of birds, mammals and fish; and furthermore, they can map many parts of one animal's brain onto another's (Godfrey-Smith, 2017, p.51). The same mapping from one to another cannot necessarily be done with the invertebrate cephalopod. Octopuses have a diffuse nervous system, with a central brain and a "peripheral mini brain" at the base of each arm *(*Hanlon et al., 2018, p.38). The arm nervous system can process sensory information, that is, 'tactile, mechanical, and chemical information', which "serves as a model of the external world" and can be further used "as the point of reference for formulating appropriate motor responses to environmental conditions" (Carls-Diamante, 2017, p.1279). This sensorimotor information appears to go through local processing in the axial nerve cord within each arm, and is "consolidated in the interbrachial commissure, a ring of fibers that interconnects the arms" before being sent to the brain (Carls-Diamante, 2017, p.1277). This axial nerve cord is "an alternative control center for high-level information processing" (Richter, Hochner and Kuba, 2015, p.1069, in Carls-Diamante, 2019, p.471).

With more neurons in the arms than in the brains, it is suggested that the arms have a large amount of autonomy, certainly much more than what is allowed for the limbs by the human body plan (e.g. Carls-Diamante, 2017; 2019). According to Hanlon and Messenger, the arms are "curiously divorced" from the rest of the brain (1996, p.29). Similarly, while summarising Frank W. Grasso's (2014) work in which he describes 'the octopus with two brains', Jennifer Mather (2019) claims that "the brain gave only general commands to the arms and that it "did not know what the arms were doing"" (Mather, 2019, p.6). Carls-Diamante notes that the relatively small number of fibres connecting the 'central' brain and the nervous system in the arms indicates that the information transmitted to the brain from the arms has already been 'extensively processed' while the arms receive 'high-order motor commands' from the brain, leaving fine-grained motor control to the arms themselves (Carls-Diamante, 2017, p.1277).

Describing her encounter with Athena, a giant Pacific octopus, Montgomery claims, "unconstrained by joints, her arms were constantly questing, coiling, stretching,

reaching, unfurling, all in different directions at once. Each arm seemed like a separate creature, with a mind of its own" (Montgomery, 2015, p.13-14). She speculates that if severed, the arm would continue to hunt and if it were to catch prey (although this is highly unlikely) it would attempt a "conveyor belt" (Mather et al, 2010, p.84) manoeuvre passing the prey from sucker to sucker back towards a mouth that is no longer there (Montgomery, 2015, p.14). Indeed, Boyle and Rodhouse confirm that to a certain extent the arm will continue independently, as they argue the "degree of peripheral nervous organisation confers some degree of local autonomy of movement. Thus, movements of the arms, mantle, buccal mass and chromatophores take place in isolation from the central nervous system, and this activity can continue for many hours after the death of the animal" (Boyle and Rodhouse, 2005, p.22).

Interestingly, due to their neuroanatomy, the 'central' brain "does not receive proprioceptive information about the arms (Graziadei 1971), and does not support *somatotopy* or point-for-point mapping of the body (Zullo et al. 2009)" (Carls-Diamante, 2017, p.1273, emphasis in original). Proprioception is the sense of movement and position. This works together with a somatotopic mapping of the body. Their absence is likely a consequence of their soft bodies and lack of a rigid skeleton. As Carls-Diamante notes, "without joints, there are no somatic landmarks to serve as points of reference by which detailed spatial information about the body can be mapped" (2019, p.472). The result of the absence of "both somatotopic representation and centrally consolidated proprioceptive information" (p.472) is that "spatial information about its body is not integrated within a single neuroanatomical structure, but is distributed throughout the nervous system" (Carls-Diamante, 2017, p.1273).

What do the lack of somatotopic and proprioceptive information integration, and the idea of 'peripheral mini brains' mean for the cephalopodic animal spirit? Carls-Diamante performs biological philosophy (2017) and philosophical psychology (2019) to posit octopuses challenge the notion of the unity of consciousness (Carls-Diamante, 2017, p.1269). Carls-Diamante ponders whether the octopus is an organism that houses multiple independent cognitive systems (2019, p.463). What does this mean for the notion of control? Writing on the brain-body relationship, Godfrey-Smith suggests it could be a hybrid relationship; octopuses might have

mixed control over what their arms do: “For an octopus, its arms are partly *self* – they can be directed and used to manipulate things. But from the central brain’s perspective, they are partly *non-self* too, partly agents of their own” (2017, p.103). What a weird sensation this must be.

3. Octopus Ingestion and Digestion as a Model for Digital Media Consumption

After detailing a cephalopod evolutionary history and physiology of octopuses and showing how octopuses have already been engaged in cultural and media theory, I now apply octopus physiology, specifically the processes of ingestion and digestion to digital media consumption. Digital media consumption is a large process involving multiple individual processes, but broadly I take it to mean how digital media information is taken into and processed by an individual. However, to fully explore this I must first reconceptualise the storying of consumption that has become dominant in contemporary discourse, and with it the traditional image of cephalopod.

3.1. How is Consumption Conceptualised?

The image of the cephalopod from classic horror literature is of a voracious and insatiable predator engaged in gratuitous consumption: 'whirlpool-animals', as Flusser suggests, who suck in anything and everything. This image had been compounded by political cartoons, which have long depicted octopuses as emblematic of corporate power and capitalist greed. Cephalopods have not only been used as capitalist critiques, but also to criticise imperial and colonial powers. In short, the octopus appears as a shorthand for wherever and whenever there is unchecked power, greed, and desire (Jue, 2020, p.71) [12]. It is surely the multiple arms and the anthropocentric bias derived from a body plan with *only* two arms that fuels this connotation of greed: What does a creature need with all those arms if not excessive accumulation? On the surface, the feeding habits (under laboratory conditions) of a captured octopus suggests a kinship with this notion of excess. Martin Wells notes that after a successful foraging expedition an octopus would continue to capture prey to the point that their writhing and wriggling prey escape from beneath their brachial web (Wells, 1978, p.64). However, in this chapter I shift the octopus away from this perception of excess. This is not an effort to reclaim the cephalopod itself for a symbol of resistance against capitalist greed as Hsu (2012) intimates in his questioning of the use of cephalopods in the Occupy Wall Street protests. Rather than the "versatility associated with cephalopods animat[ing]

[12] See the Tumblr blog Vulgar Army for a collection of octopuses in propaganda and political cartoons: https://vulgararmy.tumblr.com/
See also Gilson, 2011.

collective political action as well as individual creativity" (Hsu, 2012, no pag.), the cephalopodic animal spirit reconfigures the process of consumption, and shifts it away from what it has become and towards a more careful yet complex notion of consumption that is informed by the bodily processes of ingestion and digestion. I argue that the notion of consumption has become entangled with a storying or narrative that neglects the biological process of consumption, that is, the ingestion of food and drink, and instead is inspired by what Braidotti might call the logic of advanced capitalism.

Rosi Braidotti calls advanced capitalism a "spinning machine", an endless production of "differences for the sake of commodification" (2013, p.58). Braidotti notes that the differences that are produced by the capitalist spinning machine are then "packaged and marketed under the labels of 'new, dynamic and negotiable identities'" (p.58). These packaged identities become the safe and easy options to be seamlessly and wholly consumed. In this way, advanced capitalism promote voracious consumption, aligning with the above cephalopod perception of insatiable greed.

A key point here, is the emphasis on the new. Braidotti claims:

> Contemporary society is in fact fascinated to the point of obsession by all that is 'new' […] The much-celebrated phenomenon of globalization and its technologies accomplishes a magician's trick: it combines the euphoric celebration of *new* technologies, *new* economy, *new* lifestyles, *new* generations of both human and technological gadgets, *new* wars and *new* weapons with the complete social rejection of change and transformation. (Braidotti, 2006, p.2, emphasis in original).

We can see this fascination for the new extends to digital culture. The neoliberal capitalist logic recognisable in the ethos of Silicon Valley based social media platforms is one of an endless production of an abundance of information, a constant creation of new content. There is a fixation on what is next: '*Ok, I've seen that, what is trending now?'*; '*What is happening now?*'; *'Now What?*' It is consumption without digestion as the next thing is already being served up.

This parade of 'the new' holds users to the spinning machine as they try to keep up. I find the analogy of the spinning machine useful because it conveys the difficulty, if

not the impossibility, to extricate ourselves from the system: We are caught in the force of the spin. However, there is a certain passivity here. There is a connotation that it is something that happens to us, rather than something of which we are co-constitutive. In this chapter's emphasis on evolution, ecology, and ethology, this co-constitutive nature is brought to the fore. By focusing on the biological processes of ingestion and digestion, consumption is not only made *embodied* but also *embedded* in a complex ecology. As Braidotti notes in her more recent work (2019), we are immanent to the conditions of which we are critical (p.156). There is no 'outside'; we are a part of the problem; we are intrinsically connected to the economic, social, and cultural environment. We all enjoy the fruits of the system enough for it to continue to function (Braidotti, 2018). This is important to remember because it acknowledges that power is not simply negative or repressive. Digital media consumption may be *empowering*; we can get something out of it. Once more, digestion speaks to this. I argue it allows us to better hold the complexities and contradictions by allowing us to think differently and more complexly about the embodied and embedded process of consumption while not losing sight of the very real problems nor the very real benefits of said process.

Speaking to the complexities and contradictions, and echoing Deleuze and Guattari, Braidotti further notes that advanced capitalism produces a 'schizophrenic' logic, or a double pull, in several key respects. First, as suggested in Braidotti's quote above, the consumer culture of "faith in the new is supposed not only to fit in with, but also actively to induce, the rejection of in-depth changes" (Braidotti, 2006, p.2). Second, she suggests there is "rising demand for subjective singularities" thus an emphasis on the 'personalised' and the 'individualised', yet also "the conservative re-territorialization of desires for the purpose of commercial profit" (2006, p.3). This means we are engaged in a situation where there is increasingly personalised content, but everyone consumes essentially the same thing; content is individual, but mass produced. Users are encouraged to consume all that is new but remain the same with a stable identity, a defined sense of being, so that they can fit into a designated marketing box to have content pushed onto and into them. I say *into* because one of the effects of this process is that identity and subjectivity becomes wrapped up with the consumer culture. In Braidotti's interpretation, "commercial profit-making" is pushed "to the innermost boundaries of subjectivity itself, making 'I shop therefore I am' the leading refrain of our times" (2006, p.3). To extend this

further, we can see how certain content becomes wrapped up as a key or notable part of how someone constructs their identity. This is not to make a judgement on whether said content is 'good' or 'bad' but rather what is important is what the practice means for how we understand and conceptualise media consumption. Liking a certain TV programme, film, brand, etc., becomes shorthand for personality traits[13]. This seems to be most visible in online dating profiles. How is someone to best 'sum up' their entire identity in a character-limited text box so as to attract a compatible person? A fondness for *The Office* or *Harry Potter*, for instance, becomes a test of personality compatibility. Here, we can see how easily the formation and expression of identities needed for complex social dynamics are reduced to media consumption.

It is surely as a consequence of the complexities, paradoxes, double pulls, and 'schizophrenic' logic, that the common understanding of the process of consumption has become reduced and romanticised, streamlined and simplified. A product of these processes is that consumption is reduced to the binary positions of in or out, all or nothing. A consequence of this binarization is that the process of consumption is often portrayed as completist. By completist I mean not only in the sense that what is consumed is done so 'whole', but also that, as de Oliveira et al. (2019) note, the dynamic of the culture of consumption is geared towards achieving a sense of *completeness* or happiness (p.161).

In a move that bridges not only the discussion of the logic of advanced capitalism and digital technology but also both meanings of completist consumption, we can consider the "poster child for capitalism" (Wade, 2018, p.3): the iconic yellow protagonist from the popular video game *Pac-Man* (1980)[14]. Resembling a pizza with a slice removed - said to be the inspiration, at least in part, behind creator Toru Iwatani's original design for the character (Poole, 2004, p.148) - the character of Pac-Man looks like a disembodied mouth. Predictably, the aim of the game for a

[13] Recently, there has been backlash against the process, which manifested as an online trend of posting formulaic tweets stating: "Liking _____ isn't a personality trait". See https://studybreaks.com/thoughts/obsession-the-office-isnt-personality-trait/. And https://www.vice.com/en/article/bj9ak3/the-office-leaving-netflix-will-force-fans-to-develop-actual-personalities

[14] Solidifying this link between capitalist consumption, Pac-Man, and digital culture is the playable version of Pac-Man incorporated into Google's 'doodle' for the game's 30th anniversary in 2010. It is difficult not to draw a comparison between Pac-Man's gobbling up of dots and Google's gobbling up of data.

character that is a mouth and nothing else is, of course, to 'eat'[15]. Pac-Man needs to consume dots, fruit, and power pills, all while avoiding the roaming colourful ghost antagonists. He (Pac-Man is ostensibly male, even though there is nothing in the original character design that necessarily warrants) moves through the maze 'swallowing' the food whole, but there is no time to savour or to digest, it is already inside and counted in the score. And then he is already onto the next dot, and then the next, and then the next.

Pac-Man is, as journalist Steven Poole states, the "pure consumer" (2004, p.177); he does not complain, he just consumes. We can see here Pac-Man's double life. He is simultaneously the emblem of consumer capitalism and an allegory, satire, or "parable of late capitalism" (Poole, 2004, p.177). We can read Pac-Man as critique by connecting his "insatiable hunger" and constant movement with Marxist readings of consumption as the narrator of D. B. Weiss' novel *Lucky Wander Boy* does (Jones, 2008, p.59; Newman, 2016, p.2; Tyler, 2022). Furthermore, he is trapped in a "Borgesian labyrinth" (Wade, 2015, p.255) where 'escape' through a tunnel only returns you to another section of the same maze. Even once all the dots have been consumed the game is not 'complete', he is simply onto the next level. He eats but doesn't necessarily know why; it is a compulsion, intensified by the mechanics and architecture of the ecosystem.

As Toru Iwatani claims, Pac-Man is the "personification of eating" (Iwatani quoted in Poole, 2004, p.180). Consumption is his identity; everything he does is framed in terms of consumption. Like the aforementioned perception of cephalopods, Pac-Man has a voracious "compulsion to consume" (Wade, 2015, p.259). The driving force of this compulsion is the completist ethic of consumption. According to Poole:

> He [Pac-Man] is constantly searching for things to eat […] With his obsessively gaping maw, he clearly wants only one thing: to feel whole, at peace with himself. He perhaps surmises that if he eats enough—in other words, buys enough industrially produced goods—he will attain this state of

[15] The webcomic *Saturday Morning Breakfast Cereal* also paints a bleak picture of Pac-Man's consumption, describing the game as like if "Kafka wrote a Lovecraft story" (Weinersmith, 2012, https://www.smbc-comics.com/?id=2736). In this weird horror vision of the game, the Pac-Man character was a man who woke up to find himself transformed into a mouth, and that his "dreams, hopes, desires, sensations" have all been "atavized" – meaning to have reverted to an ancient or ancestral state – "into a primeval urge" (Weinersmith, 2012).

> perfect selfhood, perfect roundness. But it can never happen. He is doomed forever to metaphysical emptiness. It is a tragic fable in primary colors. (Poole, 2004, p.177)

According to de Oliveira et al. this completist consumption is in line with the 'romantic ethic' of consumption, the notion that consumption will finally fulfil our desires, that it will finally satiate our appetite, that our sense of being will finally be complete. But, as Poole rightly notes, this is doomed to failure. The problem, of course, is that the promised stability of being is illusory. Consumption can only ever be temporary or transitory (de Oliveira et al., 2019, p.163).

3.2. Cephalopod Ingestion and Digestion

Throughout the rest of this chapter, I use cephalopod ingestion and digestion to unpack the reductions and re-complexify the simplifications of consumption. I follow Braidotti here as she suggests we must not fall "back on the sedimented habits of thought", and pursue the path of least resistance, but rather we must "leap forward into the complexities and paradoxes of our times" (2006, p.26). I begin by addressing this completist logic through the cephalopodic animal spirit's beaks. I mentioned above two ways in which consumption can be said to be completist. To return to the first point, I argue that consumption is assumed to be whole. As the 'spinning machine' of digital culture constantly moves on to the next new thing, a notion of consumption that has been reduced to the binary positions of in or out, all or nothing, becomes engendered within the user à la Pac-Man. We can look to the etymology of 'consume' to support this completist nature of consumption. The term 'consume' is derived from the Latin *consumere*, meaning "to use up, eat, waste". It is comprised of *con-*, an assimilated form of *com-* that is likely an intensive prefix meaning 'altogether, completely', and *-sumere* meaning 'take up' (Etymonline.com, 2022b). For all intents and purposes, to consume something means to consume it all, take everything in. We can see how this storying of consumption can be of benefit to, for instance, social media platforms as it is a simple notion of seamless easy consumption. In this conception of consumption, there is little to no time for the in-between state of digestion before the user is offered up the next tweet, the next Netflix show, the next piece of content, which slides down the gullet just as easily.

An initial exploration of cephalopod ingestion and digestion as a metaphor for consumption begins to complexify consumption. Consider the traditional first steps of digestion, namely biting and chewing. As my Fantastic Octopus Voyage taught us, the central nervous system of an octopus – their brain – is wrapped around the oesophagus (see Fig. 2.4. in Wells, 1978, p.18). Although the diameter of the oesophagus depends on growth rates and previous meals, and therefore will be unique to the individual, the brain-oesophagus relationship nevertheless limits the size of food an octopus may digest. According to Boyle and Rodhouse, "unusually for large predators, cephalopods eat their prey in small pieces (Boyle and Rodhouse, 2005, p.2). As the above cephalopod physiology demonstrated, octopuses use their beaks to chop their prey into swallowable pieces. This is an important point that the embodying of consumption makes – consumption should attend to the breaking down of content into smaller comprehensible pieces. Content is never consumed by us in totality. And further to this, consumption is never 100% efficient. If we were to reconstitute the content we consumed, there would always be parts we would have missed, parts we would have either forgotten, miscomprehended, or not registered at all. Consider how often a second viewing of a film, for instance, throws up aspects we had missed.

We can extend the cephalopod digestion as consumption metaphor by considering the role of external digestion. Pushing the metaphor further like this, also lays the groundwork for what embodied consumption can make us think about instead, namely a realignment in the temporality of consumption. Specifically, external digestion begins to make us consider that consumption entails more work than is suggested by the simplified storying of consumption, and also that consumption may not be when and where we think it is. This is a conceptual point that returns in the second half of the chapter when I discuss algorithmic filtering. Cephalopod external digestion and cleaning techniques include a toxin that paralyses the prey, the secretions which loosen the prey's muscles and tissue, and the rasping tongue-like radula which is used to scrape and drill into shells. Before we consume content, there is meta-content, or contextual information, that is gleaned which allows the 'body' of the content to be more easily consumed and digested. Consider, for instance, the process of reading an editorial article on an online news publication. Contextual information may include everything the reader knows or assumes about the publication, such as its political leaning or its previous stance on similar issues;

everything the reader knows or assumes about the author, including their political affiliations and any biographical details; and when and where it was published in the context of the media event. This is before any piece of the content's 'body' such as, but not limited to, the overall argument, each point and counterpoint, the writing style, and the tone, passes the beaks to be digested and metabolised.

If all of this seems obvious, it is because it is. Here, a simple metaphor and a simple comparison between *simplified* consumption and *embodied* consumption, draws attention to how consumption has been made to be thought - as a reduction; as completist; and as seamless and unproblematic. The *Pac-Man*-esque model of consumption wherein the 'food' is less consumed as it is inhaled becomes noticeably absurd when we are faced with a reconceptualised consumption model. Furthermore, in the simplified consumption model content could be, more or less, interchangeable. As Poole notes, "the dots littering [Pac-Man's] world are so perfectly symbolic as not to represent any object. They are there to be munched; that's all" (2004, p.180). However, an embodied consumption requires us to attend to the intricacies and particularities of specific pieces of content. By embodying the process of consumption, we are better able to attend to the in-between states neglected by the simplified storying of consumption. It emphasises the *processual* nature of something that should not have needed to be emphasised. Consumption once more being embodied grounds the process, materialises it, and requires us to attend to the actual *work* of consumption.

i) Beakoming

As I have previously argued, I follow both Braidotti and Haraway to claim that the cephalopodic animal spirit, and all the animal spirits for that matter, are 'more than metaphors'. While the straight metaphor I have briefly described above works well to emphasise the weaknesses in how consumption has been understood, I argue that the real value comes in pushing the metaphor further and examining what embodied consumption can make us think about instead. There are more conceptual points to be made with cephalopod digestion. Above, I have examined and contested the first aspect of completist consumption that I argue has been promoted by the simplified conceptualisation of consumption. In this subsection, I speak to the second completist aspect of consumption, that is, the promise of a sense of completeness, of

happiness, from consuming, while I also make a broader conceptual point regarding the temporality, or rather the temporalit*ies*, of consumption.

The simplified storying of consumption promises that consuming will fulfil one's desire, will allow one to achieve a sense of completeness. It argues: 'don't worry, this next piece of content will complete your identity'. As I have mentioned earlier, this satiation is not possible. Incompleteness is an inherent component to life (de Oliveira et al., 2019), as a consideration of biological consumption makes abundantly clear. Naturally, organisms need to consume resources to survive. This is not a one-off event; food must be eaten regularly to continue to exist. No matter how sated an organism feels after a meal, it is only a matter of time before another is required. Consumption can thus never be completed. The simplified 'romantic' conceptualisation is simply the imposition of a semblance of order in a chaotic shapeless world (de Oliveira et al., 2019) in order to hide this very nature. It attempts to hide the complexities, to smooth out the "incompleteness, emptiness, dissatisfaction, anxiety, insecurity, and fear" (p.172) inherent in the world. It is a reductionist form of consumption that neglects complexities in favour of a comforting and easy-to-swallow illusion. It treats consumers like the naive and innocent Pac-Man (Wade, 2018, p.2-3); they are wide-eyed (wide-mouthed?) consumers, lacking appropriate agency, and unable to perceive the tensions, or indeed futility, in their strategy of consumption (de Oliveira et al., 2019, p.163). The conceptualisation of embodied consumption does not offer an intervention to break the system neither does it offer a comforting illusion that escaping is possible. Instead, it offers a biologically inspired approach in which consumption is embodied and embedded in a dense entanglement of environmental relations. This allows a conceptualisation that does not shy away from the complexities of consumption and allows us to rethink the idealistic and so-called 'romantic ethic' of its simplified form.

A fundamental philosophical difference between the simplified consumption and the cephalopod embodied and embedded consumption models is the difference between *being* and *becoming*. Simplified consumption requires a certain stability to being for the illusion to work. Some essential identity or subjectivity with a definitive knowledge of what 'I' means is necessary for content with inbuilt packaged identities to be sold and consumed. This *being*, however, is not static necessarily; the

conceptualisation must be able to account for change. Consumption momentarily achieves the end goal, achieves a fleeting satiation of desires, before requiring a new end goal. It is almost episodic in narrative: *being* to *being* to *being*, and so on. It is a matter of emphasis. Whereas the simplified consumption would emphasise the 'being', the cephalopodic embodied and embedded approach to consumption would be more concerned with the 'to': being *to* being *to* being, and so on. This is not to imply a definitive destination, i.e. 'to' somewhere in particular, but rather the constitutive relations. It is concerned with *becoming*; it is a focus on the in-between states, on the continual constitutive and constructive processes. As I have argued this is the aim of the cephalopodic animal spirit, to better attend to the processual nature and to the complexities of consumption.

Whereas a conception of consumption that engages predominantly with *being* would seem to be concerned with the boundaries of a self, with some essential essence, and with achieving some sense of completeness for that self – something that, as we have seen, is an illusion anyway – a notion of consumption informed by the process of becoming, on the other hand, defies the very idea that consumption can be complete. Becoming acknowledges incompleteness as inherent in life because, by its very nature, becoming cannot be finished. It is a continual process. In fact, according to Deleuzian theorists on becoming, life is *only* becoming, it is *only* this continual process. What this means is being and becoming are not, in fact, oppositional. "It is only through this perpetual becoming", according to Elizabeth Grosz, "that the very semblance of being is possible" (2004, p. 142). According to Claire Colebrook's reading of Deleuze, the opposition of being and becoming falls away. Colebrook writes, "the supposed real world that would lie behind the flux of becoming is not, Deleuze insists, a stable world of being; there 'is' nothing other than the flow of becoming. All 'beings' are just relatively stable moments in a flow of becoming-life" (2002, p.125). Thus, the notion of being is a merely a simplification of becoming, a story we tell ourselves to deal with the complexity of the situation, namely that beings are always, already, and only, engaged in a process of becoming.

I argue cephalopodic animal spirit is an excellent figuration to think through consumption in terms of becoming. Fundamentally, becoming is concerned with openness, and a willing embrace of *all* that comes with said openness. In Braidotti's

concept of nomadic becoming, she argues that "becoming has to do with emptying out the self, opening it out to possible encounters with the 'outside'" (2006, p.145). While the cephalopodic animal spirit's whole body and skin could be considered extremely sensorily open, as my octopus physiology demonstrated, I instead propose her beaks as tools to think through consumption. I position the two beaks of the cephalopod animal spirit - the upper and lower beak – as twin processes within becoming. Each beak, and their movement, is a form of becoming. I take inspiration from Braidotti, and both Deleuzian and Nietzschean theory to expand on these 'beakomings'.

Beakomings represent an archetypal opening onto the world. They are where food can enter the body, where the 'inside' encounters the 'outside'. In the language of Braidotti, they are a moment when 'Life' rushes in (2006, p.145). Braidotti claims:

> This onrush of data, information, affectivity, is the relational bond that simultaneously propels the self out of the black hole of its atomized isolation and disperses it into a myriad of bits and pieces of data imprinting or impressions. It also, however, confirms the singularity of that particular identity which both receives and recomposes itself around the onrush of data and affects. (2006, p.145)

I argue, consumption is one of these moments. When we consume online content, we receive the 'data and affects' from the outside world and 'recompose' ourselves around them accordingly. This seems to confirm in our minds not just our identity but also our status as a bounded individual. But consumption also explodes this seeming inner stability and these boundaries, 'dispersing' us into the world. When we consume online content, our data is dispersed and lapped up by online platforms. We consume the world, and the world consumes us. Cephalopodic embodied consumption reminds us that we are embedded in the world, we are interconnected and relational to the environment. It is not enough to say consumption is how we construct our identity, and therefore we should have complete autonomy over it. It is not enough to say that we should not be trapped by algorithmic filters installed by nefarious social media platforms à la the filter bubble model, or that we should not be locked into a pattern *Pac-Man*-esque inescapable mazes, and at the mercy of insatiable consumption. This is a denial of the very embeddedness and interconnectivity inherent in consumption.

Importantly, Braidotti continues, “one needs to be able to sustain the impact with the onrushing affectivity, to ‘hold’ it, without being completely overwhelmed by it” (2006, p.145). In the context of digital culture, the ability to not become overwhelmed is particularly important as there is a vast amount of content. Beakomings are how I envisage this ‘holding without being overwhelmed’ is performed. Key to this performance is the work the two beaks do to engage with the paradoxes and complexities of consumption. For Braidotti, rather than focusing on a single concept we must have a “flair for complexities and a focus on processes and in-between states” (2006, p.264), and she identifies a starting point for this engagement. “The first step to take”, according to Braidotti, “is to confront the challenge of our historicity” (2006, p.264). This is key to the process of embodiment because it defines both our spatial and temporal location.

As Altman and Nixon (1970) suggest, the lower beak of the octopus does not move while the attached muscles raise and lower the upper beak to produce the biting movement that shears off the flesh of prey. In my conceptualisation, the ‘lower beakoming’ allows us to confront the historicity of becoming. According to Grosz, “the past is a series of events we do not make but inherit, or inherit even if we have made, which we must nonetheless affirm as our own in the sense that past events make us, and our overcoming, possible” (Grosz, 2004, p.151). The lower beakoming is, thus, the ownership of the becomings that have informed a person’s continued existence. It is, following Braidotti, “an assumption of responsibility or accountability so that one can engage actively with the social and cultural conditions that define one’s location” (Braidotti, 2006, p.264).

As Nietzsche reminds us, “we are, after all, the products of earlier generations, we are also the products of their aberrations, passions and errors – indeed, of their crimes; it is impossible to free ourselves completely from this chain. (“OUL” 107)” (Grosz, 2004, p.123). The lower beakoming recognises this history; it is embedded in the beakoming’s chitinous protein. In my conceptualisation, this lower beakoming is not just an individual’s history but “man’s “first nature”” (Grosz, 2004, p.123). This chitin composition must include “patriarchy, racism, colonialism, slavery” which are, “in one form or another” in all of us in the present (Grosz, 2004, p.123). In the context of digital culture, elements of ‘man’s first nature’ such as the vitriolic trolling and misogyny accompanying women’s online posts or the racist postings

allowed to go unchecked in forums and on social media platforms, are also consolidated within. These cannot be erased by new becomings, they are engrained, and must be the base against which we should work.

Having positioned the lower beakoming as a more stable base of remembered becomings, the corresponding beak – the upper beakoming - can now be relationally situated. In my figuration, the upper beakoming represents the present-to-near future becoming. (I hesitate to say future becoming so as not to imply that there is a teleological march towards the implementation of a prescribed plan.) The upper beakoming is the embodiment of the question 'what else?' According to Grosz's analysis, Nietzsche critiques the Darwinist model of survival by arguing life is not merely a struggle for existence, or a fight to survive, but life is rather "about profusion and proliferation, not existence but excess, not being but being-more, that is, becoming, but a becoming-what that cannot be determined in advance, that is always itself in the process of becoming-something-else" (Grosz, 2004, p.104).

Grosz argues that what is required to achieve an overcoming of 'man's first nature' is the production of a positive "second nature" through "a new, stern discipline" (2004, p.123). The remembered beakomings should be used to spur "a self-overcoming that severs [man] from that which produced him, to use history as a springboard for a future unmediated by and unnostalgic for the past and present" (2004, p.123). Similarly, in Claire Colebrook's reading of Deleuze, she writes, "becoming, in its true force, is not bound by what has already become or is actualised, but it is spurred on by perceiving the virtual powers that are expressed in actions" (Colebrook, 2002, p.136). The lower beakoming should be used as a hinge on which the upper beakoming can produce change. Indeed, as Grosz suggests, the key to such radical politics as feminism and postcolonialism is to produce a movement that unapologetically utilises the past but does not betray its lessons, and "to produce a future that both breaks with the past yet at the same time refuses to disown it" (Grosz, 2004, p.119). This process can be represented in my conceptualisation of two cephalopod beaks: One minute the two sides are wide apart, almost screaming at the problematic or horrendous past; and the next minute, the tips are in close proximity, working in tandem in the process of shearing resources for growth.

ii) Br(Oesophagus)ain

What the beakomings mean for consumption is a reconfiguration of temporality. When consumption becomes embodied, it becomes located not only bodily and spatially but temporally. I argued above that the storying of simplified consumption does not allow for digestion because we are already moved onto the next thing to consume. To evoke Braidotti, this storying of consumption in which we are saturated by products and content in an ever faster spinning machine, the present is stolen away from us (2006, p.152). We are deprived of time to perform the work of consumption that is required. Thinking in terms of beakomings shows that consumption is not as easy, or quick, as the *Pac-Man*-esque inhalation of content. The beakomings already slows down consumption by allowing us to work through the process. The cephalopodic animal spirit's beakomings primarily deal with *ingestion*, and if we continue along her digestive tract we can work through processes of *digestion*.

As I have suggested above, the simplified storying of consumption, or the social imaginary of consumption, portrays consumption in terms of the binary of in or out. The cephalopod animal spirit's oesophagus and specifically the relationship between her oesophagus and her 'central' brain, allow us to think differently. Here, the animal spirit's speculative cephalopod ontology comes to the fore. Rather than metaphors based on containment and a bounded nature, which would produce a primacy of the spatial thinking of in and out, her metaphors are more based on fluid movement. Consequently, when we think about consumption through her, we think *through* the process*es* of consumption.

In its most basic form as a preposition, 'through' can mean "'into, then out the other end or side', such that part of a path is surrounded" (Lindstromberg, 2010, p.35). Another meaning can emphasise only the middle part of the path, which downplays the ideas of entry and exit from a boundary (p.35). The cephalopod conceptualisation focuses on the middle part (digestion), recognises the importance of entry (ingestion), and acknowledges an exit of sorts in that the object passing through is transformed by the experience of the process (metabolism). This latter point is significant as there is a connotation of 'through' that can suggest the object passing through does so passively, is relatively inert, and does not interact with the surroundings. However, in the context of the cephalopodic digestion presented here,

‘through’ is certainly not inert; it is not the passive passage in and out the other side with no interaction with the surrounding material.

‘Through’ has both spatial and temporal components, and as such can be useful for conveying notions of movement and direction. In terms of direction, ‘through’ can have the connotation of progressing in a more or less linear fashion. However, this seeming linearity is complicated in the cephalopod conceptualisation. The mechanism through which I complicate this is peristalsis. In the cephalopodic animal spirit’s digestive tract, pieces of food are moved along her oesophagus by peristaltic waves of muscle contractions: muscles squeeze the food and move it through in waves. In a simple metaphor for digital media consumption, a reader of a piece of content must continually make decisions about whether the pieces align with their understanding and perception of the world, whether they fit through their ‘oesophagus’. In this sense, consumption is an *iterative* process involving repeated movement and feedback, rather than a simple linear process. If the pieces align, the wave-like muscle contractions push them along the oesophagus to be fully digested, metabolised, and become embodied in the beakomings and beyond.

What I want to emphasise with iteration is it slows down our thinking. Or, rather, it changes the rhythm of our thinking. It allows us to incorporate different velocities; iterative waves speed up as they squeeze, then they slow down, and then they repeat the process with the cumulative effect of pushing through the digestive tract. In comparison to the storying of consumption which ‘steals our present’ and quickly moves onto the future, the overall effect on our thinking of consumption in this new mode is a deceleration. A consequence of this deceleration is it allows us to attend to the complexities of consumption, attend to the *work* of consumption. It makes room (and time) for deliberate consideration as the oesophagus and the ‘food’ touch and interact with each other in the squeezing. Indeed, speaking to this, I have frequently used the phrase ‘think/ing through’ throughout this chapter. In this more phrasal or idiomatic form where ‘through’ is combined with verb ‘think’, the effect is to focus on the detail. It engenders a practice of careful and considered examination. Furthermore, by decelerating and attending to the complexities of consumption, what becomes apparent is the inextricable interconnectedness of things. Here is where the relationship between the oesophagus and ‘central’ brain becomes important.

The conceptualisation I have sketched so far promises an affirmative and empowering form of consumption for the digital user. There is a danger of falling into a trap, or of overcorrecting into another 'romantic ethic' of consumption, which gives the power and control over consumption to the user. However, the cephalopodic animal spirit does not reconceptualise the power and control over her consumption as totally her own. As much as the mode of consumption my embodied cephalopodic animal spirit engenders is empowering, she also acknowledges that consumption cannot be *nothing but* empowering. Empowering consumption cannot be allowed to be unfettered and unlimited as this is as equally a romantic ideal as the simplified storying of consumption I have presented above. The oesophagus and 'central' brain relationship, the *br(oesophagus)ain* relationship if you will (because 'oesophagus' runs through the middle of 'brain'), provides the limit or threshold to unrestricted consumption and growth. As Braidotti notes, a "sense of limits is extremely important to ensure productive synchronizations and prevent nihilistic self-destruction" (2006, p.156). Thresholds or limits of consumption are necessary for growth and the development of a sustainable subjectivity. By sustainable, I follow Braidotti once more, who suggests sustainability is about how much a subject can take (2006, p.156) while also expressing the desire to endure and create possible futures (2006, p.276). Speaking directly to trends in digital culture, Braidotti makes the point that thresholds avoid a "delirious expression of megalomania that you find in the new master narratives of the cyber-culture of today, ready and willing to 'dissolve the bodily self into the matrix' (2006, p.157).

As mentioned previously, having her brain wrapped around the oesophagus limits the size of food that she can swallow, limits how much she can take. While hard and sharp pieces can make their way through the digestive tract harmlessly, there are instances of barbed harpoon-like bristles of polychaete worms and pieces of crustacean exoskeleton piercing the oesophagus and embedding in the brain of octopuses (see Nixon and Budelmann, 1984, p.39). For my conceptualisation, this is useful for a number of reasons. In terms of the simple metaphor, this model of consumption addresses what happens when users *do* encounter content that does not align with their world view, something that is neglected in reductionist readings of the filter bubble model. It is useful to remember that when users encounter this 'disagreeable' content which 'gets stuck in their heads', that it is rarely the complete argument or idea. However, more significant are the notions this *br(oesophagus)ain*

relationship prompts on a more conceptual level, namely ideas of fragility and vulnerability.

Vulnerability, derived from the Latin *vulnus* meaning 'wound', is to be fragile (Etymonline.com, 2022c); it is the susceptibility to suffering, to being wounded. Vulnerability is inherently relational. It is part of being embodied and embedded in the world. The potential piercing of the brain is a reminder of not only the interconnectedness of the 'world outside' and the 'world inside' but the inherent fragility of the embodied self. Consumption can be empowering, but it can also be painful. This fragility is not necessarily incapacitating. As Nixon and Budelmann note, there is evidence that piercing injuries to the brain can be withstood without loss of normal function, and there are some instances of regeneration taking place (1984, p.41). Importantly, the piercing 'wound' of disagreeable, difficult, and even dangerous content does not stop her from consuming. She accepts her own bodily fragility, and in so doing she acknowledges the vulnerability that comes with an embodied and embedded existence.

The inherent fragility of media consumption is essentially where Pariser's (2011a) criticism of personalisation and algorithmic filtering begins. A premise of algorithmic filtering is that we are fragile consumers, so the difficult and disagreeable content should be minimised. The effect is that filtering ignores the "important but complicated", and the "confusing, complex and depressing" (2011a, p.74), in favour of 'easily digestible' personally relevant content. The benefit for social media platforms is that it keeps users coming back for more; the content confirms our beliefs, and is therefore unchallenging and palatable, and it is easy to consume because it is presented to us on a plate.

Pariser's point in his critique of the personalisation and algorithmic filtering processes however is that we must accept the fragility of consumption and not hide from it, we must accept that we are vulnerable to others and to the environment because alongside the potential for pain there is value, use, and potential for growth. I have no qualms with this line of thought. However, in the proposition of the filter bubble model, and more significantly the imagery of the bubble which has grown in the cultural and social imaginary to create a storying of algorithmic filtering and personalisation, this vulnerability has been miscast. I argue that in the filter bubble model the ways in which we are vulnerable have been misunderstood. Here is where

the cephalopodic animal spirit has real value.

3.3. Algorith*arms*

Throughout this chapter, I have been building an alternative model of digital media consumption. In the section above (3.2), I have used cephalopod ingestion and digestion as a model to think differently about consumption, with mind to how this applies in the context of consuming digital media content. It is a more complicated storying of consumption than the popular narrative of *Pac-Man*-esque consumption. Now, I further complexify the storying by considering the effect that algorithmic filtering processes have on the new storying of consumption. It is yet more webbing for the web of relations involved in digital media consumption. In this section, I propose a concept for rethinking social media platform filtering algorithms and recommendation systems. Imagine a *multiplicity* of *autonomous* undulating octopus arms projecting out into the oceans of data, grasping for, and *tasting* content. I propose that the filtering and recommendation algorithms are these embodied octopus algorith*arms*.

To grasp this conceptualisation more fully, we need to consider the morphology and physiology of the arms of octopuses in conjunction with my critiques of the filter bubble model from Chapter 2a). To recap, the critiques of the filter bubble model I identified are: (1) the algorithms which supposedly create the filter bubble effect are to a certain extent *unfathomable*; (2) The filter bubble metaphor is *reductionist*; (3) The model suggests *a closed system*, and consequently; (4) the model *does not sufficiently allow for change*. Within these critiques are broader conceptual points about the discourse around algorithms, including notions of accountability, the limits of knowledge, and power and control, particularly over identity. How does this conceptualisation force us to think differently about digital media consumption and the processes of personalisation implied by the filter bubble model? What does it make us think about that the filter bubble model does not? Aptly, cephalopod arms do multiple things to our thinking. Algorith*arms* make us think about algorithms in terms of multiplicity; they make us think of algorithms as embodied "digestive organs" (Flusser and Bec, 2012, p.39); and force us to rethink ideas of algorithmic accountability, power, and control.

Figure 12. Graffiti in Leeds, UK - 'Boo to the Algorithm' (Photo taken by author).

i) Multiplicity

There is a popular understanding of algorithms in which the many processes of algorithmic are reduced to the singular: users frequently refer to *the* YouTube algorithm, *the* Facebook algorithm, *the* Netflix algorithm, etc. If you search "the algorithm" in Twitter's search function, the results that are returned are many and recent. They include complaints about the algorithm pushing certain content and calls for an explanation for odd recommendations being answered with comments with different iterations of the ominous phrase, 'It's the algorithm!'. This may be a rhetorical device used for simplicity, with 'the algorithm' functioning almost as a synecdoche for all and any computational processes (Gillespie, 2016), but, as I have suggested in my frequent invocation of Haraway, the way we talk about aspects of digital discourse has an impact on how and what we are capable of thinking.

I illustrate this with a news story that is not about algorithmic personalisation or recommendation systems, which I primarily focus on in this chapter, but is useful for drawing attention to broader conceptual points about notions of accountability and how the discourse around algorithms is utilised, and, in some cases, weaponised and wielded. In August 2020, following the cancellation of exams in the UK due to the coronavirus pandemic, many students initially had their A-Level and GCSE

grades determined by a Ofqual algorithm which saw 40% of students receive a grade lower than they had been anticipating based on teacher-assessed grades (Adams, Weale, and Barr, 2020). It was argued that this approach 'reinforced existing inequalities' as the model 'disproportionately impacted students from lower socio-economic backgrounds' (Kolkman, 2020, no pag.). Following the public outcry, which included a demonstration outside the Department of Education in which students chanted "Fuck the algorithm!" (Kolkman, 2020), a government U-turn meant grades would be determined by teacher assessment (Weale and Stewart, 2020). Figure 12 shows a piece of graffiti in Leeds in August 2020 (seemingly a response to the above 'exam fiasco' story), which softens the language but retains the sentiment of the students while also adhering to the use of the singular algorithm.

In the above example, Prime Minister Boris Johnson blamed the 'exams fiasco' on a "mutant algorithm" (Stewart, 2020). It is a phrase used to elide any human responsibility; it is a way of shifting blame away from political decisions. The use of the singular seems to solidify algorithmic processes, turning them into an object. This is strengthened when it is used in conjunction with 'mutant', a term used to place the blame on a 'monstrous' and 'rogue' computational process, to create a single enemy, and thereby hide the political and socio-material practices involved in the design, construction, and operationalisation of 'the algorithm'. The effect of this is to reduce algorithms to a single identifiable antagonist. A similar process, I argue, occurs in the narrative of the filter bubble.

How can the cephalopodic animal spirit intervene in this? Let us begin with the most obvious characteristic: she has eight arms. Immediately then, if we consider algorithms as arms of my animal spirit, it evokes the idea of a *multiplicity* of algorithms. To echo Eugene Thacker, there is never just one, there are always many (Thacker, 2015, p.150). There are many different types of algorithms ranging in complexity from basic sorting or ranking algorithms, through recommendation systems to advanced machine learning algorithms. However, for my purposes concerning algorithmic filtering and personalisation, by a multiplicity of algorithms I mean (1) there are algorithms enacted by multiple social media platforms at the same time, and (2) there are also multiple algorithms working *within* a single platform.

Regarding the first point, there are, of course, multiple platforms and sites that comprise digital culture. A user's experience of digital culture is not confined to a single site or app, no matter how much the social media platform tries to consolidate digital experience into one place. Users switch between applications and platforms to satiate their differing desires. In a study of Argentinian youth, for example, Boczkowski et al. (2018) noted that users used different sites for different purposes. Facebook, for instance, "is used to divulge content which they want to disseminate widely; Instagram is used to post careful and stylized constructed visual portraits of everyday life; Twitter is used to get news and comment about it" (Boczkowski et al., 2018, p.255). Different uses for different platforms should mean slightly different results in algorithmic processes of personalisation such as who to follow, what content gets recommended, and where it appears in the feed. I should be clear, however, that I am not arguing that each arm represents a specific platform (and their own algorithms), i.e. the first right arm is Facebook, the second right arm is Twitter, the third right arm (hectocotylus, the male octopus' specialised arm used to transfer sperm to the female) is your favourite porn site, etc. Following a recurring theme in this chapter, things cannot be so easily delineated like this. Despite their differing uses, platforms are not entirely separate. Data is often shared between sites and platforms through embedded plugins and code (e.g. Thornham, 2019, p.51; Gerlitz and Helmond, 2013).

Regarding the second point, in any recommendation system or filtering process on platforms such as Twitter, YouTube or Netflix, it is not a single algorithm performing an action. There is a "collection of algorithms, working together to create a unified experience" (Bucher, 2018, p.47). To illustrate this, Taina Bucher quotes executives at Netflix who claim their "recommender system consists of a variety of algorithms that collectively define the Netflix experience" (Gomez-Uribe and Hunt, 2015, in Bucher, 2018, p.47). Similarly, Facebook's algorithm is "really a collection of hundreds of smaller algorithms solving the smaller problems that make up the larger problem of what stories to show people" (Oremus, 2016, in Bucher, 2018, p.48), while YouTube's algorithms determining what videos to recommend include considerations such as "recent and fresh" content as well as content that is diverse but relevant to a user's recent activity, including search requests, previously watched videos, and video interactions (e.g. liked and subscribed) (Davidson et al., 2010, p.294; see also Bucher, 2018, p.48).

In these two notions of multiplicity of algorithms we can see that algorith*arms* are not always a united front: they sometimes work together, they sometimes work on independent tasks, and sometimes seem to work against each other. All these actions coalesce into what the user experiences as algorithmic filtering. While it is true the filter bubble model does not necessarily ignore this multiplicity of algorithms, the model is not well-served by the imagery of the metaphor. The filter bubble model represents personalisation and algorithmic filtering as a single object, a bubble - the imagery of which suggests a single membrane created by a unique process, rather than multiple recursive processes. The algorith*arms* model, on the other hand, makes the point of multiplicity of algorithms inescapable in its imagery.

Furthermore, the imagery of the filter bubble is suggestive of a single *stable* and *static* object. However, the *multiplicity* of algorithms, as Taina Bucher notes, also "pertains to their constantly changing nature" (2018, p.48). Algorith*arms* speak to this temporal element of multiplicity. Algorith*arms* are never static; they are continuously on the move. They are forever unfurling, unfolding, and undulating; they are constantly tumbling over one another. Social media platforms continuously alter and experiment with the many algorithms that are implemented on their sites. As such, there is never a single definitive version of the platforms; they are continuously becoming. Indeed, Bucher point outs that Facebook, for instance, "is routinely described as *a work in progress*" (p.48, original emphasis). Many platforms engage in a "culture of experimentation" (Ryaboy, 2015; see also Bucher, 2018, p.164, n.8) by running A/B tests, which are experiments in which a small sample of users is provided a different version of the standard site or algorithm. It is a way of testing ideas to assess their viability before mass roll-out. Consequently, the multiplicity of algorithms has a multiplicity of versions. Bucher argues that this culture of experimentation "complicates any effort to know algorithms, as the question inevitably arises as to *which version*, what test group, or what timeframe we are talking about" (Bucher, 2018, p.48). This becomes important when we consider calls for transparency and the opening the 'black box' of algorithms as a means for achieving accountability. The multiplicity means there is no 'single' system to open and see inside (Ananny and Crawford, 2015, p.982).

ii) Embodied Digestive Organs

Fundamentally, the filter bubble argues that the technical processes enacted by social media and online giants in the form of algorithmic filtering have power over users; algorithms have the power, it is argued, to determine what users see, read, and watch. The criticism of this form of power essentially comes down to the idea that we cannot abide having little to no control over our own identities and our own subject formation. Following Taina Bucher (2018), I reconfigure what it means to say algorithms *have* power with the concept of algorith*arms*.

In Chapter 2a), I argued the filter bubble model is reductive and can foster a technological determinist understanding of algorithms. The storying of algorithms accompanying the filter bubble model represents a simplification of their power. The imagery of the bubble is suggestive of algorithms as an external force having power over us, trapping us behind a semi-permeable membrane boundary that blocks certain content and only allows through content that the algorithms determine the users would likely like. I also argued earlier that a problem with the act of simplifying is that it tends to produce a comforting story, and I now argue that the reductionist filter bubble model suffers from the same tendency. This may seem strange to state this after suggesting that fundamentally the filter bubble is about the immense power algorithms and social media platforms have over the construction of user identity and subject formation. How can a storying of a fundamental lack of power be comforting?

The conceptualisation of power in this model is rather normative; it is one of hierarchical power, of domination, of having power over someone. This conceptualisation of power directs our thinking so much as to limit our action in response. It defines the relationship as simply adversarial. According to this traditional form of power, the only form of 'resistance' is to be against a unified, solid, and stable object of antagonism. Elizabeth Grosz's pair of chapters in *Time Travels* (2005), 'The Thing' and 'Prosthetic Objects' are useful here. She would argue that this turning of algorithms into an object, into a 'thing', is a natural predisposition as it is how we are best able to function. While we may exist in a state of becoming in a world of constant change and multiplicity - and on some 'unconscious or intuitive' level, we may be "at home most readily" with these "processes and movements, modes of variation, or flux" - we tend to stabilise

multiplicities into objects because our "intellectual and perceptual faculties function most ably when dealing with solids, with states, with things" (Grosz, 2005, p.134). It is a process 'of simplification, of coagulation, and of unification', which appears to open the most productive 'possibilities of action' (2005, p.134).

This simplification is reflected in the metaphors of digital discourse and the storying of the filter bubble, and the repetition of these simplifications means we have forgotten that it was initially a trick to ease our way in the world. We not only now believe that the world has been cleaved into easily distinguishable pieces - the cultural and the natural, for example, are commonly thought of as distinct realms – but also that the objects that have been stabilised are themselves easily manipulatable slices. A consequence for the filter bubble model, and why it is a comforting model, is that it implies the bubble is fundamentally escapable. It is escapable if only we are able to render visible the invisible and imperceptible actions of algorithms that create the 'bubble', if only we are able to adequately manipulate the objectified algorithms. This is echoed in the idea of opening the 'black box' of algorithms (e.g. Pasquale, 2015), making their operations transparent and therefore accountable. It is comforting in that it argues we can wrestle control away from the nefarious algorithms operating 'out there' on behalf of the social media platforms.

To begin the required reconceptualisation, we need to reconsider what technology is and we need, to a certain extent, to 'de-thingify' technology and algorithms. I argue we should consider what would happen if, rather than algorithms being powerful external 'things' operating on the body from the outside, we thought of algorithms as inside? What if we embodied algorithms as algorith*arms*? While technology is, Grosz argues, "of the realm of "things"" (2005, p.136) it is also something more. Technology is prosthesis. Technology, for Grosz, is "the consequence of the living's capacity to utilise the non-living (and the living) prosthetically" (2005, p.137). While it is true that technology is "in a sense made by us and for our purposes, it also performs a transformation in us: it increasingly facilitates not so much better action, but wider possibilities of acting, more action" (p.139). Quoting Henri Bergson, Grosz suggests that, in this sense, technology is inorganic matter transformed into "an instrument of action, that is, in the etymological sense of the word, into an *organ*" (Bergson in Grosz, 2005, p.139, original emphasis). Thus,

technology is a prosthetic organ, which supplements the body's capacities, compensates for vulnerabilities, and multiplies the possibilities of action (Grosz, 2005, p.139).

Algorith*arms* are prosthetic digestive organs. We need to consider what personalization and algorithmic filtering are doing. Algorithms are identifying possible links, associations, and inferences. Louise Amoore suggests they "condense multiple potential futures to a single output" (Amoore, 2020, p.4). Filtering algorithms are organising the flows of content, determining the 'edibility' of content based on entrenched user habits, the input of processes involved in ingestion and digestion which I have explained above, as well as what is 'recent and fresh', before preparing content for the possibility of consumption. Algorith*arms* are 'tasting' ahead of ingestion whether something would be worth the user consuming. Therefore, they are an 'external' part of our digital media digestive system.

'Prosthetic' is a useful qualifier to keep in mind due to the etymological sense of the term, meaning 'supplementary' or 'in addition'. As Grosz notes,

> In its etymological sense, a prosthesis "adds to," is supplementary of, an already existing functional body. But prostheses may also be regarded, not as a confirmation of a pregiven range of possible actions, but as an opening up of actions that may not have been possible before the creation of new bodily behaviors, qualities, or abilities rather than the replacement of or substitute for missing or impaired organs. […] prostheses may actualize virtualities that the natural body may not in itself be able to access or realize, inducing a mutual metamorphosis, transforming both the body supplemented and the object that supplements it. (Grosz, 2005, p.147-148)

In terms of my discussion of media consumption, we were capable of consuming content relatively effectively with our 'already existing functional' capacities before digital technologies. After the introduction of digital technologies and the vast amounts of new content and information they gave access to, these pre-existing capacities may not have been sufficient in the new information saturated environment: they may still have been functional, but they may not have been as efficient. The 'addition' of algorithmic filtering to our means of media consumption could be considered an 'opening up of actions' or the 'creation of new bodily

behaviours' that allowed the amount of information and content to be navigated, organised, and consumed without overwhelming the user. Here, we can see resonances with the cephalopod evolutionary narrative I presented above. As the early cephalopod ancestors arose from the seabed and entered the water column, the dependence on the molluscan 'foot' waned, and new bodily capacities evolved as the now-free foot blossomed into arms for grasping and manipulating objects in the new environment rich with opportunities.

This may seem as if I am an apologist for Facebook (as well as the other social media giants) and for algorithmic filtering by implying that we should be thankful to these social media companies for the benefits algorithmic filtering can provide in dealing with the abundance of information. However, when viewed through an evolutionary perspective the argument becomes more critical. Algorithmic filters that function as prostheses and become incorporated into our cognitive capacities (evoking Hayles [2017], to whom I return in the next subsection) simply open up actions or create bodily behaviours that allow users to function *well enough* in the specific information-rich environment. This does not necessarily mean that there was anything 'wrong' with the pre-digital technology capacities, or that another strategy could not function just as well in the same environment. Rather, it means that a confluence of environmental and ethological factors, allowed these prostheses, these technological processes, to become more widely adopted. This approach recognises that there are potential benefits, but it also makes clear that the possibilities of action that algorithmic filtering open are not necessarily *better* possibilities of action, in any objective sense. Just as octopuses are not and should not be grateful to predators who, according to the *Packard scenario*, forced their early shelled-cephalopod ancestors out into opening water which brought the morphological changes that allowed them to function in their new environment, we should not be grateful to social media companies for algorithmic filtering which opens up the possibilities of action in an information-rich environment. Accompanying any potential benefits are potential vulnerabilities.

While 'prosthesis' can be a useful term, algorith*arms* also need the term 'organ'. An emphasis on organ undercuts any anthropocentric notions of the possibility of a complete mastering of our prosthetic algorithmic tools. When there is too much emphasis on their prosthetic nature, on algorithms as "a relation of extension"

(Grosz, 2005, p.148), there is a danger of creating an illusion of control. Utilising Freudian psychoanalytic theory, Grosz notes that "the ego (or at least its ideal) is magnified and aspires to a megalomania worthy of gods" when bodies incorporate "instrumental supplements" which vastly extend their "physical, geographical, and temporal" boundaries: "According to Freud, "man" approaches the status of "prosthetic god", developing a fantasy of omnipotence" (Grosz, 2005, p.148). This 'omnipotent fantasy' also explains why even when the lack of control is pointed out – that the prosthetic tools are potentially causing harm à la the filter bubble model - the response is that we can either simply 'fix' the grafted-on instruments of action or, if the worst comes, we can simply remove the prosthetic organ and escape the feared consequences.

Algorith*arms* make more conceptual sense as organs or, more specifically, as digestive organs. Rather than being grafted onto the body like a prosthesis, an organ is inextricably linked to the body, to other sense organs and bodily processes such as those of cephalopod ingestion and digestion I explained earlier, and to the 'outside' environment. Likewise, algorith*arms* are not so easily separated, for algorithms are 'lodged within' us like organs, and we are 'lodged within' algorithms (Amoore, 2020, p.58), like our DNA in the genetic makeup of organ tissue. As Louise Amoore notes on the algorithm: "We are it, and it is us. We could never stand outside it, even if we might wish to" (2020, p.79). Although Amoore is speaking in the context of advanced machine learning algorithms, this can be said to apply to the personalisation and algorithmic filtering processes too. Consequently, for Amoore, the ethicopolitical questions of algorithms, that is questions such as the nature of their power, the limits of control, and their accountability, are "located within the figure of the *we* – in the very relations to ourselves and to others implied in the *we* who have a spring of action" (2020, p.58, original emphasis). These ethicopolitical questions are explored in the final culminating subsection which pulls together many threads traced in this chapter.

iii) Independent Cognitive Systems

The ethicopolitical question of algorithms being located in the figure of 'we' is emphasised in the cephalopodic animal spirit. As mentioned in the above

physiology, Carls-Diamante speculates that the level of autonomy in the arms could mean that the octopus is an organism that houses multiple independent cognitive systems (2019, p.463), and therefore possibly represent a challenge to the unity of consciousness thesis – that a single organism cannot hold more than one consciousness within itself. To repeat Godfrey-Smith's claim, *"*For an octopus, its arms are partly *self* – they can be directed and used to manipulate things. But from the central brain's perspective, they are partly *non-self* too, partly agents of their own" (2017, p.103, original emphasis). *Thus, w*e might argue that octopuses are less an 'I' and more a 'we'. What might the experience of this be for the cephalopodic animal spirit? She both knows and does not know 'herself'; she both can and cannot control 'herself'. Thus, we can speculate that her relationship with her arms is weird.

a) (We)ird

The use of the term 'weird' here is purposeful. The use of the term is apropos not only as a thematic link to my appeal to fiction and storying but also due to the etymology of the term. Although 'weird' has come to mean strange or unusual, this is not the meaning I am interested in emphasising here. I have a specific understanding of 'weird' that taps into its etymological origins which evoke notions of control. I highlight the meaning found in the term's original noun and adjectival forms. 'Weird' derives from the Old English noun word *wyrd*, itself of Germanic origin, meaning fate or destiny. In the Middle English noun form, 'weird' meant "the principle, power, or agency by which events are predetermined; fate, destiny" (OED, 2022d). In the plural noun form it referred to "the Fates, the three goddesses supposed to determine the course of human life" (OED, 2022d). A significant representation of this form is in Shakespeare's application to the Weird Sisters in *Macbeth.* The original adjective form of 'weird' meant "having the power to control the fate or destiny of human beings, etc.; later, claiming the supernatural power of dealing with fate or destiny. Originally in the Weird Sisters = †*(a)* the Fates; *(b)* the witches in *Macbeth*." (OED, 2022e). Indeed, it appears Shakespeare's application would spawn a reinterpretation of the term linking it to the more recognisable adjectival form of 'weird' meaning strange, unearthly, or "uncanny, supernatural" (Etymonline, 2022d; see also Merriam-Webster, 2022b).

Interestingly, the description of the Sisters in *Macbeth* as 'weird' is an editorialization, an emendation of the original text. In the Folio, the beings who

relay the prophecies to Macbeth are not the *Weird Sisters*, but the *weyward Sisters* or *weyard* Sisters (de Grazia and Stallybrass, 1993, p.263). The emendation of *weyward* to *weird* was popularised and accepted. However, an alternative, equally possible emendation - one which is also relevant for my purposes – could see *weyward* shift to *wayward*. Wayward also has meanings related to control, with the Cambridge Dictionary defining the term as "doing only what you want and often changing your behaviour in a way that is difficult to control" (Cambridge Dictionary, 2022). Other meanings attached to wayward include capricious and self-willed; intractable and refractory; ungovernable, unpredictable, and unaccountable (Merriam-Webster, 2021; OED, 2021).

If we follow through on the speculative assertion that an octopus' arms are independent cognitive systems and follow the above meanings of the terms, then we can further speculate that their arms and, by extension, the concept of algorith*arms* are to a certain extent both *weird* and *wayward*. Weird and wayward are useful descriptors to begin a reconceptualization of notions such as power, control, and accountability when it comes to algorithmic filtering and digital media consumption. Regarding the latter term, we can see that while the 'central' brain can direct the arms - as Godfrey-Smith notes, "octopuses can exert a significant degree of central control over their arms when the need to" (2013, p.8) - it appears the 'central' brain does not have total control. The arms can move to a different rhythm; they can go their own way (to adapt a song by Fleetwood Mac). The central brain cannot always govern, predict, or account for all the behaviour of their arms, and it is in this sense that they are *wayward*.

Regarding the former term, we could argue that the arms are *weird* because their autonomy – their waywardness - suggests another cognition, another agency, determines the fate and destiny of the organism as a whole. However, this casual reading of weird as broadly meaning 'control over fate' may suggest a relatively linear causality: an external force determining the inexorable fate of an individual. This formulation leaves a lot to be desired. It repeats the reductionism in the filter bubble model, and it renders the previous sections on cephalopod ingestion and digestion as model of digital media consumption relatively meaningless if the fate of users is ultimately determined by algorith*arms.* As I have made clear, the purpose of the cephalopodic animal spirit is to complicate this storying of algorithms so the

understanding of ‘weird’ requires a little more clarification to make a more effective argument. To begin this process, we can consider Mark Fisher’s point in *The Weird and The Eerie* (2016) that “the concept of fate is weird in that implies twisted forms of time and causality that are alien to ordinary perception but it is also eerie in that it raises questions about agency: who or what is the entity that has woven fate?” (Fisher, 2016, p.12). This second point regarding agency, and what it means for notions of responsibility and accountability, will be addressed shortly in my discussion of the arms of an octopus as independent cognitive systems and N. Katherine Hayles’ notions of the cognitive nonconscious and cognitive assemblages (2017), while Fisher’s first point regarding the twisting of causality can be elaborated now by incorporating an understanding of ‘weird’ that emphasises a different aspect of its etymology.

According to Timothy Morton, for instance, ‘weird’ comes from “the Old Norse *urth*, meaning twisted, in a loop” (2016, p.5). In *Dark Ecology: For a Logic of Future Coexistence,* they utilise this understanding of weird in their explanation of how, in the Anthropocene, different scales and temporalities are bound together in a strange loop (Morton, 2016, p.8), which they define as “one in which two levels that appear utterly separate flip into one another” (2016, p.7). Underlined for Morton in the concept of weird loopiness is the idea of self-awareness across these multiple scales and temporalities, and the responsibility that comes with this awareness. Referencing the noir genre of fiction, Morton claims we are implicated in the story; we are, in a strange loop, at once the detective *and* the criminal (2016, p.9). Although Morton is writing in the context of the Anthropocene and global warming, this weird loopiness can be used in the context of digital culture, as the concept of algorith*arms* loops together in an embodied cephalopodic animal spirt users and algorithms which are thought to be, or at have least been storied as, separate from each other. Thus, we can now argue that the arms are weird because a wayward cognition, another agency, is looped together with the ‘central’ brain to *co-determine* the fate and destiny of the organism as a whole. In this formulation, the previous sections on cephalopod ingestion and digestion become salient as they are recognised as a co-constitutive agency once more ‘in the mix’.

There are resonances here with Haraway’s use of science fiction, which now we could arguably describe as being infused with a certain ‘weirdness’. As mentioned

earlier, Haraway (1991) uses Octavia Butler's science fiction to 'think differently' about the discourse of the immune system. The narrative of immunology is shifted away from one of an antagonistic power that shapes one's destiny and needs to be 'fought' to the point of "the exclusion of everything that is "not self""(Merrick and Grebowicz, 2013, p.126) towards a narrative in which the very boundaries of the self are problematised, the power to control one's destiny is more distributed, and 'we' are like Butler's characters who are "complexly webbed into a universe of living machines, all of which are partners in their apparatus of bodily production" (Haraway, 1991, p.228). A similar narrative shift occurs in the move from the filter bubble model of conceptualising algorithmic filtering to the cephalopodic animal spirit that has been developed in this chapter.

In the narrative of the filter bubble model, users are vulnerable to algorithms which are presented as external antagonists having the power over a user's online destiny by trapping them in bubbles. It is a narrative of us(ers) vs. them; them, that is, being variably technology, algorithms, and social media platforms. The solution presented by the imagery of the model is that users must burst the bubble to save themselves. To mix genres and borrow from the language of horror fiction, we could say the filter bubble model operates on jump scares in which the antagonists cause brief states of terror but are ultimately defeated. When the house lights come up and everything is illuminated, we are comforted by the fact that the antagonists can be defeated by the exceptionality of human rationalism; we can regain a semblance of control; we are safe in the knowledge that our sense of 'self' is intact; and we can breathe sigh of relief while exclaiming 'Phew, wasn't that close?' If we were so inclined, we could uncharitably argue that the filter bubble model is an evasion of responsibility. The imagery allows us to eject from the narrative before it arrives at the terrifying part, opting for the relative cheap scare. The cephalopodic animal spirit, on the other hand, is engages in a more nuanced narrative, yet one with the potential for far more terrifying psychological horror by making users stew in what has been wrought.

The storying of the filter bubble model suggests there is a place we can 'return to an Edenic garden' (Grebowicz and Merrick, 2013, p.113) untouched by algorithmic influence, or there is the possibility of an escape to utopian future which can be built using a blueprint for a better 'elsewhere' (2013, p.122). However, the storying of the

algorith*arms* is realises that there is likely no possibility of refuge in a return nor an easy escape to 'elsewhere'. Following Haraway, the narrative of algorith*arms* 'stays with the trouble' or, to adapt her phrase slightly, it 'stays with the weirdness' of algorithmic power. As we recall, for Haraway staying with the trouble "requires learning to be truly present, not as a vanishing pivot between awful or edenic pasts and apocalyptic or salvific futures, but as mortal critters entwined in myriad unfinished configurations of places, times, matters, meanings" (Haraway, 2016, p. 1). The cephalopodic animal spirit stays with the trouble by not only embodying (i) multiple algorithms as (ii) prosthetic organs but also by staying with the weirdness that these organs are (iii) independent cognitive systems. This final point can be put in conversation with N. Katherine Hayles' recent work on cognition (2017) to follow through the implications for the model's narrative as it relates to notions of power, control, and accountability.

b) Hayles and Cognition

There is productive discussion regarding octopus mind(s) and consciousness(es), in which Carls-Diamante's (2017) idea that the octopus's arms could mean a disunified consciousness is a prominent node[16]. It appears much of the debate that arises is due to ill-defined concepts of mind, consciousness, and cognition. There can also be a defensiveness about the application of concepts like consciousness to nonhuman processes as there is a perception that links it to 'advanced thinking', such as rationality, the formation of abstract concepts, and linguistic capabilities (Hayles, 2017, p.2). As N. Katherine Hayles emphasises, this perception is rooted in "anthropocentric projection" (2017, p.9). While consciousness can be an awkward concept to apply, cognition is much more amenable and malleable a notion. In fact, Carls-Diamante seems to settle on this safer line of argument in her later articles (2018; 2019), as she resolves to describe the octopus's arms as independent cognitive systems rather than having primary consciousness as she did previously (2017). Similarly, it would be difficult to make a convincing argument that the kind of algorithms under discussion in this thesis have consciousness or are engaged in 'thinking', at least with the normative anthropocentric understanding of the term, but

[16] For a fascinating discussion of octopus mind(s), see Jennifer Mather's (2019) article and the accompanying thread of commentaries, including Mather's response to commentaries, in *Animal Sentience.*

we would be on more stable ground to argue, following N. Katherine Hayles, that they are cognitive processes and are part of an assemblage.

In *Unthought: The Power of the Cognitive Nonconscious* (2017), Hayles draws the distinction between cognition and thinking. For Hayles, thinking "refers to the thoughts and capabilities associated with higher consciousness such as rationality, the ability to formulate and manipulate abstract concepts, linguistic competencies, and so on" (2017, p.2). For her understanding of cognition, Hayles deliberately develops a definition that could apply equally to biological organisms and to technical systems, including algorithms. Thus, cognition is defined by Hayles as "a process that interprets information within contexts that connect it with meaning" (2017, p.22). Hayles parses this definition by breaking it down to three components: *(1)* cognition is a process; *(2)* that interprets information; *(3)* within contexts that connect it with meaning (2017, p.25-27).

Defining cognition as a process *(1)* suggests it is not an attribute that one can have or hold but that it is "rather a dynamic unfolding within an environment in which its activity makes a difference" (p.25). Hayles uses the example of an algorithm written as a set of instructions on paper, which would not be cognitive in of itself, but would become a cognitive process when enacted in a system capable of executing the instructions (p.25). This speaks to the relative futility of opening the 'black box' of algorithms by publishing the source code to see the specific instructions. Certainly, this would achieve a fair amount of transparency, but it also somewhat removes 'the algorithm' from the context that gives them power in the first place: their action in and as cognitive processes. This issue is compounded by the multiplicity of algorith*arms* argument made above, which makes clear that algorithms are neither singular nor temporally static. Publishing the source code would be akin to dissecting an octopus's arm to see the nerve fibres inside. Similarly, the more empirical network analysis approach, for example, to 'see' algorithms in action would merely, in essence, be taking snapshots of the death throes of severed algorith*arms*. This is, of course, not to say that these strategies could not be pursued. They can potentially be very informative, but we need to be wary of assigning more meaning and significance to the results than can reasonably be attributed.

Regarding the second point under Hayles' wider definition of cognition, we can argue that algorithms are cognitive in that they *(2)* interpret information, as they

make choices and decisions. Broadly, the choice filtering algorithms make is whether or not content should be shown to the user and recommended for consumption. Nested within this choice are further decisions that influence the final decision, such as whether the content is 'recent and fresh', whether similar users liked it, whether the user liked similar content in the past, etc., all of which make the decision tree interpreting information become more complex (Hayles, 2017, p.25). It is never certain that the decisions made will be useful or helpful, these decisions are made by interpreting "ambiguous or conflicting information to arrive at conclusions that rarely if ever are completely certain" (2017, p.24). This highlights the importance of context, which is addressed in Hayles' third point: algorithms are cognitive in that they interpret this information *(3)* within contexts that connect it with meaning. The interpretation of information performed by algorithms obviously does not exist in isolation; it only 'makes sense' or has meaning in specific and evolving contexts.

Furthermore, the outcome of the interpretations that may be relevant to the specific situational context contributes to and, thus, changes that context. Hayles further suggests that the interpretations resulting from the synthesis of "conflicting and/or ambiguous information […] may feed forward into consciousness, emerging as emotions, feelings, and other kinds of awareness upon which further interpretive activities take place" (2017, p.24). In this sense algorithms are not only connective but are creators of meaning. Indeed, this is precisely why algorithmic power is of concern. Quoting Ganaele Langlois who herself refers to Jacques Rancière, Tarleton Gillespie suggests algorithms "are now the key logic governing the flows of information on which we depend, with the "power to enable and assign *meaningfulness*, managing how information is perceived by users, the 'distribution of the sensible.'" (Langlois 2013)" (Gillespie, 2014, p167, my emphasis).

Hayles' deliberately wide definition allows her to explore, as Louise Amoore describes it, "a broad ecology of cognition" (Amoore, 2020, p.143) within which a decentred human subject is webbed. In this cognitive ecology, the 'higher consciousness' associated with the human self is but one aspect, and a relatively small aspect at that, as this consciousness and unconsciousness[17] are "modes of

[17] For Hayles, the unconscious is the "broad environmental scanning that operates below conscious attention (Hassin, Uleman, and Bargh 2005)" (2017, p.10). Hayles proffers the example of "driving

awareness" represented as the tip of a tripartite pyramid structure of cognition (Hayles, 2017, p.27; also see Fig.1 in Hayles, 2017, p.40). This tip is supported by a larger 'middle' layer of *nonconscious* cognitive processes - the layer in which Hayles is predominantly interested. Nonconscious cognitive processes are those that operate at a level "inaccessible to the modes of awareness but [are] nevertheless performing functions essential for consciousness" (2017, p.10). It is the nonconscious to which the title of *Unthought* refers[18]. As Hayles describes the term, unthought indicates "a kind of thinking without thinking. There is thought, but before it is unthought" (Hayles, 2017, p.1). Supporting the layer of nonconscious cognitive processes is a larger still foundation layer. According to Hayles, this 'bottom' layer consists of material processes that are "not in themselves cognitive" but are the "dynamic actions through which all cognitive activities emerge" (2017, p.28).

Hayles describes the "complex interactions" between the different layers of actors and agents in this ecology of cognition as '*cognitive assemblage'* (2017, p.115). The use of the term assemblage draws an obvious connection to the concept developed by Deleuze and Guattari (2004b). Their term 'assemblage' is the relatively settled English translation of the authors' original French term *agencement*, meaning 'arrangement' or the process of arranging and organising (Livesey, 2010, p.18). Assemblage is Deleuze and Guattari's concept to explain "all the voices present within a single voice" (Deleuze and Guattari, 2004b, p.88); as such, assemblages are "complex constellations" (Livesey, 2010, p.18), "ad hoc groupings of diverse elements", or "living, throbbing confederations" (Bennett, 2010, p.23). They are the arranging and rearranging of heterogeneous elements that coalesce for a certain duration "to ideally create new ways of functioning" (Livesey, 2010, p.18). In her delineation of assemblages, Jane Bennett suggests they have "uneven topologies" (2010, p.24), meaning power and agency is not equally distributed within them, and

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while thinking about a problem. Suddenly the car in front of you brakes, and your attention snaps back to the road" (p.10). Unconsciousness and consciousness can be grouped together because of the "easy and continuous communication" between the two levels (p.10).

[18] In a pleasing resonance with the appeal to science fiction in this chapter, Hayles gestures towards science fiction author Ursula Le Guin's *The Left Hand of Darkness* while introducing the term 'unthought'. Hayles notes how the Handdarrata, practitioners of a religion in the novel, are "given to negatives" and would undoubtedly recognise the concept of 'unthought' (2017, p.1).

they are “not governed by any central head” (p.24). While assemblages are, as Deleuze and Guattari note, “in constant variation [and] are themselves constantly subject to transformation” (Deleuze and Guattari, 2004b, p.90), Bennett notes that they have a “distinctive history of formation” despite their “finite life span” (2010, p.24).

Where my interests first align with Hayles is with her inclusion of *technical cognition* as part of the ‘unthought’ or nonconscious processes, as algorith*arms* more accurately fit the description of technical cognition. Echoing the earlier point regarding algorith*arms* as external digestive organs, the “multi-level systems [of technical cognition] represent externalizations of human cognitive processes” (Hayles, 2017, p.25). There is not a contradiction here: algorith*arms* are both digestive and cognitive - as the octopus physiology noted above, arms are complex multipurpose organs and can be “at least five different organs simultaneously” (Brown and Fleming, 2002, p.143). Technical cognition performs a similar function to the human or ‘biological’ nonconscious processes including ‘faster information processing than consciousness, pattern recognition’, and “drawing inferences that influence behaviour and determine priorities (Lewicki, Hill, and Czyzewska 1992)” (Hayles, 2017, p.11). Essentially, the role of technical cognition is to prevent “human consciousness from being overwhelmed by massive informational streams so large, complex, and multifaceted that they could never be processed by human brains” (p.11).

Immediately, we should be recording resonances between technical cognition and the concept of algorith*arms*. As a multiplicity of prosthetic digestive organs, algorith*arms* help to deal with the abundance of information by ‘tasting’ content before consumption; this can be seen as akin to, as one review of Hayles’ book puts it, nonconscious cognition’s ‘thinking outside thought’ (Milburn, 2017). There is a further resonance with how nonconscious cognition functions. As Stanislas Dehaene notes, “during nonconscious processing, evidence would be accumulated locally within specialized subcircuits, but would fail to reach the threshold needed for global ignition and, therefore, conscious reportability” (2009, p.89). This echoes the axial nerve cord, the ‘specialized subcircuit’ that performs extensive local processing of sensory information within the arms of an octopus before sending the

information to the brain (Carls-Diamante, 2017). Similarly, the exact nature of each and every filtering process is not 'reported' to the user. It is only the information already extensively processed by the algorith*arms*, or the 'outputs' which achieve the 'threshold for global ignition', that are subsequently 'forwarded through reverberating circuits' (Hayles, 2017, p.28) to the user in the form of filtered, recommended, and personalised content.

In describing as inaccessible the technical nonconscious to conscious modes of awareness there is a danger of misrepresenting the relationship between the processes. I take inaccessible to mean not accessible to full comprehension rather than an irrevocable disconnect. There is, of course, a certain amount of required communication between the processes. As Hayles notes, "nonconscious cognition needs the support of high-level amplification signals to endure, no less than consciousness depends on and integrates the fast-responses information processing of nonconscious cognitions" (2017, p.215). The octopus physiology demonstrated this relationship as the arms receive 'high-order motor commands' from the brain, leaving fine-grained motor control to the arms themselves (Carls-Diamante, 2017, p.1277). Referring to popular neuroscience rhetoric, Hayles suggests the describing the human brain's automated processing systems as 'aliens' or 'zombies' "introduces a totally arbitrary division between consciousness and nonconsciousness (Hayles, 2017, p.215). The algorith*arms* concept aspires to not introduce the same division yet retain the 'liveliness and entertainment' that such 'alien/zombie' rhetoric was undoubtedly fashioned to bring to the argument (2017, p.215).

Just as technical nonconscious cognition is 'inaccessible' to conscious modes of awareness, algorith*arms* are, to appropriate Morton's phraseology, weirdly looped together with the rest of the user's 'body'. Algorithms, which are the proprietary technologies of social media companies (e.g. the Facebook algorithm, the Twitter algorithm, etc.), also seem to 'belong' to those who use them. In the section on the multiplicity of algorith*arms* above we dealt with the common refrain from users referring to algorithms in the singular, but another set of curiously frequent comments seem to assert ownership of the algorithms in some way: '*my* algorithm' and '*your* algorithm'. What is more, the output of said algorithms appear to 'know' users intimately: '*My* algorithm gets me!'. Indeed, algorithmic filtering and personalisation is still capable of provoking, as Lury and Day put it (2019), a

"familiar recognition", a sense of "knowing you better than you yourself do" (p.19). To apply Godfrey-Smith's claim to the concept, we could argue that from the perspective of the user algorith*arms* are partly *self* and partly *non-self* (2017, p.013). This fracturing of the self, of the I, is how it is possible to recognise algorithms as 'ours' *and* as something apart or, to borrow Hanlon and Messenger's phrase, "curiously divorced" (1996, p.29), from us.

Digital users are broadly cognisant of that fact they are subject to data collection from social media companies, as well as governments and other third parties. They are not only aware that their online behaviour undergoes processes of 'datafication', that is, "the transformation of social action into online quantifiable data" (van Dijck, 2014, p.198) and that this data is valuable, but that algorithms 'knowing' them contributes to making this data valuable to social media companies, for this is how such companies develop targeted advertising, as well as filter and personalise streams and timelines to keep users engaged on the platform for longer (e.g. Bucher, 2018; Lupton, 2021). Algorith*arms* can speak to this, as they represent the 'valuable' aspects of a user's digital experience. As mentioned above, octopuses not only have many neurons in their arms but also a lot of muscle, and therefore are protein-rich meal for predators such as sharks, dolphins, and moray eels (Schweid, 2014, p.30). Indeed, Frank Lane writes in *Kingdom of the Octopus* (1957), that moray and conger eels have been observed eating an octopus by tearing off and swallowing each arm one by one (1957, p.46; see also Lee, 1875, p.p.52-53; Schweid, 2014, p.31).

Taking social media platforms as the predators in this scenario, they consume the algorith*arms* and subsequently part of the users' self - the part of the self that is comprised of the 'high-level amplification signals' that support nonconscious cognition, or those broad desires that help to guide action. In fact, this aspect of the algorith*arms* concept seems to already resonate with the more recent public imaginaries about the nature of datafication. Deborah Lupton's (2021) Data Persona study asked Australian adults to reflect on "what aspects of their selves and lives they imagined datafication […] processes can and cannot access" (p.5-6). While the majority of the respondents suggested that their 'data persona' – the concept used by Lupton to stimulate reflection about the 'version of the user comprised of all the data

and personal information collected from digital devices, as well as geographical spaces embedded with sensors' (2021, p.9) - would in some ways be an accurate representation, many also emphasised that there would still be an "ineffable" part of themselves that data collection just could not touch nor represent (p.12). As one respondent put it, although data profilers might know demographic details, purchase history, and make predictions based on past online behaviour, they "can never know [the respondent's] thoughts and feelings. They will only see the actions but not the motivations behind those actions" (p.13).

Although these users may be surprised at how much their data can *actually* reveal about themselves, it is significant that they imagine datafication as only ever partial, that it would be "nothing more than a sketchy outline" (Lupton, 2021, p.12). In this sense, data personas are imagined as 'less-than-human' (p.13). This is significant when considered with another insight identified by Lupton. The social imaginary in her study counters the popular and scholarly storying which presents the public as particularly vulnerable to exploitation due to a lack of knowledge and agency (p.4). Furthermore, it reconceptualises the idea that the digital users are 'apathetic' (Hargittai and Marwick, 2016) and 'resigned' (Draper and Turow, 2019) to the inevitability of exploitation, and "have largely given up the possibility of exerting agency over their data" (Lupton, 2021, p.17). Instead, it suggests users are engaged in a strategy of risk calculus, like octopuses who are known to autotomise, that is cast off their arms at a structural weak point, when it is necessary to escape predators (Mather et al., 2010, p.85, p.111). Algorith*arms* speaks to the idea that users are willing to part with their data derived from algorithms if it means they can continue to reap the benefits that algorithms can bring because they consider the data to be the 'less-than-human' part of their self.

There is no real escape from predation, of course. It is rather a continuous mode of existence, sometimes operating in the background, sometimes at the forefront, but always modulating behaviour. This inescapabilty is epitomised by the ability of octopuses to regenerate lost arms, like lizard tails or brittle stars limbs (Mather et al., 2010, p.85), meaning a return to the same situation. Algorith*arms,* thought through this predator-prey relationship, emphasise digital culture as a constantly recurring state of vulnerability. Algorith*arms* figure a vulnerable user that is "far more complex and nuanced than that of the 'passive', 'manipulated', 'apathetic'

'resigned' data subject" (Lupton, 2021, p.17), and shows a greater consideration of the "contextual, situated and temporal dimensions of data profiling" (p.17).

Paradoxically, Lupton suggests data personas are imagined as "simultaneously less-than-human and more-than-human" (2021, p.18), as they are also recognised as "co-constituted with humans and digital technologies and distributed across multiple sites" (p.17). This resonates with Hayles' contribution above. Similarly, algorith*arms* speak to this paradox; they represent a situation in which algorithmic filtering and recommendation systems counter the normative understanding of the 'unified subject'. Removing the anthropocentric language of > and < 'human', we can instead argue they are "always more and less than one" (Lury and Day, 2019, p.17; Amoore, 2019, p.8) because, following Hayles, the distributed cognition between 'human' and technical cognitive processes means the distributing of agency and of decision-making which "does not map directly to the 'one' of the liberal human subject" (Amoore, 2019, p.9; Lury and Day, 2019[19]).

c) Assemblage(s), Agency and Accountability

Continuing this line of thought, we return to Hayles' work on cognition. As mentioned above, the interactions between the different layers of actors and agents in the ecology of cognition are described as 'cognitive assemblage (2017, p.115). For her concept, Hayles prefers the term 'assemblage' with its Deleuzian (and Guattarian) connotations over the more Latourian term 'network' and other terms such as Francisco Varela's 'meshwork' (1991) or Hardt and Negri's 'Empire' (2000) which also speak to the relations "between parts of a volatile but somehow functioning whole" (Bennett, 2010, p.23). There are two reasons for this preference, namely for the topological and temporal connotations. Firstly, Hayles suggest the term network is too 'neat' and 'flat'. Networks, visualised in graph theory, are composed of nodes and edges, points and lines, with lots of 'empty' space between. Invoking Galloway and Thacker, Hayles suggests networks convey "a sense of sparse, clean materiality (Galloway and Thacker 2007)" (Hayles, 2017, p.118). Assemblages, on the other hand, seem to better embrace the complexity and messiness; they "allow for contiguity in a fleshy sense, touching, incorporating,

[19] In this referenced article, Lury and Day are influenced by the work of Hayles. The article appears in a special issue of *Theory, Culture & Society*, 'Thinking with Algorithms: Cognition and Computation in the Work of N. Katherine Hayles' (2019). Louise Amoore's referenced article (2019) is the introduction to this special issue.

repelling, mutating" (p.118). For Hayles, 'networks' "lack the sense of those interactions occurring across complex three-dimensional topologies" (2017, p.118).

Secondly, Hayles suggests 'assemblage' better attends to temporal changes than 'network'. For Hayles, in assemblages "the configurations in which systems operate are always in transition, constantly adding and dropping components and rearranging connections" (2017, p.2). Here, Hayles' understanding underscores process. This works to address Manuel DeLanda's point that while the original French term refers to both the *action* of assembling and the *result* of said assembling, the first meaning can sometimes be obscured in the English translation causing the potential for overemphasis on the stable arrangement and give the "impression that the concept refers to a product not a process" (2016, p.1).

For both these temporal and topological reasons, I have similarly latched onto the phrase 'ecology', specifically in the context of 'ecology of cognition'. Although, in Deleuzian terminology, ecology might function better as a diagram, or a 'map of destiny' as Deleuze would say (Deleuze, 2006, p.32; Livesey, 2010, p.18), which defines (temporarily at least) the relationship between components. Ecology speaks to the three-dimensional multiscalar complexity of interactions (topological) from the 'individual' (as much as the term still applies) organism to the wider ecological processes. Ecology can also speak to the processual, transitionary nature of these interactions (temporal). These temporal and topological aspects are enhanced by considering them in the context of a longer time scale, which is the benefit of adopting an evolutionary perspective.

So, the ecology of cognition is a map of the assemblage. In fact, it might be more accurate, or indeed more helpful, to argue there are assemblages within assemblages; it all depends on how the boundaries are drawn or where we make the cut, to evoke Barad (2007). The concept of algorith*arms* loops the modes of awareness (conscious and unconscious processes), represented in this chapter by the cephalopod ingestion and digestion, and the technical nonconscious cognitive processes together in an assemblage. By technical nonconscious cognitive processes, I mean algorithms which as we have seen are themselves multiple and, as Bucher suggests, "part of hybrid assemblages or even hybrid assemblages themselves" (Bucher, 2018, p.51). And this/these assemblage(s) form an assemblage with what Hayles calls material processes. When applied to the concept of algorith*arms* these

latter processes could be described as the wider sociocultural, ecological, and evolutionary processes, which includes the influence of social media platforms, which are, of course, themselves assemblages comprised of technological, economic, discursive, and ideological influences as well as individual 'human' action.

To borrow the language from Haraway's reading of the SF novel *Dawn* by Octavia Butler, Hayles might argue that we are complexly and "completely webbed" in this ecology of cognition, all the components "of which are partners - not enemies - in their apparatus of bodily [or rather cognitive] production" (Haraway and Goodeve, 2000, p.70; Haraway, 1991, p.228). With this language Haraway attempts to make clear that many previously neglected or disparaged parts have a (surprising, perhaps) constitutive role in the formation of what we call the human body. However, her aside of 'partners, not enemies' could be interpreted as overstating the coherence between components. It is important to recognise that 'partners' does not necessarily preclude the idea of friction to the point of conflict. Indeed, as Hayles suggests, in this rich ecology of cognitive processes there are multiple agents contributing a range of "collaborating, reinforcing, contesting and conflicting interpretations" (2017, p.213).

The assemblage comprised of conscious and unconscious modes of awareness and the technical nonconscious cognitive is broadly aligned with the posthumanist agenda of decentring the human and blurring boundaries because it not only places different cognitions on a continuum, where differences are more of degrees rather than of kinds, but it also recognises that there is "another agent in addition to consciousness/unconsciousness in cognitive processes" (Hayles, 2017, p.67). (This all sounds very *weird*, does it not?) In the concept of algorith*arms*, users are always *more than one* in that there are additional agencies contributing to action, with algorithms 'thinking' in users. This is evocative of Deleuze's claim, "another always thinks in me" (Deleuze, 2014, p.261). Although Deleuze was writing in the context of Ideas, we can apply this to algorithms and algorith*arms*.

To expand the quote, Deleuze writes "the Ideas which derive from imperatives enter and leave only by that fracture in the I, which means that *another always thinks in me*, another who must also be thought. Theft is primary in thought" (2014, p.261, my emphasis). Here, Deleuze argues that ideas and thoughts are never entirely

'yours'. In this sense, thought is theft. Where exactly does the thought of others end and 'our' thought begin? In the context of algorith*arms*, we can certainly make the case that the product of algorithmic filtering, their algorithmic 'thoughts', are not yours. But is this theft? While there is an argument to be made that, approaching from the other side, algorith*arms* 'steal' the thoughts of the 'central brain' to function, I am not convinced that theft is the appropriate description for algorithms. However, I do think there is a certain 'aggression' that can be read in the process. Therefore, I am more convinced by the development in the idea when it returns in Deleuze's later thought. In *Logic of Sense*, Deleuze claims:

> There is always another breath in my breath, another thought in my thought, another possession in what I possess, a thousand things and a thousand beings implicated in my complications: every true thought is an aggression. It is not a question of our undergoing influences. But of being "insufflations" and fluctuations, or merging with them. That everything is "complicated," that *I* maybe an other, that something else thinks in us in an aggression which is the aggression of thought, in a multiplication which is the multiplication of the body, or in a violence which is the violence of language. (Deleuze, 2015, pp.307-308)

The embodied process of digital media consumption described in the cephalopod ingestion and digestion sections above speaks to an inherent aggression in the act of consuming content, in the act of acquiring information and knowledge, while the concept of algorith*arms* represents the multiplication of the body, as suggested by the idea of them as independent cognitive systems, and this aggression of thought. For example, users are vulnerable to the aggression that is inherent to algorithmic filtering process itself. Users are vulnerable to the waywardness of that 'other thought in their thought'. They are susceptible to what Louise Amoore might call the 'madness of algorithms' (2020). This 'madness' is represented in those moments when algorithms depart from otherwise rational logic such as when a Twitter chatbot spews racist and misogynistic hate, or when an autonomous vehicle causes a lethal accident (Amoore, 2020, p.23). Or, in the context of this chapter, another (milder) example is when filtering algorithms recommended bizarre pieces of content, when users are led to content that either offends their sensibilities or their expectations of

what they think the algorithm should be doing, even if the user eventually decides not to follow through on the recommendation and consume.

These ‘aggressive’ moments when users notice the algorithms, when they notice the waywardness, are not malfunctions or evidence of the algorithm breaking down but are in fact necessary. As Amoore suggests, these seemingly errant moments of algorithmic madness are actually “integral to the algorithm’s form of being and intrinsic to its experimental and generative capacities” (2020, p.111). As much as users are vulnerable to this aggression of waywardness, of the lack of control, it is also this aggression that is generative of change. Certainly, with experimentation there will be failures, mistakes, and bizarre suggestions, but it is precisely this experimentation which allows algorithms to function in the first place by blending habit, experience, and desire with the new and the unknown but the still potentially productive.

3a) EVENT (Participation)

In the preceding chapters (1a) and 1b), 2a) and 2b)) I disrupted the digital media unit of the meme, and a digital media process, namely digital media consumption. In this third and final analysis chapter, I disrupt the digital media event and, alongside it, the concept of participation. I utilise two different approaches to events. I first detail the philosophy of the event as detailed in the work of Gilles Deleuze, out of which I extract themes which reverberate throughout the chapter, namely different temporal modes and the interest in boundaries. I also introduce the key Deleuzian concepts of the virtual and the actual, as they relate to the event, which will help provide rationale for the application of the animal spirits that are the conceptual figures of this chapter. These animal spirits are the wolves, the hyenas (to a lesser extent), and the Borametz. Next, I extract from Dayan and Katz's (1992) understanding of media events, notions of temporality relating to disruption to daily routine, rituals, and boundaries of events. Finally, I return to Deleuzian concepts by harnessing the process of counter-actualisation in my application of the three animal spirit figures to a case study of Donald Trump's use of Twitter.

1. How Has the Event Been Conceptualised in Media Theory?

As readers may bring with them their own understanding of 'digital media events' from common sense understanding of the three component words, from experience of media and communication scholarship, or from philosophy, I begin by giving a preliminary definition of digital media events which will be fleshed out, refined, and sculpted over the course of this section of the chapter. This refining or toning process occurs through the breaking down into component words: "events" and "media events". I have also carried forward an understanding of the "digital" from a previous chapter: digital as a process (see Part One, Chapter 3), and this will be reiterated in my understanding of digital media events in this chapter.

1.1. Event

As a starting point I shall say that by digital media events I mean large scale interactions on social media platforms (in this case Twitter), usually surrounding a news story. I use the example of Donald Trump's use of Twitter, particularly his tweets in November 2016 referencing the settlement of the Trump University lawsuit in which he was accused of defrauding students, and his call on Twitter for

an apology from the cast of the Broadway play, *Hamilton*, when his running mate and Vice-President-elect (at the time) Mike Pence was booed by some in the audience and was asked to listen to a prepared statement of concern from the cast.

There may have been an expectation that I will discuss large events, those exceptional dramatic occurrences, such as the ceremonial media events proposed by Dayan and Katz (1992), which will be discussed in more detail later, events like 9/11 and other violent terrorist atrocities, or events such as the First Gulf War, the fall of the Berlin Wall, and the Tiananmen Square Massacre which are described by McKenzie Wark as "weird global media events" (Wark, 1994). However, this expectation will remain unfulfilled as these are not the kind of events that I am primarily interested in. This is not to say that there are aspects of these large exceptional events that cannot inform my conceptualisation or be picked up and developed.

These large-scale events are what Deleuze might call "noisy events" (Deleuze, 2014, p. 212). In this regard, Deleuze follows Nietzsche who suggests through the mouth of Zarathustra that we should unlearn the idea that great events are always surrounded by much bellowing and swirling smoke (*TSZ*, Of Great Events). Nietzsche argues that we should not be enamoured (to borrow Foucault's phrasing) by the power of explosive events: "The greatest events – they are not our noisiest but our stillest hours. 'The world revolves, not around the inventors of new noises, but around the inventors of new values; it revolves inaudibly'" (*TSZ*, Of Great Events). Echoing Nietzsche, Deleuze claims that "underneath the large noisy events lie the small events of silence" (2014, p.212). The force of these large events certainly dazzles and draws the eye, as well as attracts analysis and the attention of academia. One need only look at the speedy pivot in academia following major events to fund and publish research on large events such as Brexit, the Covid-19 pandemic, or "noisy" Trump events like his election in November 2016, Senate impeachment hearings, or the January 6th attack on the Capitol Building.

I do not wish to imply that I am interested in what could be seen to be the opposite of large events: normal everyday events. Certainly, there are elements of the everyday in what I mean by digital media events. For instance, Twitter's origins are in the micro-happenings of everyday life. Also, Trump's use of Twitter arguably still adheres to this everyday life directive despite him holding the highest political office

in the United States. Trump tweeted regularly - as President, he tweeted on average 11-12 times per day (Lyons, 2018) – and as such, the public has a greater knowledge of what was occupying the President's mind at a specific time. From the time stamps on his tweets, we can infer his daily routine including TV habits. Matt Gertz, Senior Fellow at Media Matters for America, compares Trump's Twitter posts with items from Fox News segments, in which it appears that Trump's tweets often quote the hosts, some guests, and show chyrons verbatim (Gertz, 2018; 2020; Altman 2019). However, to say I am interested in the everyday is also not entirely accurate. The digital media events are somewhere in between yet also somewhere beyond either large or everyday events.

i) Event Boundaries

As I have already alluded, events have been discussed in different contexts so I will situate my conceptualisation of digital media events within this ecology. I will begin by discussing what is meant by 'event'. The extremely broad general definition of an event is something that happens or anything that takes place. This is too broad to be useful for most disciplines. A legitimate question would be, 'what does not count as an event?*'* In a slightly more useful yet still general definition, an event is a *significant* occurrence, a noteworthy happening. This qualification of some level of significance begins the interest in the boundaries of events which continues throughout this chapter. In the context of media and communications, media institutions logically must follow this definition of events having some level of significance or noteworthiness. In news journalism, an event must be deemed to have newsworthiness for it to be reportable as a story (Chandler and Munday, 2011, p.132). This is self-evident, of course. Functionally, there must be boundaries. For instance, for journalism to represent every occurrence in their outlet would be reminiscent of the famous one paragraph story 'On Exactitude in Science' by Jorge Luis Borges in which an empire's Art of Cartography attains such a level of perfection that the map was the size of the Empire and coincided "point for point". By the end of the story-paragraph, the uselessness of such a map had become evident, and so the vast map was left to the seasons, to the "Inclemencies of Sun and Winters", so that all that was left are "Tattered Ruins of that Map, inhabited by Animals and Beggars" (Borges, 1998). It is fitting that animals are some of the only creatures with use for the boundary-less cartographic representation. As victims of

human imposed boundaries, including physical boundaries of cages and fences, geographical borders which have pushed some animals to the fringes of human settlements, and conceptual ones drawn by anthropocentrism and human exceptionalism which have deemed some animal life not as valuable, and as lower in the hierarchy of species, animals are ideal figures for rethinking or reconceptualising boundaries, in this case boundaries of events. By thinking with animals, we can think differently about digital discourse; with animals we can bound beyond bounds into the open, we can then see what this new perspective does to our digital discourse.

As suggested, boundaries must exist around events for them to be of functional use to us. However, it is this necessity for boundaries that has become a problem and why we are in need of a new conceptualisation of events. It is my assertion that when events are mediated by digital media technologies and specifically social media platforms such as Twitter, there is a tendency for them to be turned into objects. They are separated from their context, and they are solidified, objectified, and reified. We can see how they are separated from their context on Twitter through the use of hashtags and through the Explore tab (illustrated with a # in web browser version of Twitter). The use of a hashtag to organise tweets which develop around an event could be seen as removing them from the context of their own spatial and temporal location in their timeline and caging them within the specific event context. By clicking on a hashtag in a tweet, a new timeline appears with all the tweets tagged with the same hashtag. Of course, the conversation around the event is not limited to the hashtag as users can and do still discuss the event in their tweets which are not tagged but Twitter encourages the use of hashtags during events.

If the event is preplanned, a hashtag may be proposed for the stabilisation of conversation. Prepanned events such as the World Cup, which would be described by Dayan and Katz (1992) as a ceremonial media event (as we shall see shortly), provide an opportunity for further stabilisation of participation in the conversation through branded hashtags. Twitter have found a way to monetise certain hashtags by incorporating a custom “exclusive-to-Twitter” and “limited edition” emoji which is “triggered by a hashtag” in order to “let people discover and participate in conversations around the biggest cultural moments in the world” (Brady, 2015, no

pag.). These custom Twitter emojis are also known as hashflags and appeared during the men's World Cup in 2010 in which Twitter incorporated a flag for each country represented in the tournament after the hashtag with the three-letter country code (Lafferty, 2015; Highfield, 2018). Since 2014, brands such as Coca Cola are charged by Twitter to approve these limited edition hashflags. Importantly, hashflags are not user or community generated; Twitter must approve them.

Participation with a brand or conversation around an event, which the hashflag is designed to encourage, is measured in terms of mentions, replies, retweets, and likes. For instance, Coca Cola's #ShareACoke hashflag marketing campaign received "170,500 mentions globally in the first 24 hours" and was deemed highly successful (Lafferty, 2015, no pag.). We can see that hashtags drive participation in events but, more significantly, they make the relations during the event visible by allowing for easy identification and separation from their surrounding context. To borrow from Latour, digital networks - with the help of these digital objects - "make visible what was before only present virtually" (Latour, 2005, p.207; Mejias, 2013, p.82). The network of relations which are relatively abstract in an event are solidified and, again to borrow from Latour, are made durable (Latour, 1990).

As is suggested above, events become measured in terms of social media metrics. The event's 'success', by which it is often meant the scale or size, is determined by the number of impressions or mentions, i.e. the reach of the event. The event is spatialised in this sense. Social media metrics become a frontier or boundary of the event. As such, we can say that there is a tendency for events mediated by digital media technologies and specifically social media platforms such as Twitter, to be expressed in these terms: their reach, or how much space and attention they are able to colonise.

ii) Deleuze's Philosophy of the Event

Deleuze can be described as a philosopher of the event. Indeed, he has claimed that in all his books he has tried to discover the nature of events (Deleuze, 1995, p.141). The event features throughout Deleuze's work, perhaps most notably *The Logic of Sense* (2015) which, Patton observes, could equally have been entitled 'The Logic of the Event' (Patton, 1996, p.13). Out of the Deleuzian reading of events I will pull the themes of boundaries, different temporal modes, and the virtual and the actual,

which will help to inform my understanding of digital media events and will recur in my reformulation of participation. Most significantly, I will use the Deleuzian process of counter-actualisation to introduce the animal spirits of wolves, hyenas (briefly) and the Borametz, and apply them to the Trump case study.

Important for this chapter is Deleuze's assertion that the event must be thought in two distinct temporal modes – *Chronos* and *Aion* (sometimes *Aeon*) (Dosse, 2016, p.27). We should emphasise that the distinction here is not between two different *kinds* of events, but "between *the* event, which is ideal by nature, and its spatio-temporal realization in a state of affairs" (Deleuze, 2015, p.56, my emphasis). These two opposing temporal modes are incomplete without each other (Williams, 2008a, p.144). To a certain extent we can see these temporal modes represented in the twinning of parts a) and b) in this chapter. However, to understand these two temporal modes, we must first be aware of two key Deleuzian concepts, namely the actual and the virtual.

For Deleuze, the actual and the virtual are the "ontological building blocks of reality" (Mejias, 2013, p.83-84). The virtual has connotations for the digital which we must resist repeating here, so I will briefly address this. As has been touched upon in an earlier chapter (Part One, Chapter 3), there is a tendency to oppose the virtual with reality. This is the basis of the digital dualist fallacy (Jurgenson, 2011), that is, the belief that online and offline are separate realities. According to Jurgenson, "digital dualists believe that the digital world is "virtual" and the physical world "real."" (2011, no pag.). Furthermore, there is the corollary danger that we then stumble into equating the actual with reality. Deleuze would argue that the antithesis of the virtual is not reality but actuality (Mejias, 2013, p.84). Or to be more exact, the virtual and the actual are not opposites but counterparts. The virtual "is the *unseen* parts of the actual that suggests an *invisible* whole" (Mejias, 2013, p.85). Deleuze writes, "the Virtual is opposed not to the real but to the actual. The virtual is fully real in so far as it is virtual. Exactly what Proust said of states of resonance must be said of the virtual: "Real without being actual, ideal without being abstract"; and symbolic without being fictional" (Deleuze, 2014, p.272).

In Deleuze's ontology in which "the real is always actual-virtual" (Colebrook, 2002, p.98), what we experience as reality "is the result of a transformation (or to be precise, a multitude of ongoing transformations) in which an undifferentiated and

abstract virtuality becomes a differentiated and concrete actuality […] Everything that exists, in other words, is an actualization of the virtual" (Mejias, 2013, p.84). Actualisation is the coalescence, to use the term from my earlier chapter, of the virtual. It is the incarnation, the corporealization, of the event into the state of affairs. "The state of affairs is individuated; it includes particular bodies, mixtures of bodies, qualities, quantities, and relations" (Deleuze, 2015, p.13).

The first of the temporal modes in thinking the event is the actualised event, the event's coming into being which, to a certain extent, fixes things within the state of affairs (Dosse, 2016, p.27). This mode is the linear time of *Chronos*, that is, "the time of measure that situates things and persons, develops a form, and determines a subject" (Deleuze and Guattari, 2004b, p.262). Chronos is the common sense, measured clock time of the actual world (Bogue, 2007, p.42); the actual world full of "discrete objects, fixed coordinates and chronometric time" (p.37). In my Trump example, the actualized event (or, rather, several actualised events which I have taken as one) would look something like this:

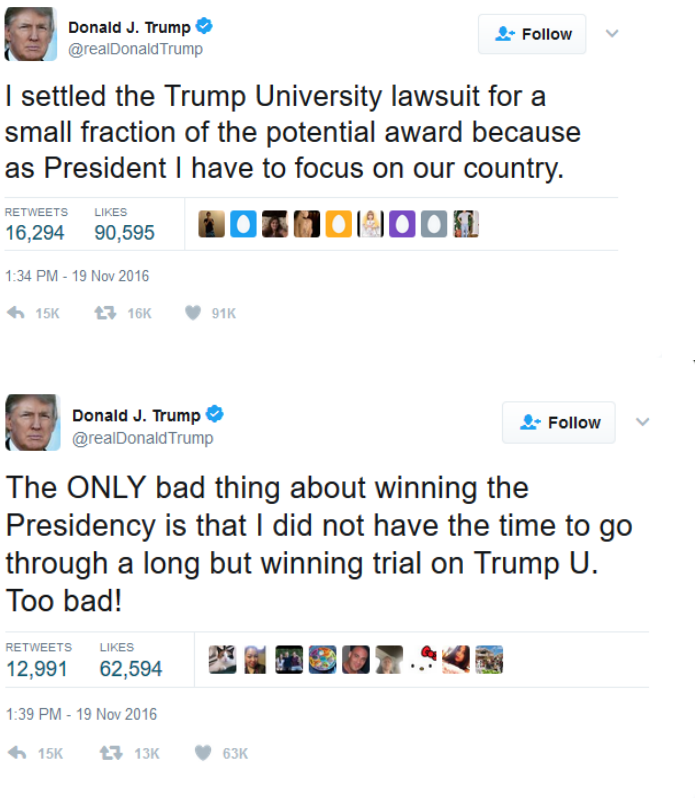

Figure 13. Tweets by President Donald J Trump (1)

On 19th November 2016, 10 days after Donald Trump was elected 45th president of the United States, reports emerged that Trump had settled a fraud lawsuit against him and Trump University for $25m. Trump had been accused of defrauding students. Trump posted on Twitter two tweets referencing the settlement (Fig. 13). The first read: "I settled the Trump University lawsuit for a small fraction of the potential award because as President I have to focus on our country", and the second, five minutes later, read "The ONLY bad thing about winning the Presidency is that I did not have the time to go through a long but winning trial on Trump U. Too bad!". At the time of capture (January 2017), the first tweet has approximately 16,000 replies, 16,545 retweets and 91,722 likes, and the second tweet also has approximately 16,000 replies, and has been retweeted 13,186 and liked 63,410 times.

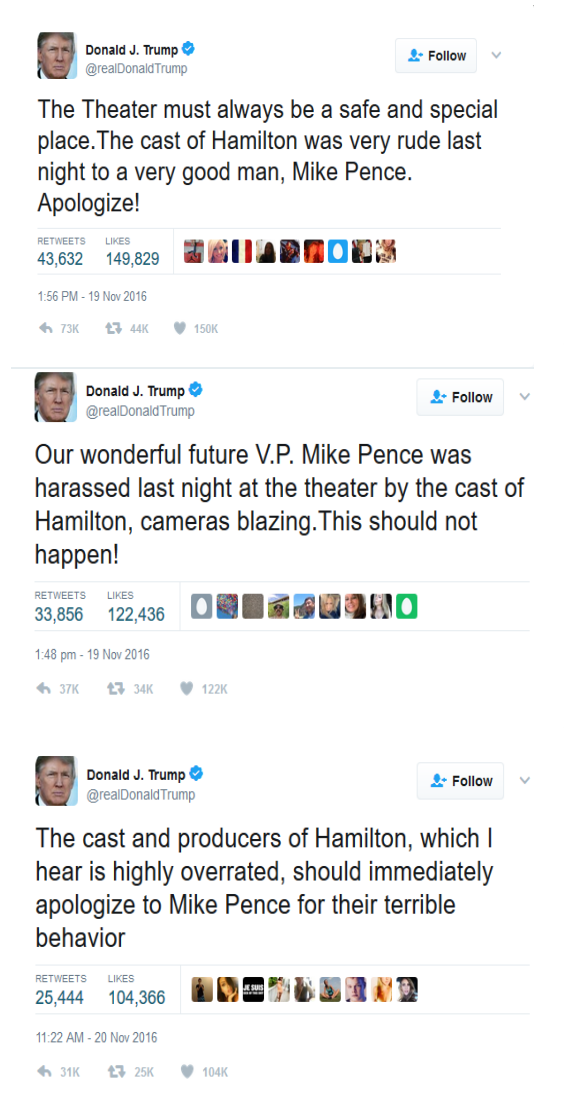

Figure 14. Tweets by President Donald J Trump (2)

On the evening of the 18th November, Trump's running mate and vice-president-elect Governor Mike Pence attended a performance of the multiple award-winning Broadway play *Hamilton*, during which he was booed by some members of the audience. After the performance the cast requested that Pence stay and listen to a prepared statement. The statement that was read by one of the lead actors, Brandon Victor Dixon, expressed concern regarding the incoming administration and called for the new administration to "uphold our American values and to work on behalf of all of us" (Swaine, 2016, no pag.).

At 1:48pm on 19th November, President-elect Trump tweeted again claiming that Pence was "harassed" by the cast. A second tweet was posted at 1:56pm in which he described the cast as being "very rude" and a third on the 20th November at 11:22am which called for an apology for their "terrible behaviour" (Fig. 14). Currently, the first tweet has approximately 38,000 replies, and has been retweeted and liked 34,406 and 124,011 times respectively. The second tweet has approximately 75,000 replies, has 44,417 retweets and 151,860 likes and the third *Hamilton* tweet has approximately 32,000 replies and has been retweeted 25,913 times and 105,782 likes.

Subsequent news editorials, such as Politico's Jack Shafer's article *Stop Being Trump's Twitter Fool*, suggested that Trump was performing a "bait and switch" on the media and the opposition by sending them "chasing a red herring" (Shafer, 2016, no pag.). Political commentators such as David Frum, a former speechwriter under President George W Bush, concurred as he said, "the controversies will divert you from the scandals," (Swaine, 2016, no pag.). Similarly, former aide to President Barack Obama, Dan Pfeiffer, claimed "If your media outlet is focused on Trump v *Hamilton* instead of Trump's $25m fraud settlement, you are a sad pawn in Trump's game" (Swaine, 2016, no pag.).

We see in this actualisation an appeal to Chronos. The event is read in linear chronological terms with timestamps and dates, and includes discrete numbers of tweets, replies, retweets, and likes. Following Deleuze's assertion that events are "always produced by bodies which collide, lacerate each other or interpenetrate" (Deleuze and Parnet, 1990, p.64), we can see the colliding of bodies – the bodies of users; the technological bodies of smart phones, laptops, and the digital infrastructure, including the architecture of Twitter as a platform; the bodies of

Trump and Pence, and the cast, and the audience, and all of their relations; the material reporting by the media; we can also include the media reaction to the Trump tweets reacting to the reporting.

However, Deleuze's philosophy of the event is not concerned with the actualised event, or rather it is perhaps more accurate to say he is not *only* concerned with actualized events in the state of affairs. Deleuze is also interested in the part of the event that eludes actualisation (Deleuze and Guattari, 1994, p.156). Deleuze (with Guattari here) claims, "the event is not the state of affairs. It is actualized in a state of affairs, in a body, in a lived [sic], but it has a shadowy and secret part that is continually subtracted from or added to its actualization: in contrast with the state of affairs, it neither begins nor ends but has gained or kept the infinite movement to which it gives consistency" (1994, p.156). Of course, the actualized event is inseparable from this shadowy secret part of the event. Deleuze and Guattari note that "a state of affairs cannot be separated from the potential through which it takes effect" (1994, p.153). Actual events are thus, at best, only partial. He is concerned with actual events, in so far as they relate to this other realm of events, the virtual, which we must remember is no less real than the actual. I am being careful here not to assert priority of the virtual over the actual, so as not to instate a hierarchy (Williams, 2008b)

So, we have the two realms of events: the spatio-temporal actualized events and the immaterial, incorporeal, ideal event. This ideal or pure event is thought through the second temporal mode, *Aeon* (or *Aion*). According to Deleuze and Guattari, this is "the indefinite time of the event, the floating line that knows only speeds and continually divides that which transpires into an already-there that is at the same time not-yet-here, a simultaneous too-late and too-early, a something that is both going to happen and has just happened" (Deleuze and Guattari, 2004b, p.289).

It is in *Logic of Sense* where Deleuze explains in the most detail the pure event (Patton, 2009, p.36). Relying heavily on the Stoics who suggest that events are incorporeal effects of bodily causes (Patton, 2009, p.37), Deleuze claims that the essence of the pure event is in the battle. It is worth quoting Deleuze at length here:

> If the battle is not an example of an event among others, but rather the Event in its essence, it is no doubt because it is actualized in diverse manners at

> once, and because each participant may grasp it at a different level of actualization within its variable present. […] But it is above all because the battle hovers over its own field, being neutral in relation to all of its temporal actualizations, neutral and impassive in relation to the victor and the vanquished, the coward and the brave; because of this it is all the more terrible. Never present but always yet to come and already passed, the battle is graspable only by the will of anonymity which it itself inspires.
> (Deleuze, 2015, p.103)

Here we can see that the pure event, which I will call Event, is both within and outside of what occurs. Deleuze seems to suggest that the essence of the event, the pure event, hovers above or is outside of actual events. Yet he also insists that it, the event is also inside what occurs: "The event is not what occurs (an accident), it is rather inside what occurs, the purely expressed. It signals and awaits us" (Deleuze, 2015, p.154).

I will return to this notion of pure event later in the chapter as I introduce animal spirits which could be thought of in terms of Deleuze's imperative for counter-actualisation. That is, the means of extracting the virtual from the actual, extracting the pure event from the state of affairs. The pure event returns in part 2c) as I move from thinking about participation to thinking in terms of predation.

iii) Media Events

For media and communication scholars the first thing likely to come to mind with the phrase 'media event' is Daniel Dayan and Elihu Katz's text, *Media Events: The Live Broadcasting of History* (1992). It continues to be a "key reference point in media and communication studies" (Kember and Zylinska, 2012, p.33) and current media events research invariably has to address it as a touchstone in the field, even to move beyond it (e.g. Couldry et al., 2010; Mitu and Poulakidakos, 2016; Sonnevend, 2018). One reason Dayan and Katz's text has an "enduring legacy" (Couldry and Hepp, 2018), even after almost thirty years since its publication, is the conceptualisation's ability to capture, as Pawlett claims, "something of the auratic" (2018, p.13). In Deleuzian terms, this conceptualisation of media events captures something of the virtual event, something of the pure essence of the Event, yet, at

the same time, is grounded in the actual events. You might even say, its appeal lies in its ability to capture a little of the incorporeal materialism of events, to quote Foucault (2010, p.231). This is something that my conceptualisation of digital media events would like to pull out and take forward.

There are several other contextual and theoretical aspects to Dayan and Katz's conceptualisation that are important for my own conceptualisation of digital media events. I want to pull out ideas of interruptions to routine; the ritual; and the formation of boundaries between individual and society, and the past, present, and future. Therefore, it is worthwhile exploring the development of media event research in more detail.

In *Media Events,* Dayan and Katz focus on a very specific type of media event (consensual and ceremonial) in the context of the medium of television (Dayan and Katz, 1992; Katz and Dayan, 2018). To summarise their definition, for Dayan and Katz media events are:

> *interruptions* of routine, and the interruption is usually *monopolistic* in the sense that all channels switch from their regularly scheduled programming to broadcast the event; the event is happening *live;* usually, the events are organized *outside the media*, in the sense that they are not in a studio but in a 'remote location', and that the event is not initiated by the broadcasters; the organizers are typically public bodies, governments, institutions or international bodies, that are within the establishment, or what Edward Shils (1975) would call society's 'center'; the events are *preplanned,* in the sense that audiences and broadcasters would have had advance notice so the event would be anticipated and prepared for beforehand (as much as it is possible – there will likely still be an element of suspense and uncertainty inherent in the event); the events are presented with *reverence,* in the sense that they are treated with respect or even awe; the events celebrate *reconciliation* even when the events themselves address conflict (see 'scripts' below); the events celebrate "establishment initiatives that are therefore unquestionably *hegemonic"*; the events are proclaimed to be *historic*; "they *electrify very large audiences"*; the events are characterised by a *norm of viewing* in which it is mandatory to watch at the expense of everything else; they cause viewers to celebrate the event in groups rather than alone; and they "*integrate* societies

> in a collective heartbeat and evoke a *renewal of loyalty* to the society and its legitimate authority".
> (summarising Dayan and Katz, 1992, pp.5-14).

Dayan and Katz further delineate their ceremonial media events into three 'scripts' which they present under the pleasingly alliterative categories of Contests, Conquests and Coronations (1992, p.25-53). In this taxonomy, *Contests* refer to presidential debates, elections, and large sporting events such as the Olympics or football World Cup Finals which exemplify "rule-governed battles of champions" (Dayan and Katz, 1992, p.26); *Conquests* are those "giant leaps for mankind" (1992, p.26) such as the moon landings and, Kember and Zylinska (2012) would argue, the "ultimate conquest narrative" of the switch-on of CERN's Large Hadron Collider (p.34); and *Coronations* are "the role-changes of the mighty" (Katz and Liebes, 2010, p.33) such as royal weddings, commemorations, and funerals. Despite the connotations of conflict in terms such as 'contest' and 'conquest', Dayan and Katz emphasise that all three scripts for ceremonial media events are fundamentally restorative of order. The authors make a distinction between media events and news events here: whereas news events represent disintegration of society, media events integrate society. Media events are "indicatively the Kennedy funeral rather than the Kennedy assassination" (Kember and Zylinska, 2012, p.33).

Dayan and Katz's definition of media events has a clearly defined set of necessary elements. Of course, this does not mean that elements cannot appear in different combinations but simply that they would then be describing a different genre of media event to Dayan and Katz's specific understanding of ceremonial media event (Dayan and Katz, 1992, p.9). This hints at the broader ecology of media events in which Dayan and Katz's conceptualization is but one, and into which digital media events can be intertwined. Some of these other conceptualisations are responses to Dayan and Katz, while others are those to which Dayan and Katz are responding.

They are also responding to critical readings of the media by commentators such as Maurice Edelman, who warns "that all dramatized events are distractions from the gnawing truth of chronic problems" (Dayan and Katz, 1992, p.30). There will be resonances here with my animal spirits and the Trump case study. Dayan and Katz are particularly responding to Daniel Boorstin's *The Image: A Guide to Pseudo-Events in America* (1961). *Media Events*' preface opens with an imagined rebuke of

the functionalist work within their book: “Don’t they know that media events are hegemonic manipulations? Don’t they know that the royal wedding simply blotted out the ethnic rioting that had occupied the streets of London the day before? Haven’t they read Daniel Boorstin’s *The Image*?” (Dayan and Katz, 1992, p.vii). In the rest of the text, we can see that Dayan and Katz are rejecting the “dismissive” and “reductive analysis” (Couldry, 2003, p.61) of Boorstin’s book; specifically, they are defending “the phenomenon of the media event from the accusation […] that a media event is only ever a pseudo-event, a depoliticizing spectacle that services the operations of power by masking them” (Kember and Zylinska, 2012, p.33). A pseudo-event is Boorstin’s concept to describe staged events. A pseudo-event “is not spontaneous …Typically, it is not a train wreck or an earthquake, but an interview” (1961, p.11); it is “is planted (not always exclusively) for the immediate purpose of being reported or reproduced…Its success is measured by how widely it is reported” (p.11). The concept of a pseudo-event has gained relevance with the ascendancy of Donald Trump to the presidency of the USA (Crovitz, 2016; Friedersdorf, 2016), and we can see they have a somewhat of a resonance with the specific Trump case study used in this chapter, specifically in terms of the Hamilton tweets and the Borametz animal spirit which will be elucidated later.

In terms of conceptualisations responding to Dayan and Katz, a rich ecology of expressive events has developed in media event research in which their ceremonial media events exist alongside other event scenarios and genres. As stated, Dayan and Katz’s text undoubtedly has an “enduring legacy” (Couldry and Hepp, 2018). Since its publication in 1992, there have been multiple waves of media event research extending and reconfiguring Dayan and Katz’s initial conceptualisation (Mitu and Poulakidakos, 2016, p.1). There is a consensus that the theory needs to be updated “with a sense of the globality and diversity of media platforms” (Pawlett, 2018, p.2); the theory needs to be more fluid to account for the changes of scale and pace in the media environment that have been wrought by digital technologies. Typically, this need has been met by supplementing the theory with a recognition of digital technologies (Couldry et al., 2010) and social media (Mitu and Poulakidakos, 2016), by extending the theory by incorporating new temporalities and territories, or by hybridising the theory to account for disruptive events, encapsulated in “disaster marathons” (Liebes, 1998; Katz and Liebes, 2010), and violent terrorist events (Sumiala and Valaskivi, 2018; Mitu and Poulakidakos, 2016). Another media event

conceptualisation, which may have resonances with my analysis of Trump's use of Twitter, is the 'popular media event'. According to Hepp and Couldry (2010), popular media events

> break with the everyday but in a much more routine way: they do not monopolize the media coverage in total, but in a certain segment ("tabloid", "boulevard"); they do not happen "live" but in a continuous development (quite often also of marketing and branding); they are mostly organized by the media themselves not just as pre-planned but as completely commercialised; they are less celebratory and more pleasure-oriented; often they polarise and generate the attention of certain "cultural segments" (e.g. scenes, youth cultures) where popular media events have an outstanding role.
> (Hepp and Couldry, 2010, p.8)

The point of demonstrating this "corpus of expressive events" (Katz and Dayan, 2018, p.144) is not only to show that media events continue to excite attention (Mitu and Poulakidakos, 2016, p.1) and are still a compelling focus of research, but also to open up how we can think about events. By pulling out themes from different conceptualisations, it helps to express what I mean by digital media events and emphasise the permeability of boundaries.

An aspect of Dayan and Katz's conceptualisation that I want to pull out and critique is their neo-Durkheimian functionalist approach. Furthermore, following Couldry (2003), we can make the following assumptions about a functionalist account: it is not an accidental relationship, but rather "a necessary result of the 'functioning' of the social whole and its parts"; there exists a 'social whole', which usually exists at the level of national borders; and "that social integration is the principal sociological feature of societies, rather than just secondary or incidental" (p.9). Dayan and Katz came to think of their project as "Durkheim, live" (Dayan and Katz, 1992, p.295), referring to the theory of French sociologist Emile Durkheim. Durkheimian theory is a macro-sociological approach and is inclined to focus on how society functions.

We can clearly see Dayan and Katz's self-confessed neo-Durkheimian lens (Dayan and Katz, 1992, p.viii; Krajina, 2012, p.4; Sonnevend, 2018, p.123; Ytreberg, 2018, p.132) in their functionalist and integrative reading of media events. Media events are considered socially integrative ceremonies that create a 'centre' around which

individuals gather: “during the liminal moments [of media events] [...] all eyes are fixed on the ceremonial center, through which each nuclear cell is connected to all the rest. Social integration of the highest order is thus achieved via mass communication” (Dayan and Katz, 1992, p.15). Thus, for Dayan and Katz, media events are a centripetal force which draws those at the periphery towards the centre; they are a form of sacred ritual which hold society together. Media events are “high holidays of mass communication” (Dayan and Katz, 1992, p.1).

Significantly, for Dayan and Katz these media events “are powerful enough to interrupt the media flow” (Sumiala and Valaskivi, p.129), evoking Raymond Williams’ concept of flow (2003). Media events are presented as a “festive viewing of television” with an accompanying “invitation”, nay, even “command” that people should “stop their daily routines and join in a holiday experience” (Dayan and Katz, 1992, p.1; Kember and Zylinska, 2012, p.33). This interruption to routine is a “dramatic kind of punctuation” (Dayan and Katz, 1992, p.10); it is the ‘.’, a period, or the interruption that puts “a full stop to everything else on air” (p.10). However, the component of grammar I am interested in for my conceptualisation of media events is not the interruptive full stop but the ellipsis.

1.2. Participation

How has participation been conceptualised? How has it been conceptualised on Twitter? I argue that ‘participation’ is too broad; it is an umbrella term. Kelty asks, for instance, “are participatory democracy, audience participation, user-generated content, peer-production, participant observation, crowdsourcing all the same phenomena?” (2013, p.23). In my discussion of participation, I am thinking of it in terms of the ability to post messages and to interact with others in a social media discussion of a news story. This may be interpreted as interactivity but is also broadly in line with an OED definition of participation: “The process or fact of sharing in an action, sentiment, etc.; (now *esp.*) active involvement in a matter or event, esp. one in which the outcome directly affects those taking part. Frequently with *in*. Cf. *audience participation* n. at audience n. Compounds 2b.” (OED, 2022f; Kelty, 2013, p.23).

As has been noted by Barney et al. (2016), we could say that arguably there has never been a time when we have not been participating because participation is the

term we give to “the relational principle of being together in any civilization, society, or community” (p.vii); it is the “general condition in which many of us live or seek to live (though, to be sure, not all of us, and not all in the same way)” (2016, p.vii). While this is the case, Barney et al. identify the distinctive characteristic of, what they call, the participatory condition as the scale and extent to which “everyday social, economic, cultural, and political activities … have been thematized and organized around the priority of participation as such” (p.vii). For my purposes, we can see media institutions and social media platforms encouraging participation at all costs. This can be seen in Twitter’s character limit change from 140 to 280 characters, their shift towards images, and the ontological positioning of Twitter as something always already happening.

The longing for participation in conversation that has been realised by digital technologies has soured. Just as participation has begun to be exercised “intensively and ubiquitously”, we realise “it turns out that others love it too: bureaucracies, police forces, security and intelligence agencies, and global commercial enterprises”, including social media giants (Barney et al., 2016, p.xxxii). Barney et al. make a call to arms to “challenge media institutions’ constant demands to interact and to participate, as if those activities were seen as fulsome by dint of their very nature” (p.xxxi).

Participation is now presented as unobjectionable, as something that no person can reasonably be against. Drawing the comparison with the similar trajectory of the concept of ‘sustainability’ noted by Erik Swyngedouw, Barney et al. suggest “participation – whether taken as a concept or as a practice – is now so bereft of political content and so elevated as a moral value that it is impossible to disagree with its formulation, goals, and promises of a better life” (2016, p.xxxi). George Orwell, in his essay *The Politics and the English Language*, makes a similar argument as he catalogues some “swindles and perversions” (1946, p.258.) used in the English language. Writing in 1946, he argued the term ‘fascism’, for instance, “has now no meaning except in so far as it signifies ‘something not desirable’” (1946, p.257-8). Similarly, the term ‘democracy’ has no fixed meaning, and is used as nothing more than praise for one’s own country; it essentially becomes shorthand for ‘good’. Orwell argues, “words of this kind are often used in a consciously

dishonest way. That is, the person who uses them has his own private definition, but allows his hearer to think he means something quite different" (1946, p.258). We can see participation going the same way. Social media giants champion their platforms as imbued with the ideal of participation, but what is meant by participation is different for the all the different actors or stakeholders involved.

Social media platforms such as Twitter and YouTube have undoubtedly allowed users to create and post their own content. In this sense, users engage in participation. In the case of YouTube, anyone can participate in publishing content by uploading their videos to the platform but these users are excluded from participating in the management, governance, and decision-making processes of YouTube as a corporate structure (Carpentier, 2011, p.123; Carpentier, 2016, p.6). Henry Jenkins distils these differing expectations of participation thusly:

> Corporations imagine participation as something they can start and stop, channel and reroute, commodify and market. […] Consumers, on the other side, are asserting a right to participate in the culture, on their own terms, when and where they wish. This empowered consumer faces a series of struggles to preserve and broaden this perceived right to participate. (Jenkins, 2006: p.175)
> (Carpentier, 2011, p.124)

Participation could be classified alongside other key terms such as 'sharing', 'friends', and 'collaboration' which "resonate with the communalist jargon of early utopian visions of the Web as a space that inherently enhances social activity" (van Dijck, 2013, p.13). However, as van Dijck claims, "In reality, the meanings of these words have increasingly been informed by automated technologies that direct human sociality" (2013, p.13). The rhetoric of digital culture is strategically positioned by platforms such as Facebook and Twitter to make us think about them in a specific way and on their own terms. The digital, as Helen Thornham writes, is a "highly political infrastructure that works to mask its hard capitalist politics", and one of the most effective ways in which it does this is "through the corporate adoption of benign discourses as a veneer for the economically attuned interests in data" (2019,

p.65). The co-opted rhetoric that social media platforms use effaces, or works to efface, the politics of power.

i) Twitter Encourages Participation

In May 2016, Twitter announced that media attachments such as photos, videos, GIFs, and Twitter polls and @username in replies would not count towards the 140-character limit (Sherman, 2016). These changes rolled out in September 2016 (Welch, 2016). This move aims to seamlessly merge a new Twitter identity that focuses on images into the existing framework in order to increase engagement and participation. This new identity can be seen in Twitter's information pages ('About', 'Help' and 'Company'), which not only serve as self-reflections on what Twitter itself thinks it is and how they desire the platform to be used, but demonstrate the commercial pressures that are being exerted, and how the users currently use the platform.

According to the Internet Archive's Wayback Machine, between 2014-2015 Twitter's 'What is Twitter?' page included an 'Ultimate Guide to Photo Sharing on Twitter' page, in which the company suggests Twitter is "so much more than words" [20]. There is a focus on the quick and easy sharing of images, the attaching of multiple photos, the inclusion of photo filters, and the tagging of friends. This can be considered as a response to ripples through the connective media ecosystem (van Dijck, 2013) as it coincides with the rise of Instagram, which was acquired by Facebook in 2012, as a major platform.

Fig. 15 shows the Twitter 'About' page from 25th Feb 2016. The title "Twitter is your window to the world' emphasises the visual element of Twitter. Images and text that emphasise this element adorns the whole page. There are viral images such as the 2014 Oscar selfie with numerous celebrities tweeted by Ellen DeGeneres, and a reference to the image of the Blue and Black/White and Gold dress which spread online as users argued over the colour, along with news images of the 2014 protests in Ferguson, Missouri, after police shot and killed 18-year-old Michael Brown.

[20] https://web.archive.org/web/20140718195320/https://about.twitter.com/products/photo-sharing

Elsewhere on the page, text emphasises Twitter as a place to see what is happening: "See more", "See what they see. Go where they go"[21].

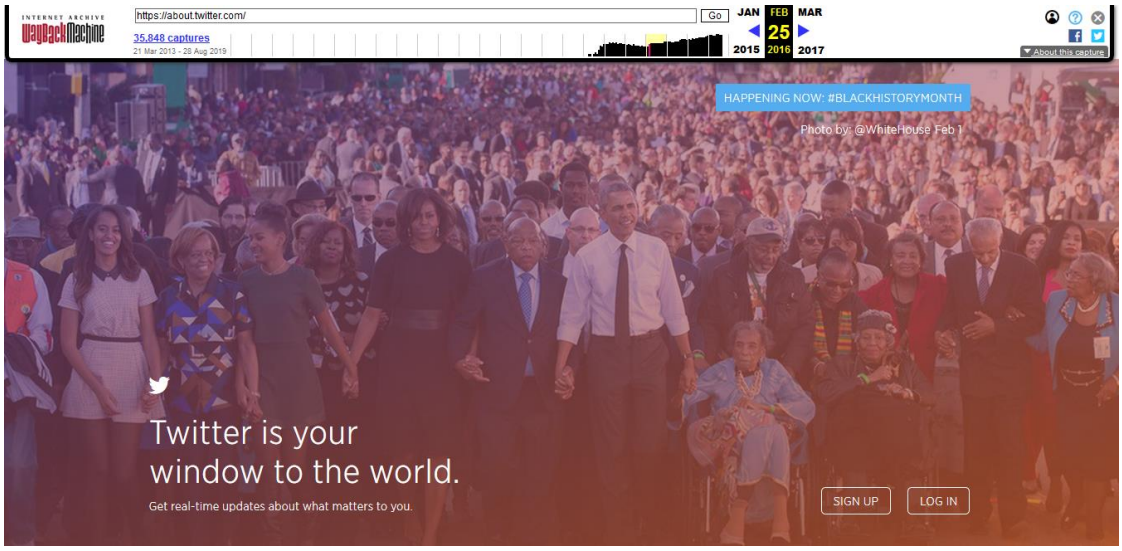

Figure 15. Twitter 'About' – 25/2/2016. Captured: 30/09/2019. Available from: https://web.archive.org/web/20160225144034/https://about.twitter.com/

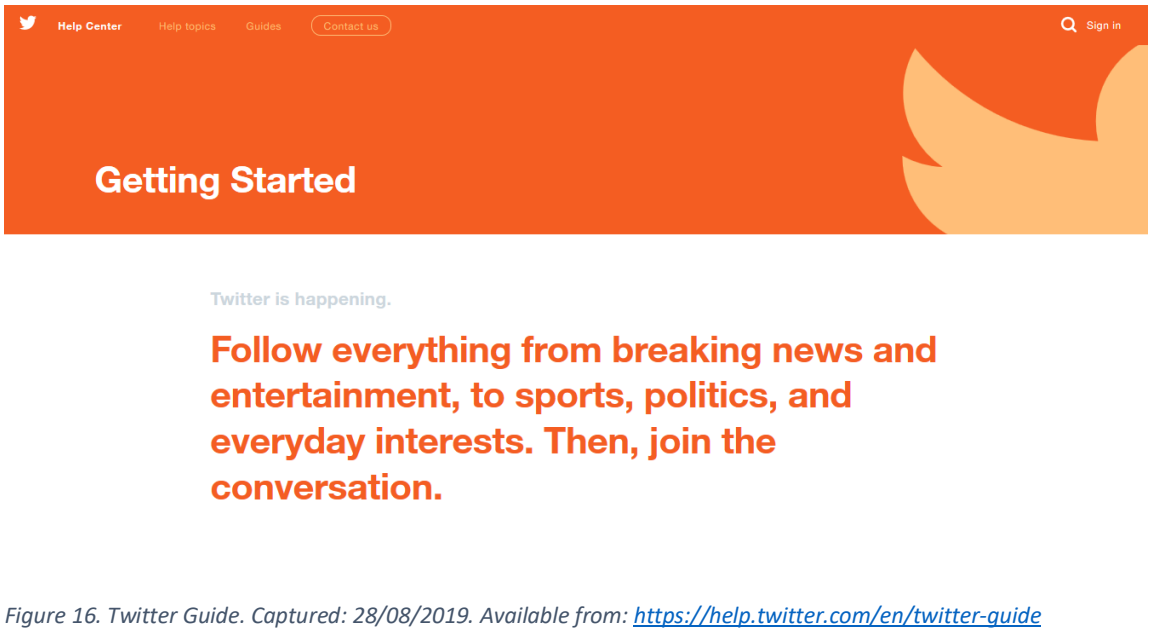

Figure 16. Twitter Guide. Captured: 28/08/2019. Available from: https://help.twitter.com/en/twitter-guide

[21] https://web.archive.org/web/20160225144034/https://about.twitter.com/

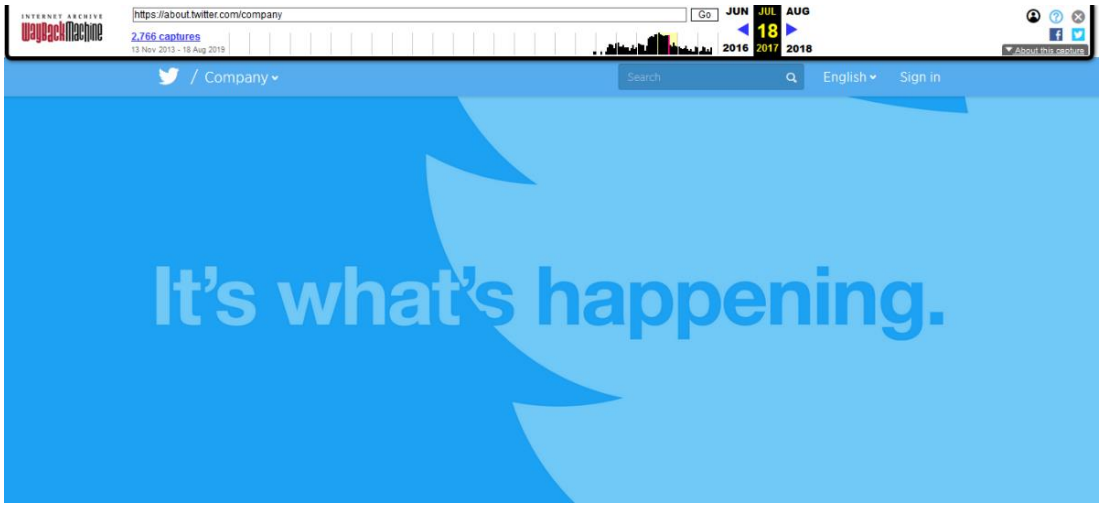

Figure 17. Twitter 'Company' – 18/7/2017. Captured: 28/09/2019. Available from: https://web.archive.org/web/20170718091802/https://about.twitter.com/company

The reasons I mention the emphasis on the visual are twofold. Firstly, I draw the connection between the accentuating of images and the probing of the boundaries of the 140-character limit that such an accentuation necessitates. If Twitter want users to share more images, then the images cannot take up character space that could otherwise be used for captioning and commenting, i.e. participating. Secondly, the visual imagery is significant in the context of media events. Or rather, how Twitter perceives their role in media events. The early incarnation of Twitter focused on the users - it was what *they* were doing, what their friends were doing. The user was very much the world that Twitter wanted to highlight. The heading 'Twitter is your window to the world', however, suggests that there is the world 'out there', and Twitter is the access to it. Events happen elsewhere and users can see what's happening there with Twitter when they are not in the same place or even time. Users can relive what happens at the football, basketball, protests, the Oscars…wherever, whenever. Germinating within this interpretation of Twitter and media events, however, is a contradictory reading: the idea that Twitter is not a lens through which users see what's happening 'out there' but rather Twitter is *where* things happen: "When it happens, it happens on Twitter"[22]. There are a series of headings which change as you scroll, each ending with "…happens here"[23].

[22] https://web.archive.org/web/20171003180136/https://about.twitter.com/
[23] https://web.archive.org/web/20160225144034/https://about.twitter.com/

This idea develops into Twitter as something ubiquitous, as something boundless, as something always already: on; there; underway (Gitelman, 2006); happening. This can be seen in a Getting Started Guide (Fig. 16) that has been in Twitter's Help Center since 2017 (and is still active at the time of writing). The heading 'Twitter is happening' appears to make the prompt 'What's happening?' rhetorical, if not redundant. There is nothing happening but Twitter. Twitter doesn't tell you what's happening and where, Twitter *is* what's happening. Indeed, this is the heading of Twitter's 'Company' information page from 2017 (Fig. 17). If I were to perform a semiotic analysis on Fig. 16 (although this thesis is not that way inclined), I may interpret the colour and size of the text as a significant insight to the company's self-perception. The font size of the heading 'Twitter is happening' is much smaller than the rest of the text, and the font colour is 'extra-light-gray-neutral' while text that appears against a white background lower down the page is 'dark-gray-neutral'. The text appears to blend into the background. It is reminiscent of Jack Dorsey's claim on a conference panel entitled 'Future of Media' in 2009:

> Twitter is a success for us when people stop talking about it, when we stop doing these panels and people just use it as a utility, use it like electricity. *It fades into the background*, something that's just part of communication. We put it on the same level as any communication device. So, email, SMS, phone. That's where we want to be. (van Dijck, 2013, p.68, my emphasis)

This presentation of Twitter as something always already happening is laying the groundwork for how considering digital media events and participation in terms of animal spirits and predation changes our thinking about the digital.

2. How Else Could The Event (and Participation) Be Conceptualised?

2.1. Event

Whereas Dayan and Katz's 'media events' are characterised as a full stops, my conceptualisation of the 'digital media event' could be said to be characterised by ellipses.

i) Ellipses and Boundaries

The ellipsis is a piece of punctuation with the standard composition of three dots or full stops. It is generally indicative of omission. Ellipses signal that there is something missing, that something has been forgone to get to the seemingly important without loss of comprehension; in this sense, they are contractions. The ellipsis can also be used as a connective. It can be used to link one thought or idea to the next. As part of the 'grammar' of the digital media event, the ellipsis speaks to several aspects already mentioned in this chapter and the wider thesis. It speaks to the processual nature of the digital, the issues of temporalities and boundaries, and to the Deleuzian event. It also has certain Nietzschean resonances.

Rather aptly, the ellipsis also brings us back to Trump's use of Twitter. Trump often used ellipses in his tweets. He used them to connect two or more tweets together, to show that the message follows into the next one. However, I would like to highlight one example. In October 2019, following two tweets criticising Senator Kamala Harris, Trump tweeted (presumably unintentionally) an ellipsis consisting of four periods (Fig.18), breaking the standard convention of three. Indeed, he regularly breaks the standard composition with the longest sequence of dots being 23 (Lange, 2017). Inadvertently, this may be the most accurate tweet there is. Not only does it suggest that potentially everything is connected, but it is also suggestive of the processual nature of the digital. It proclaims that there is more to come, that there is *always* more to come. It is generative and iterative. It is a state of continuous becoming; things are always in the process of becoming something else.

Figure 18. Trump tweets an ellipsis. Captured 13/03/2020.

The ellipsis shifts our thinking of digital media events in terms of temporality so that we think of them less as interruptions to routine like the full stop of media events. More accurately, we should say that the ellipsis helps us think not *only* in terms of interruptions. The ellipsis does not deny the rupture - it is comprised of these rupturing full stops, after all - but expresses something more. It expresses something of the virtual, in the Deleuzian sense of the term. We can think of digital media events less as interruptions to the linear time of *Chronos* and more in terms of the eternal, generative time of *Aion*. That is, the time of the virtual event. This shift in thinking is accompanied by a corresponding need to shift our thinking about the conceptual boundaries of digital media events.

As suggested above, the full stop is interruptive in the flow of life. It interrupts the flow of a sentence - a linear flow - before starting anew. It is in this way that we could argue it appeals to the *Chronos* mode of temporality. The full stop tallies with the view of events as ruptures. A media event, as described by Dayan and Katz, halts the flow of life by capturing attention in a snapshot, somewhat freezing the moment in linear time by actualizing the boundaries of the event. We can see this in the critique of Dayan and Katz's conceptualisation of media events. In a retrospective on *Media Events*, Dayan tangles with the question of event boundaries, of whether an event is one event or many. He questions the boundaries of the event: "How does one distinguish core events from accompanying incidents? [...] How does one sever the event itself from what surrounds and what follows?" (Katz and Dayan, 2018, p.144). Katz also notes that they have been critiqued for too much respect for

national boundaries; they have been "scolded for overstressing space" and the implication that they "see Media Events being played out in a national arena" (Katz and Dayan, 2018, p.150). Temporally, Julia Sonnevend (2018) also notes the critique that *Media Events* is "present-centric" (p.123), in the sense that their focus on live television may have "froze events in time, blocking out their pasts and their futures" (p.123). Additionally, their decision to focus on one medium, television, is a decision made that creates an arbitrary border they do not venture across in their analysis. These decisions help to actualise or incarnate the boundaries of the event in terms of scale, temporality, and materiality of the event.

However, as I mentioned, the ellipsis is used to indicate omission. It gestures towards something that exists beyond what is actually in front of us. When quoting, we may use an ellipsis to show that '*there is more here, but I do not require it'*; it is not required for this particular actualisation. This returns us to the Deleuzian ontology of the virtual and the actual. The ellipsis gestures towards the virtual. Similarly, Giorgio Agamben relates the ellipsis to virtuality, in reference to the philosophy of punctuation in the title of Deleuze's essay, *'Immanence: A Life…'* (Agamben, 1999, p.154). There are Nietzschean resonances with the ellipsis too. Nietzsche wrote many of his books in the aphoristic style. He uses ellipses and dashes to break off sentences and thoughts, leaving the reader to finish them. He trusts that the readers will bring the appropriate knowledge, context, and sense to his writings. There is a required reiterative quality to the ellipsis, a certain circularity. That there is something beyond words, beyond the capability of language. Finally, consider the Borges story with which I opened this chapter. The one-paragraph story begins with an ellipsis. Here, the ellipsis is a literary device designed to suggest there is a whole text out of which the one paragraph has been extracted. It is designed to gesture towards something wider, towards a wider world.

2.2. Participation

Twitter's avian imagery is an encapsulation of co-opted rhetoric and imagery. Using a metaphor that I have used elsewhere[24], I ask you to consider a bird sitting on a tree

[24] In an unpublished research paper as part of my MA thesis. See bibliography: Voice, 2011.

branch. As a tweet is published the bird takes flight from the branch-platform. "Tweets can be directed using the @ mention function, and they can be 'forwarded' (to borrow terminology from email) and thus gain elevation by being retweeted (RT). The tweets can also be organised through hashtags (#) which groups together tagged messages. Consider hashtagged tweets as a flock of birds; a murmuration of starlings" (Voice, 2011, p.1). However, the metaphor and this imagery feeds into the ideal of Twitter, into the promises of Twitter participation – harmonious and communal. In other words, it 'accepts the frame'. However, in this section I argue that we can push the metaphors and imagery already in use, and signal a move away from participation towards a new conceptualisation: predation.

i) "Twitter is the bird. The bird is Twitter"

We can look to the logo of Twitter itself: a silhouette of a bird. In 2012, Doug Bowman, former creative director at Twitter, wrote a post for the Twitter blog announcing the redesign of this logo which would replace all previous iterations of the logo as well as any other logos previously in use, such as the bubble typeface 'Twitter' or the lowercase 't' (Bowman, 2012a). The new Twitter bird solidified the avian imagery that had already been associated with Twitter since its naming. The blue bird would now be the "universally recognisable symbol of Twitter" (Bowman, 2012a, no pag.). A sentence couplet, only in parentheses in the original blog post, would be the oft-quoted line in subsequent news coverage: "Twitter is the bird. The bird is Twitter" (Bowman, 2012a, no pag.).

However, this identification as the bird is masking the truth. Twitter is not *the* bird; rather, Twitter is flying in formation *with* the bird. Consider the V formation in which migratory birds fly such as geese and swans. Each bird behind the lead bird gains lift through the wingtip vortex generated by the bird in front's flap of the wing (Portugal et al., 2014). It is a means of exploiting the aerodynamics to reduce drag and increase energy conservation. The bird imagery means Twitter can exploit the physics of the situation to move forward - onwards and upwards – with minimum drag, by which I mean critique, such as critique of their capitalist logic. They subsequently don't have to spend as much energy or resources on defending said capitalist logic because the 'bird in front', i.e. their logo, the Twitter bird, is doing a large amount of the work to efface it.

How does the avian imagery efface the politics of power and capitalist logic? It does so, in much the same way as the terms ‘sharing’ or ‘friends’: by evoking the utopian Web 2.0 rhetoric of community and unfettered creativity (van Dijck, 2013; Kennedy, 2013; Thornham, 2019) and thereby making benign their own capitalist interests. We need look no further than the blog post announcing the logo’s redesign. Bowman writes, “Whether soaring high above the earth to take in a broad view, or flocking with other birds to achieve a common purpose, a bird in flight is the ultimate representation of freedom, hope and limitless possibility” (Bowman, 2012a, no pag.). In other words, through its avian imagery, Twitter positions itself as a facilitator of cooperation, community, and collaboration, and as an embodiment of freedom. Furthermore, the avian imagery may allow Twitter to position participation within a romanticised version of the natural world of animals, and sidestep all the inherent complexities, the inevitable cruelties, and the intrinsic capitalist exploitation which accompany ‘human’ culture.

Accompanying the redesign were strict branding guidelines (Halliday, 2012). The mask slips slightly as the ideals of freedom and limitless possibility seem only to run right up until you want to change the colour of the logo, which is only allowed to exist in white or Twitter blue, or until you want to change the orientation, and then it is misuse (Twitter Brand Resources, 2019, p.6). Limitless possibility, then, does have some limits. Additional misuse infractions include adding elements like speech bubbles, i.e. the logo cannot say anything Twitter does not want it to; “using metaphorically to suggest a bird. It's not a bird, it's a symbol of Twitter” (Twitter Brand Resources, 2019, p.7); and adding anatomy, such as a second wing (p.7), so as not to imply a ‘real’ bird. The two latter examples demonstrate Twitter’s desire for us to not look to hard at the avian imagery because inevitably, just like every metaphor, it will break apart if it is stretched too far.

There is no interest in the everyday life of living birds in the simplification and romanticised version of avian ethology which is, according to Twitter, either cheerily chirping or is freely gliding high above it all, a world apart. There is an echo here of Donna Haraway’s critique of Deleuze and Guattari’s use of wolf pack in which she derides “the two writers’ scorn for all that is mundane and ordinary and the profound absence of curiosity about or respect for and with actual animals” (Haraway, 2008, p.27). So, let us dismantle the symbolism, let us ground Twitter’s

avian imagery in realism, and let us stretch the metaphor. Doing this will allow Twitter's logo to become its own critique.

To begin, we shall add specificity. What species of bird would the Twitter logo be? In response to a question to ornithologists about Twitter's logo that was asked on *Quora*, the question-and-answer website, Anthony Brown, who worked as penguin keeper at San Francisco Zoo speculated that the "beak and body dimensions" (Brown, 2012, no pag.) would suggest the blue bird is a passerine, a common order of birds which includes sparrows and swallows. Brown adds, "despite what its stance is alluding to", its proportions and "only three primary wing feathers" (2012, no pag.) would suggest it is flightless, a problem since the only known flightless passerines are extinct (Brown, 2012; Rosen, 2012). This, admittedly light-hearted, comment would seem to undermine the rhetoric of freedom and cheerful participation. (Curiously, this answer was upvoted by at least three employees of Twitter [Brown, 2012].) However, in response to a separate direct question on *Quora* about the Twitter bird's species, Doug Bowman himself answered that through the design process, they "discussed references to hummingbirds, but the final iteration is closer to a mountain bluebird" (Bowman, 2012b, no pag.).

For the sake of argument then, let us say the Twitter bird is a Mountain Bluebird. Like most animal species, a Mountain Bluebird lives in a world filled with dangers and survival pressures; they do not live in a world apart. They are subject to resource competition for shelter and food which, for example, can manifest as interspecies competition for nest sites (Wiebe, 2016) and intrabrood competition for food (Stalwick and Wiebe, 2019). There are also sexual selection and evolutionary pressures which manifest in the Mountain Bluebird, for example, as the "brilliant ultraviolet (UV)-blue plumage" (Balenger et al, 2009, p.403), an ornamental trait that usually evolves in "polygamous or promiscuous mating system" (p.402). Evolutionary ornamental traits are often costly and "do not enhance, and may even detract from, survival" (p.402) and so is seemingly counterintuitive in a socially monogamous species such as Mountain Bluebird.

While a Mountain Bluebird can be aggressive, especially when defending their nest (Wiebe, 2016), they are not immune to predation. Known predators include domesticated cats and raccoons (Scott et al, 1996 [1979]), while bobcats are also reported to have preyed on passerines and cavity nesting birds (Gibson and

Moehrenschlager, 2008). Deer mice and eastern chipmunks are known as nest competitors and possible predators (Wiggins, 2006). Avian predators include hawks, kestrels and crows (Wiggins, 2006). It is this concept of predation pressures which I will take up. It involves rejecting the avian imagery Twitter directs us to think about and moving towards alternative animal figures – the animal spirits - to help us to think differently about Twitter, participation, and media events. The plural of figures here is significant as predation draws attention to differing power hierarchies inter- and intra-acting (Barad, 2007) in an ecosystem. Of course, thinking in terms of predation does not preclude participation – animals involved in predation cannot be said to be nonparticipants in the ecosystem – but by thinking in terms of predation, the politics of power would be harder to efface as it is likely more be difficult rhetoric for social media platforms to co-opt.

3. How Can We Extend This thinking?

3.1.Deleuzian Counter-Actualisation.

I now return to a Deleuzian reading of events to propose an alternative way of reading the Trump case study used in this chapter. To briefly recap, Deleuze suggests that there are two realms of events. There is the actualised event and the virtual event, which is immaterial and incorporeal. Deleuze would argue that a straightforward history of an event is insufficient. This comes down to what Deleuze sees as the difference between History and Philosophy. Rather than history, his interest is in *becoming*, that is, "the condition of novelty or change in the world" (Patton, 2016, p.165). "What history grasps in an event is the way it's actualized in particular circumstances; the event's becoming is beyond the scope of history." (Deleuze, 1995, p.170). Or, as he claims in *What is Philosophy?* with Guattari, "the event in its becoming, in its specific consistency, in its self-positing as concept, escapes History" (1994, p.110).

According to Deleuze, actualised events are what history, and the study of history, concerns itself with; it is to these actualized events that history refers. This means the study of history neglects "the condition of possibility of newness in the world" (Patton, 2016, p.165). Deleuze would argue an alternative approach to events is needed. To do this, Deleuze turns to the poet and essayist, Charles Péguy. In *Negotiations* (1995), Deleuze paraphrases Péguy who suggests,

> that there are two ways of considering events, one being to follow the course of the event, gathering how it comes about historically, how it's prepared and then decomposes history, while the other is to go back into the event, to take one's place in it as in a becoming, to grow both young and old in it at once, going through all its components or singularities. (Deleuze, 1995, p.170-171)

The way History makes sense of the event is by explaining what actually happens and why; History "tells us how the event came about, at some level of generality or duration, what prepared the way for it and made it possible, how it unfolded and eventually dissipated over time" (Patton, 2009, p.46). However, the role of Philosophy "is to give expression to the pure event in what happens" (p.47). Deleuze's Philosophical approach then is to "create concepts that take us inside the event, one that allows us to 'install' ourselves in the event as in a becoming"

(Patton, 2009, p.47). The animal approach I adopt here is my way of taking us back into the event. It is an experimentation that *counter-actualises* the event.

Counter-actualisation appears across Deleuze's work and subsequent Deleuzian scholarship. It is sometimes translated as 'counter-effectuation', while in *Difference and Repetition* the same process is referred to vice-diction, but I shall refer to it as counter-actualisation[25]. Counter-actualisation is a process which "limits, moves and transfigures" (Deleuze, 2015, p.165) the actualisation. Deleuze writes in *Logic of Sense*,

> Counter-actualization is nothing, it belongs to a buffoon when it operates alone and pretends to have the value of *what could have happened*. But, to be the mime of *what effectively occurs*, to double the actualization with a counter-actualization, the identification with a distance, like the true actor and dancer, is to give to the truth of the event the only chance of not being confused with its inevitable actualization. […] To the extent that the pure event is each time imprisoned forever in its actualization, counter-actualization liberates it, always for other times. (Deleuze, 2015, p.165)

So, counter-actualisation must not be confused with an alternative history; it is not what could have happened, but what has effectively occurred by another name. This other naming is identification with the event but from a distance. It is the event repeated with a difference. What is kept from the event is "only its contour and its splendor" (2015, p.155). In the Deleuzian reading of events, counter-actualisation is the imperative to re-enact the event. It is the demand to double back on and replay the event to maximise the intensity of the event's ideal connections (Williams, 2009, p.116). Whereas actualisation cascades from the virtual down to the actual, counter-actualisation "would operate in the opposite direction, up the cascade from the intensive towards the virtual" (DeLanda, 2005, p.128). It is the process by which the ideal or pure event is extracted from the actual event.

From the state of affairs, from the mixtures of bodies, and from the actualised event is released a "vapour that does not resemble them" (Deleuze and Guattari, 1994,

[25] The different terms and variant spellings make consistency difficult. Sometimes counter-actualisation is spelled with a z instead of an s; sometimes it is hyphenated other times it is not. I shall endeavour to refer to it as 'counter-actualisation' except in quotations and make clear when the authors are using a different term such as 'vice-diction'.

p.159). According to Deleuze and Guattari, “the event is actualised or effectuated whenever it is inserted, willy-nilly, into a state of affairs; but it is counter-effectuated whenever it is abstracted from states of affairs so as to isolate its concept” (Deleuze and Guattari, 1994, p.159). Counter-actualisation isolates the concept of the event; it extracts the vapour or the pure event and identifies its composition.

In his expounding of the event, Deleuze frequently refers to the example of the wound. Deleuze is keen on referring to Joë Bousquet, the French poet who had been shot through the neck by a German bullet in the First World War. The bullet severed his spinal cord, yet he survived. He was dragged to safety and nursed to health. He was left paraplegic, bedridden, in constant pain, and living protected behind a heavy curtain. He became a major surrealist writer and poet, who used his writing to affirm his wound (e.g. Williams, 2008b, p.100). In the section ‘Twenty-First Series of the Event’ in *Logic of Sense*, Deleuze quotes Bousquet’s maxim, “My wound existed before me, I was born to embody it” (Deleuze, 2015, p.153). Bousquet’s work is a counter-actualisation of the wound; the wound is redoubled in his art. As Williams notes, Bousquet does not deny the event of the gunshot and the paralysis but returns to it through surreal ways.

Counter-actualisation, of course, does not repair the damage done, nor does it seek to. It also does not deny the importance of actual events, in fact, the actual event is necessary; counter-actualisation is in a “reciprocally determining interaction” with the actual event (Williams, 2008a, p.36). Williams further notes a parallel between Bousquet’s and Deleuze’s work in the “idea of becoming a double or *ghost* whose acts replay its destiny thereby changing, not the outcome of events, but their tone and significance” (2008a, p.155). Counter-actualisation is this replaying, it is a reinvention that runs parallel to the event and alters it. It is an act of creation which does not negate what occurs but puts what occurs in touch with an alternative source of values which run counter to it (Williams, 2008a, p.155).

3b) WOLVES, HYENAS, AND BORAMETZ

Chapter 3b) builds on the work of Chapter 3a) to counter-actualise the Trump example, that is, to go back into the event in order to extract the vapours of the pure event, and from there develop a reconceptualisation of participation in digital media events. At the risk of perpetuating the power dynamics of the 'real life' human-nonhuman animal relationship of exploitation, I put to work the animal spirit figurations, making them do the work of which I know they are capable. This is not to diminish the work in part a); they are not merely performing representative work in the Trump example, but I use the conceptual figures to make a wider point about participation in digital culture, and to enable a shift from thinking of the notion of participation to thinking in terms of predation.

1. Counter-Actualisation: Animal Spirits and Trump

Considered alone, the animal spirits I present here may seem like mere metaphors engaged in representation, like mapping one thing onto another. However, this would be a misinterpretation. They are more-than-metaphors. It is through a Deleuzian counter-actualisation that these animal spirits gain value. The animal spirits of wolves (and hyenas) and the Borametz which I introduce here are figures working as mechanisms for counter-actualisation. Specifically, a counter-actualisation of the actualised event of the Trump University and *Hamilton* case study elucidated in Chapter 3a)

In terms of the actualised event, the number of replies, retweets and likes can be considered an informal barometer of the overall reach of the tweets and the level of engagement in Twitter conversation. The numbers suggest that Trump's tweets regarding Pence and the cast of *Hamilton* garnered significantly more engagement in the Twitter community than those regarding the Trump University settlement. There were conversations which splintered and sprawled out from Trump's initial tweets; it is by no means complete snapshot of the event.

1.1. Wolves (and Hyenas)

Wolves are carnivorous which, of course, means they depend on feeding on other animals. The wolf animal spirit sustains itself on a particular type of social media

engagement. The most obvious example occurs during the conversation around a controversial event or person, and usually involves strong oppositional opinions and call for social action. The animal spirits do not necessarily have a political alignment. To borrow scientist David Mech's adage, the wolf spirit "is neither saint nor sinner except to those who want to make it so" (2012, p.147). In the Trump case study, liberal users manifested as wolves circling around a particularly provocative conservative president-elect. Both events mentioned above had Twitter users retweeting and engaging in high numbers. The highly developed sense of smell allowed the Twitter wolves to 'smell blood in the air' and seize the opportunity to satiate their appetite.

An aspect of wolf behaviour and ecology that can be reimagined and applied to the animal spirit version regards 'showing behaviour'. Young children use imperative pointing in order to request an object from an adult. This behaviour has also been observed in nonhuman primates. But how do animals without hands engage in 'showing behaviour'? Gaze alternation is one method of attracting and directing attention similar to pointing. Numerous studies have proven that dogs "readily alternate their gaze between the reward location and humans when a desired food item or toy is out of their reach (Marshall-Pescini et al., 2009, Miklósi et al., 2005, Passalacqua et al., 2011 and Virányi, Topál et al., 2006)" (Heberlein et al, 2016, p.59-60). Heberlein, Turner, Range and Virányi's (2016) study of dog and hand raised wolf 'showing behaviour' towards humans suggests that wolves have the similar "necessary social attentiveness" (p.60) as dogs to learn to effectively communicate with humans. Heberlein et al.'s study also demonstrated that dogs and wolves adjusted their showing behaviour depending on the cooperativeness of the human partner. The dogs and wolves were "more likely to show the food location in the presence of the cooperative partner than in the presence of the competitive partner" (2016, p.64).

Gaze alternation is an aspect of learned wolf behaviour that may be applied to our theoretical animal spirits and to Twitter's social functions. According to boyd, Golder and Lotan (2010), there are many reasons why people could retweet including 'amplifying tweets to new audiences, adding new content, beginning a conversation, publicly agreeing with someone, and making one's presence as a listener visible' (p.6). The Twitter wolves in the case study above may have used

retweets and the posting of links in the above ways which in turn had the effect of bringing the attention of the mainstream media onto what the community considered important. Although social media users utilise speech and language, arguably it was not the messages themselves that drew attention to the 'reward location' but the collective process of attracting and directing attention, which pointed and effectively told the mainstream media '*This is what we want to talk about, this is the object of our desire'*. The media, acting as a cooperative partner, picked up on these cues, followed the collective gaze and paid more attention to the *Hamilton* story allowing more wolf animal spirits to 'feed' on the story. The cooperative nature of the mainstream media highlights the interconnected media ecology.

The ecological term for the top down effects of predators in an ecosystem is "trophic cascades" (Hebblewhite et al., 2005, p.2135). These cascades can influence prey population and distribution, plant biomass, and biodiversity. Mech (2012) claims one of the cascade effects of wolf predation is the benefit to scavengers (p.145). The existence of the wolf animal spirit is likely to also have top-down effects on other sprits in the digital culture ecosystem. Another animal spirit of digital culture ecosystem is the laughing hyena. Hyenas are scavengers and opportunists (Brottman, 2012). During Twitter controversies, such as the Trump examples, some users may attempt to join the feeding frenzy begun by the wolves. Many users post jokes and memes mocking the subject. They may pick at the body of controversy, tear the loosely connected sinews and remaining flesh from the bone in order to sustain their conversations and arguments. The comedy and satire may be particularly 'biting', given the species' powerful jaws enable them to crush bones and dismember carcasses. As Ernest Hemingway writes, hyenas have "jaws that crack the bones the lion leaves" (Hemingway in Brottman, 2012, p.7).

Another behavioural stereotype of the hyena provides a key attribute to the hyena animal spirit. The noises and calls made by the hyena is said to sound like laughing. It is a known as the "giggle call" (Mathevon, et al. 2010, p.2). There are four species of hyena: the striped hyena (Hyaena hyaena), the spotted hyena (Crocuta crocuta), the brown hyena (Hyaena brunnea), and a smaller termite-eating animal, the aardwolf (Proteles cristatus) (Glickman, 1995, p.502). It is predominantly the spotted hyena, also known as the 'laughing hyena', that is the model for my animal

spirit. The laughing hyena spirit can be said to be more than just revelling in the digital cultural blood sport. The giggle call is in fact “an expression of excitement and frustration” (Brottman, 2012, p.15). Indeed, as Mathevon et al. note, the giggles are predominantly emitted “when hyenas are feeding together on a prey” and generally “during competitions between dominant and subordinate animals” (Mathevon et al. 2010, p.2). Furthermore, the giggles encode messages; they encode information not only about the emitter but also about the social structure (Mathevon et al. 2010). In terms of the Trump case study example, users mocking and posting jokes about the news story are also encoding information about who they are and the social structure of which they are a part. They are also vying for position in that social structure. It is a demonstration of the dynamic power relations between different users and the everyday micro-physics of power, to use the language of Foucault.

The next section will examine the prey of the predatory animal spirits discussed above.

1.2.The Borametz

In the actualized events of the Trump example as described in Chapter 3a), there were editorials that suggested that the Hamilton tweets were a distraction (e.g. Shafer, 2016). It is suggested that Trump’s Twitter strategy is one of distraction with the tweets “jamming the media’s circuits, purposefully crowding out matters of real import with inconsequential micro-scandals” (Levin, 2016, no pag.). This is counter-actualised as the Borametz animal spirit.

The Borametz (a.k.a Barometz, The Vegetable Lamb of Tartary, the Scythian Lamb, Agnus scythicus) is a legendary zoophyte or plant-animal and is the final animal spirit applied to the case study. There have been numerous accounts of the fabled plant-animal that has earned entries in texts such as Jorge Luis Borges’ *The Book of Imaginary Beings* (2005, p.38). In some accounts, a certain tree grown from a gourd or melon-like seed would ripen fruit which would then burst open to reveal a perfectly formed little lamb indistinguishable from a natural birthed lamb. However, later stories developed in which the lamb was not born of fruit but was rather a living lamb attached to a stem like a plant. It is described by Henry Lee in *The Vegetable Lamb of Tartary: A Curious Fable of The Cotton Plant* (1887) as

> being a living lamb attached by its navel to a short stem rooted in the earth. The stem, or stalk, on which the lamb was thus suspended above the ground was sufficiently flexible to allow the animal to bend downward, and browze [sic] on the herbage within its reach. When all the grass within the length of its tether had been consumed the stem withered and the lamb died. This plant-lamb was reported to have bones, blood, and delicate flesh, and to be a favourite food of wolves, though no other carnivorous animal would attack it. (Lee, 1887, p.2)

An extract of Lee's translation of Dr De la Croix's poem on the Borametz provides further intriguing details:

> […]
> The rude and simple country people say
> It is an animal that sleeps by day
> And wakes at night, though rooted to the ground,
> To feed on grass within its reach around.
> The flavour of Ambrosia its flesh
> Pervades; and the red nectar, rich and fresh,
> Which vineyards of fair Burgundy produce
> Is less delicious than its ruddy juice.
> If Nature had but on it feet bestowed,
> Or with a voice to bleat the lamb endowed,
> To cry for help against the threat'ning fangs
> Of hungry wolves; as on its stalk it hangs,
> Seated on horseback it might seem to ride,
> Whit'ning with thousands more the mountain side.
> (Lee, 1887, pp. 36-39)

Of significance to the application of the Borametz as an animal spirit of digital culture are the concurring accounts of the taste of the flesh and the attraction to wolves. One author recounts that "according to those who speak of this wondrous thing, its taste is like the flesh of fish, its blood as sweet as honey … It has rest from all beasts and birds of prey, except the wolf, which seeks to destroy it" (Lee, 1887,

8). Similarly, Baron Sigismund von Herberstein provides further detail as he writes that the plant, "if plant it should be called, had blood, but not true flesh: that, in place of flesh, it had a substance similar to the flesh of the crab… It was of so excellent a flavour that it was the favourite food of wolves and other rapacious animals" (Lee, 1887, p.12). In the case study example, the wolf pack animal spirit could be considered to be tempted by the succulent honey tasting flesh of the Hamilton tweets over the flesh of the Trump University settlement story.

While not stated in the mythology surrounding the zoophyte, this case study applies the Borametz animal spirit as a distraction. It is analogous to what Dominic Pettman might call, "looking at the bunny" (2013), referring to the "process of being distracted from more important events unfolding nearby, denoting a very deliberate form of diversion" (2013, p.33). The Borametz is not a true lamb, yet the wolves expend resources on this easy meal, and may allow other prey to escape. This correlates with the opinion of commentators (e.g. Shafer, 2016) that *Hamilton* tweets are a distraction from stories of more importance. In his chapter *''A Good Day to Bury Bad News?': Journalists, Sources and the Packaging of Politics'*, Bob Franklin notes spin doctor Jo Moore's cynical email on September 11th to her colleagues. The leaked memo read: "'it's now a very good day to get out anything we want to bury' (Daily Telegraph, 10 October 2001: 2)" (Franklin, 2003, p.45). It is tempting to suggest the Donald Trump tweets are an extrapolation of existing practices in the journalism and political relationship which exploit the finite quantity of resources and attention in the media and amongst users, and so say that the *Hamilton* tweets were designed to bury the bad news of the lawsuit settlement. However, it seems more likely that the Borametz animal spirit is engaged in a complex relationship with other animal spirits and the environment in the media ecosystem.

It must be said that the existence of a Borametz doesn't negate the existence of other prey in the vicinity. Intentionality is also an important consideration. It is unlikely that Trump 'planted' the Borametz *Hamilton* story as a distraction because he also tweeted about and thereby highlighted the $25m lawsuit settlement. It was the collective decision of the Twitter wolves to engage with the Borametz *Hamilton* story more. Choices and actions in digital culture are a complex network of interactions and cascading effects in an ecosystem.

2. Participation Towards Predation

The animal approach can do more, it can offer something more than Trump and say something wider about participation in digital culture. What these animal spirits are gesturing towards is the ecological process of *predation*. The value of predation as a part of digital discourse is that it speaks to themes that participation neglects. Predation opens up, or makes readily apparent, themes and resonances that participation does not (at least not to the same degree). I am not arguing that participation does not occur, but that it has become increasingly inadequate as a useful term without qualification.

2.1. Definitions of Predation

Predation is undoubtedly an important biological process. Despite this significance, predation remains difficult to define. This echoes Deleuze and Guattari's idea of philosophical 'concepts' which are also resistant to definitive description as "their power lies in being open and expansive" (Colebrook, 2002, p.17). There is a near inexhaustive number of interpretations of predation as every biologist, every study, and every ecological text, offers a unique definition dependent on their own pragmatic or philosophical leanings (Taylor, 1984, p.1). Robert Taylor (1984) proposes four definitions of predation which range from the specific to the general (p.3) and, as we shall see, from the reductive to the more complex.

In the first definition, predation is described as occurring "when one organism kills another for food" (Taylor, 1984, p.3). This common definition is most likely favoured by the ecological behaviourist and is utilised by Taylor in his text (yet his personal preference lies with the second definition). This definition describes both the explanation for the behaviour and the consequence, i.e. death of the prey; it also generally excludes the consumption of vegetable matter through grazing, which could be included depending on the meaning of 'organism', as well as "the other great process by which one organism harms another" (Curio, 1976, p.1): parasitism.

While the explanation for predatory behaviour is acknowledged (i.e. prey is killed for food) in this first definition, fundamentally the narrative of such an interpretation

is focused on the lethal effect: the death of the prey. The narrative establishes a dichotomy and propagates conflict and a definitive resolution. Much like in fiction, the narrative has been inextricably linked to conflict. Common understanding of predation cannot be viewed outside of a conflict narrative. There *must* be a binary opposition - predator and prey – and these *must* engage in conflict and the resolution *must* occur when the predator kills the prey. That is predation: simple and deadly, all cut and dried.

In the context of literature, Ursula Le Guin suggests that with the inextricable link of conflict and narrative comes an inevitable reductionism: "Existence as struggle, life as a battle, everything in terms of defeat and victory: Man versus Nature, Man versus Woman, Black versus White, Good versus Evil, God versus Devil – a sort of apartheid view of existence, and of literature. What a pitiful impoverishment of the complexity of both" (Le Guin, 1989, p.190). Similarly, through this narrow definitional lens, predation is reduced to a series of absolutes, complex animals are reduced to 'good' and 'evil', and complex processes are reduced to 'success' and 'failure', 'victory' and 'defeat'. And to the victor go the spoils. This is reinforced etymologically, as the term predation is derived from the "classical Latin *praedātiōn-*, *praedātiō* action of plundering, depredation < *praedāt-* , past participial stem of *praedārī* to plunder, spoil" (OED, 2022g). Predation is to plunder, to spoil, to seize, and to rob; it is the act of taking booty, to forcibly take what is valuable.

Under this first definition of predation, what is valuable is Life, what is plunderable is existence. The stakes for all groups are clear. For prey the stakes are their continued existence: if they get caught, they die. Likewise, for predators what is at stake is their continued existence: if they do not eat, they die. There is something to be lost for all parties, there is something to be gained for all parties. There is risk. To exist in the 'natural' world is to be open to that risk, it is to be vulnerable. Do we see the carnivore as evil for killing and eating the herbivore? Is the wolf evil for eating the moose? Or do we see it as a natural and inevitable process?

2.2. Trolling: Nietzsche, the Lambs and the Raubvögel

Here, Friedrich Nietzsche's various conceptions of predation, such as his parable of the bird of prey (Raubvögel) and the lamb, are useful as they allow me to examine

the extreme forms of online participation, namely trolling and online abuse. In *On the Genealogy of Morals*, Nietzsche makes the analogy lamb and the Raubvögel to critique the origins of Christian morality, that is, the conception of good and evil. Nietzsche writes,

> It is not surprising that the lambs should bear ill will against the great birds of prey, but that is no reason for blaming the great birds of prey for taking the little lambs. And when the lambs say among themselves, 'Those birds of prey are evil, and he who is most unlike a bird of prey, who is most like its opposite, a lamb – is he not good?' then there is nothing to cavil about in the setting-up of the ideal, except perhaps that the birds of prey will regard it with some measure of derision,, and say to themselves, 'We bear no ill will against these fine, goodly lambs, we even like them; nothing is tastier than a tender lamb.'
>
> To demand of strength that it should not express itself as strength, that it should not be a wish to overpower, a wish to conquer, a wish to become master, a lust for enemies, resistance and triumphs, is just as absurd as to require of weakness that it should express itself as strength. (Nietzsche, 2013 [1887], 1:13)

Nietzsche's argument here essentially ridicules those who cry victimization at the hands of oppressors for expecting anything less from predators than the expression of their natural desires. It is ludicrous, according to Nietzsche's parable, to expect a predator not to express their strength. It is their instinct to do so. It is the law of nature.

Elsewhere in *On the Genealogy of Morals*, Nietzsche also extolls the virtues of beasts of prey and the infamous 'blond beasts', while seemingly castigating the 'herd' (Hatab, 2008, p.7). These beasts of prey offer a much more complex and seemingly paradoxical perspective on predator-prey relationship than the Raubvögel. Nietzsche dubiously describes the beasts of prey as engaging in both "wild predation *and* civilized cultivation" (Conway, 2004, p.164). He attempts to "demonstrate that what we call "predation" and "cultivation" are in fact coeval expressions of primal animal vitality" (2004, p.165). Nietzsche does this through the description of predators as artists:

> Their work is the instinctive creation and imposition of forms; of all artists, their work is the most instinctive, unconscious – in connection with appearance there arises something new, a system of governance which is *alive*, in which the functions and parts are defined and related to one another, in which above all no parts are defined and related to one another in which above all no part finds a place unless it has some 'function' in connection with the whole. These instinctive organizers, they know nothing of guilt, responsibility, consideration; they are subject to that terrible artist-egoism which gleams like brass, and which sees itself justified to all eternity, in its work, even as a mother sees in her child. (*GM*, 2, 7)

This proclamation of beasts of prey as "artists of violence" (*GM*, 2, 18) is obviously controversial. It is difficult not to find repugnant Nietzsche's violence-as-paintbrush imagery. Many interlocutors have condemned Nietzsche's "careless glorification of violence" (Conway, 2004, p.166) and his politically naivety to not understand how his writings could be interpreted.

At the risk of garnering similar accusations, let us take to opportunity to attempt to apply and analogise Nietzsche's predator-prey relationships to participation in digital culture. I consider the closest analogue to predation's conflict narrative to be trolling. The term trolling is "conceptually fuzzy" (Akhtar and Morrison, 2019). Originally, the phenomenon was described as "the luring of others into useless, circular discussions" (Barnes, 2018, p.8). Claire Hardaker describes a troll as someone

> who constructs the identity of sincerely wishing to be part of the group in question, including professing, or conveying pseudo-sincere intentions, but whose real intention(s) is/are to cause disruption and/or to trigger or exacerbate conflict for the purpose of their own amusement.
>
> (Hardaker, 2010, p.237)

Whitney Phillips' 2015 study echoes this, as she describes a troll is a "someone who deliberately disrupts online interactions and derives amusement from another's anger" (Barnes, 2018, p.8). However, trolling as a term has undergone a fair amount of linguistic slippage and the above definitions are not how trolls are widely known. Trolling is now a broad umbrella term for many online anti-social

practices ranging from impoliteness and incivility through flaming and 'trolling' (as the theorists above would understand it) to the more extreme forms of online abuse and harassment (Phillips, 2015; Barnes, 2018). The popular understanding of trolls now leans towards the more extreme ends of this spectrum. Originally there was intent to enrage their target, but with increasingly vitriolic and threatening behaviours the intention to distress, to scare, and to exhaust their, disproportionately female, targets cannot be ruled out as motivation.

I admit, I have tied myself in knots trying to represent online trolls and their victims within the schema of Nietzsche's parable. The implication that trolling is as an inevitable a process as predation may be just about tolerable if we only consider the more benign side of anti-social online behaviour, such as impoliteness and incivility. Indeed, there is the argument that incivility and impoliteness should not be entirely removed from the digital social space. Chen et al. (2019), for instance, take issue with the end goal of a completely sanitized digital space with no swearing, vulgarity or possibility of impolite rhetoric, as there are benefits to, and value in, imperfect speech such as this, including social bonding, igniting political interest, and effectively making marginalised voices heard (Chen et al., 2019, p.2-3).

However, the conclusions drawn from this reading become less palatable when considering the more extreme forms of online abuse. The surface reading of Nietzsche's parable in the context of trolling is that the victims of the troll's abuse (the lambs) are demonizing their attackers as bad or evil (the bird of prey), who are merely expressing their strength. It is the notion of strength that is problematic here. One option I proposed was to continue the avian imagery of the parable and suggest that trolls' sense of strength is an illusion created through aggressive mimicry. This argument relies on Twitter's passerine to learn mimicry (like a Pokémon special ability) to allow trolls an illusionary show of strength.

Alternatively, we can reverse the reading so that the trolls are, in fact, the lambs. The lambs represent the herd, Nietzsche's slave morality, who "say "'no' *ab initio* [Latin: 'From the outset'] to what is 'outside itself', 'different from itself' and 'not itself'" (*GM*, 1, 10). The slave morality is primarily *reactive*; Twitter trolls are usually *reacting* to tweets. Certainly, the alt-right complaints sound like ressentiment, that is, "the resentment experienced by those who, deprived as they are

of the proper outlet of action, are forced to obtain their satisfaction in imaginary acts of vengeance" (*GM*, 1, 10). They perceive themselves to be denied what they feel what is rightfully theirs, so they lash out at those who they believe are currently oppressing them.

In the face of these readings and counter-readings, I realise the value of predation as a part of digital discourse is in its appreciation of complexity. First, I think a difficulty arises from the confusion between a predatory *act* and predation as broader ecological *process*. It is a strength of predation that it is capable of speaking on multiple levels, from the individual to wider societal scale, and from the single and immediate predatory act to the complex ecological process of predation. However, I recognise that it is also difficult to escape from the perspective of the individual, which in part what this thesis has been attempting to achieve. Further complexity is added when we consider that we have been assuming a creature is always either predatory *or* prey, one or the other, whereas we should consider them as both. We are all engaged in predation, depending on its definition. Online we could be possessed by both animals, Raubvögel and the lamb, at the same time.

2.3.Return to Predation Definitions

To return to definitions of predation, in Taylor's second definition, "predation occurs when individuals of one species eat living individuals of another" (Taylor, 1984, p.3). This suggests the possibility of nonlethal predation as it does not necessitate the death of the prey - the prey may survive, although unlikely. It also includes the previously excluded parasitism and herbivory. In Taylor's third definition, predation is described as "a process by which one population benefits at the expense of another" (1984, p.3). This is a broad definition, which focuses on the effects of the process rather than the types of behaviour. It also broadens the focus to populations rather than individuals. Finally, the fourth definition, likely the preferred definition of an ecological philosopher, defines predation as "any ecological process in which energy and matter flow from one species to another" (Taylor, 1984, p.4).

Another interpretation comes from Eberhard Curio who defines predation "as a process by which an animal spends some effort to locate a live prey and, in addition, spends another effort to mutilate or kill it" (1976, p.1). Here, there is a clear

articulation of predation as (at least) two processes: the effort and intent in (1) the seeking out of prey, and (2) the attack. There is also an emphasis on consequences: "it concludes with the mutilation or total destruction of an animal that offers some resistance against being discovered and/or being harmed" (p.1). There is greater recognition here of multivalent agency. The prey resists the predator; the prey may engage in anti-predator behaviour by running away, employing defensive strategies, going on the offensive themselves, hiding, or avoiding detection in the first place.

Here we can see a complexifying of Taylor's first definition. Curio's interpretation opens up the category of predation to see what has been subsumed. I quote once more from Le Guin who critiques the making of narrative equivalent to, or synonymous with, conflict, as she suggests, "to say that that is the story is to use one aspect of existence, conflict, to include and submerge other aspects which it does not include and does not comprehend" (Le Guin, 1989, p.191). To illustrate further, let me offer a vignette:

With her head down grazing on the vegetation poking through the compacted snow, she didn't notice the golden eyes peering at her from the darkness behind the treeline. A wolf had smelled her. First one wolf, then another, then another. Now they were watching, waiting, and weighing their options. The shifting of a wolf paw causes the snow to compress and crunch. Her ears prick, she raises her head and meets the gaze of the predator(s). She watches, waits, and weighs her options. The tension rises and is suddenly released as muscles start to move…

Now, a question: when does predation begin? We do not know what follows for her. Is it conflict and death? Conflict, escape and life? Escape, yet suffering fatal injuries? Perhaps no conflict at all, as their options or their instincts suggest this is not worth the risk. Yet, does this not describe a predatory situation? If so, then predation as conflict increasingly becomes inadequate. Conflict is not the whole, nor only, story of predation. The first predation definition skips over confrontation and leaps headfirst right into conflict. Confrontation brings (at least two) different sides together; it is the "bringing of persons face to face; *esp.* for examination and eliciting of the truth", or "for comparison" (OED, 2022h).

A further question: when is participation participation? The condition for participation seems to be that they are already participating. The moose, the prey, is

involved whether she knows it or not. She is participating in predation because she is in the world. The wolves are participating in predation because they are in the world. Participation is predation, predation is participation.

We can see that predation is a complex process. Once we begin to think about participation in terms of predation[26], we are better able to think about the complexity of participation, and about the concepts which participation, in its current form, has a tendency to mask. Predation removes the inherent fulsomeness and wholesomeness of the activities of participation, while also recognising them as the 'general condition'; predation acknowledges the need and the desire for activities of participation but does not deify the concept. Predation is a concept that facilitates the embodiment of participatory practices; it grounds participation, it brings participation back down to earth, and into the realm of the body.

[26] It must be noted that I am not trying to replace participation with predation

PART THREE:

CONCLUSION

1. Conclusion

In this conclusion, I would like to engage with a question I have repeatedly asked: How can we extend this thinking? In the twin chapters (3a and 3b), I put forward the suggestion that we could think differently about digital media events, and the concept of participation in said events. Through a counter-actualisation of a case study of Donald Trump's use of Twitter, I extracted an essence of the event, something that was spectrally both there and not there, something that hovered above or outside the actualisation. In this essence, I saw predation. I suggested that we could think of participation in events in terms of predation. And by doing, so would speak to aspects that had not been grasped by other conceptualisations of media events (e.g. Dayan and Katz, 1992). For example, predation simultaneously spoke to the interruptive nature of events *and* their continual and processual nature (ellipsis rather than full stop). I also gestured towards the idea of thinking about wider digital culture in terms of predation with a consideration of trolling. But we can extend our thinking even further; we can begin to think of *the digital* in terms of predation.

First, I can note that the concept of predation did not manifest *only* out of the processes of thinking through the ideas in 3a) and the counter-actualisation in 3b), but rather it could be said to have been haunting my thinking throughout the previous chapters. I mentioned in the beginning that the aspects of digital culture spiral outwards and upwards like Yeats' widening gyre (Yeats, 2008). They could be said to be part of the same process, the same movement. In this concluding chapter, I trace some of the themes that speak to predation which have been building over the course of the thesis and have culminated in this notion that we should talk not just about participation in digital media events but digital culture more broadly in terms of predation.

i) <u>Preyfulness</u>

During the writing up of this concluding chapter, I went home for Christmas. My brother brought home Lucy, a six-month old Dachshund. Lucy enjoyed exploring her new environment and 'assessing' all the new people she encountered, and although she pined and whined constantly when my brother was not in the room, she seemed to love the attention we gave her. It was playing with Lucy that helped to

clarify my thinking regarding the preceding chapters, and how they could fit together. ‘Could’, as we shall see, is the operative word. Lucy jumped up at those who entered the room, sometimes with mouth agape. Demonstrating behaviour that is most often associated with cats, she chased a laser pointer (Fig. 19). And, of course, she tried to bite our hands. The ‘bites’ were ‘gentle, slow, and soft, rather than hard, fast, and with teeth’ (Powell, 2021, p.455). The jaw did not close or clench down. (Lucky, she is not a hyena!) Still, the hand could feel the teeth. This was not a bite. Indeed, it was much more of a ‘mouthing’ or a ‘gumming’. It was clear that this was more of a play bite, which is normal behaviour, especially for young dogs. As many a dog owner will attest, “young dogs play with their mouths” (Powell, 2021, p.458). Yet, when her play bites got too close for comfort, Lucy was firmly told, “No. We don’t bite!”.

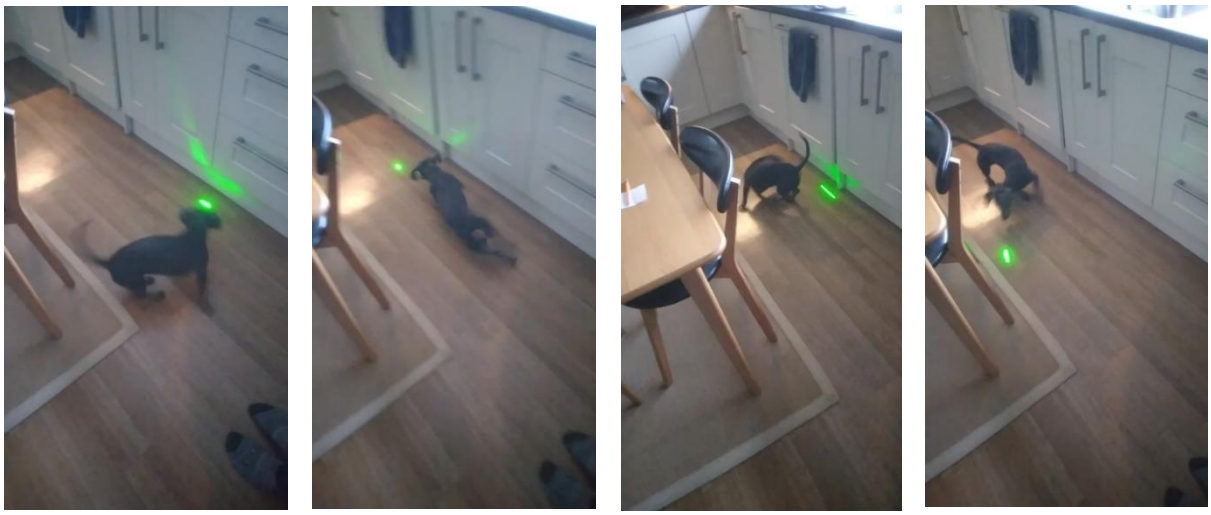

Figure 19. Lucy chasing a laser

This Lucy encounter helps establish a certain theme of, for lack of a better term, ‘mouthness’ that runs through the chapters. The relationship to the mouth is overt in the chapters on predation and digital media consumption, functioning as they do on the process of eating. There is also a mouthness present in the proposed intervention to meme overload in the chapter on the Pokémon Ditto. Nietzsche’s Zarathustra tells the shepherd to *bite* down on the snake that is choking him, after which the shepherd’s only response is *laughter*. The process of laughing encompasses several physiological processes such as an increase in heart rate and the contraction of muscles in the chest and abdomen, as well as in the face. Laughter’s mouth involvement can occur in the context of smiling.

Lucy and her play biting or play mouthing can help to add another thematic layer, that of playfulness. Until my Lucy encounter, I had been toying with a far too functional and too linear narrative for the chapters. It was a narrative based on thinking in terms of animal play and would provide a potential recontextualization of the chapters on Ditto and memes. The narrative hinged on a somewhat simplified reading of animal play as not a purpose*less* activity, as not just a bit of fun, but rather as a purpose*ful* activity. This notion of animal play suggests that play must have a functional or adaptive value in the sense that it increases the young animal's likelihood of survival in adulthood, that it is performed as a form of preparation for predation, as a means of learning the techniques and behaviours which could be useful in the future to hunt prey or evade predators. Play is like predation, just without the life-or-death stakes. As Gregory Bateson notes, "two animals who abandon themselves to play, for example, a play fight, perform acts that "are similar to but not the same as those of combat (Bateson 1972, 179)" (Massumi, 2014, p.4).

While animal play, as Gordon M. Burghardt (2003) makes clear, is much more complex, it is useful to play out this reading in the context of memes and Ditto. Thinking of memes in terms of animal play, we could argue that memes are a form of playfulness from which users learn the techniques and behaviours for their future experience in digital culture. The creation and circulation of simple memes could be considered a relatively harmless play bite, but, extrapolating forward, it is then behaviour that is redeployed as a stronger satirical bite, like the bite of a hyena, in the kind of predatory digital media events described in the final chapter. Thinking of memes as animal play which leads into predation could also neatly explain how online playfulness can easily slip into heated argument. Here, we can introduce Gregory Bateson's notion of 'the nip', specifically in the context of Brain Massumi's interpretation of wolf cubs at play (Massumi, 2014). When two wolf cubs play fight, they could nip each other, that is, perform a bite that, in the manner in which it is done, communicates 'this is not a bite; this is not a fight. This is play; this is a game.' (Massumi, 2014, p.4). Indeed, Lucy might well have replied with this when her play bites got too close for comfort. However, if the wolf cubs "perform their moves with too much similarity to fighting, and not enough in analogy with it, the partners will become adversaries on the spot, with the attendant risk of potentially serious injury" (p.4).

As I suggested above, the reading of animal play as practice for predation is instrumental and overly functional. My above interpretation in the context of memes and digital culture is linear and deterministic. Play leads into predation. Furthermore, they are two processes that can be easily separated. This is not to say that the interpretation is wrong necessarily. It is a possibility, for sure, but to claim that this *is* what happens is to limit our thinking, to undermine the value of the concept of predation, and go against what the thesis has actually been engaging in throughout.

I had been attempting to normalise the play gesture, or to "model it as a function of a recognised instrumental end" (Massumi, 2014, p.12), as Massumi would say. This is to focus not on the wrong aspect of play and, indeed, predation necessarily, but to focus on only a single and thus delimiting aspect. Instead, Massumi suggests a reading that acknowledges the inextricability of play and predation. Invoking Deleuze, Massumi argues that "the arena of combat and that of play enter into a *zone of indiscernibility*, without their difference being erased. The logics of fighting", which I suggest can be extended to include predation, "and play embrace each other, in their difference" (2014, p.6). Massumi continues,

> They overlap in their shared gesture […]. They overlap in the unicity of the performance, without the distinction between them being lost. They are performatively fused, without become confused. They come together without melding together, co-occurring without coalescing. The zone of indiscernibility is not a making indifferent. On the contrary, it is where differences come together (2014, p.6)

I suggest that we are already familiar with an example of this indiscernibility of the play/combat relationship in this thesis, namely, Foucault's 'joke' that "this century will be known as Deleuzian" (Foucault, 2016, p.38). This is at once a joke, and a jibe, and possibly a warning. It is a play bite between sparring theorists; it is a nip that is being read by we observers and commentators, attempting to measure the strength of the 'bite', and speculating on its meaning.

For Massumi, we should avoid thinking of play in the terms of a functional and regularised purpose, for

> a gesture whose form is modeled as a function of a recognized instrumental end is one that is normalized in advance of its deployment. A normalized gesture is a predictable gesture. If learning were limited to modeling the form of an instinctive act in advance of its instrumental deployment, it would be dangerously maladaptive. It would model its pupils to death.
> (Massumi, 2014, p.12).

Alternatively, Massumi suggests we consider play in terms of the production of surplus-value of life. It is about being open to the world; it is about recognising the same affects or intensities, as Deleuze might call them, that flow through others also flow through us. It is about being creative and innovative. After my encounter with Lucy, Massumi's consideration of the creativity and vitality in animal play becomes more relevant. Each playtime with Lucy was different, we would improvise moves – hers to 'bite' my hand, and mine to avoid her mouth. We would develop habits, certainly; we had moves to which we returned, and sometimes they were successful, and sometimes they were not. Each play was different.

This indiscernibility also speaks to the looping Möbius strip of the theory and method that I have been engaging with in the thesis. I have come to the concept of thinking the digital as predation and playfulness, or preyfulness if you will, *through* a method of playfulness and predation, if you take predation to mean taking what you need, and recognising yourself as open to the world, and open to encounters. And, if you take playfulness to mean experimenting with ideas, not being concerned with being 'right', but rather seeing where the play takes you or what the movement offers.

ii) Vulnerability

Hélène Cixous' encounter with a dog was not Lucy-like; it was not a nip but a bite. However, from this experience Cixous "saw the meat we are" (p.157). The concept of digital as predation provokes similar consideration. It invites us to acknowledge our vulnerability in the coalescing reality. I concluded Chapter 3b) by suggesting predation brings us back into the body. In keeping with the aim of the thesis to de-anthropocentrise our thought, this is not necessarily recognisable as a human body, but the concept of predation does open up our thinking of the digital to its corporeal,

visceral, and bodily effects much more than other concepts. Predation acknowledges the opportunities for growth that a coalescing reality provides, but also invites us to acknowledge aspects that are neglected in other concepts and metaphors, such as vulnerability and exhaustion. Much like the digital, predation is relentless. Predation is an everyday threat/opportunity; it oscillates on a knife's edge, and this oscillation can be tiring, nay, exhausting. Keeping up with the latest election news is exhausting, keeping up with the latest trending story is exhausting, just keeping up is exhausting.

Like a good Deleuzian concept, by which I mean a useful one, the more we think with predation, the more we can "move beyond what we experience so that we can think of new possibilities" (Stagoll, 2010, p.53). The more we think with predation the more it engenders new ways of thinking. With predation, we can begin to acknowledge that we have always been co-constituted by others and the environment, and that control of our future has never really been entirely our own.

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