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Prosthetic minds representations of consciousness in contemporary British fiction

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Prosthetic Minds: Representations of Consciousness in Contemporary British Fiction

by

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Abstract

In recent years, several related developments have altered our understanding of consciousness and the mind, including the increasing role of technology in the environment, advances in cognitive science, neuroscience and artificial intelligence, and the rise to cultural prominence of third culture texts, non-fiction which explains advances in science and technology to a non-specialist audience. Narrationism, a position grounded in cognitive science but that defines the conscious mind as a form of narrative has emerged as a result. Several authors of contemporary British fiction have responded to each of these shifts. However, what links the work of four of these authors – Tom McCarthy, Ian McEwan, Will Self and Ali Smith - is not narrationism, but a rejection of it in favour of a close attention to consciousness. This thesis reads two novels each by these four authors, with a focus on the influence of ideas originating in cognitive science via third culture texts. The thesis argues that the influence of cognitive science on the contemporary British novel is expressed in a set of formal innovations that together form the basis of a model of an alternative to the computational and narrational models, grounded in the operations of consciousness and of extended, technological prostheses. Building on interdisciplinary research, it argues that the mind can be understood in terms of the operations of four distinct ‘technical systems’, each of which is derived from an aspect of cognitive science, linked with a of technology, and expressed in the novel through a particular formal innovation, each of which forms the basis of one chapter. The thesis begins by surveying the use of metaphors for the mind in its primary text, and ends by developing these metaphors, along with the four technical systems, into a new alternative

understanding of the mind which combines the insights of cognitive science and those of literary fiction.

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Introduction

What man, through his science and technology, has produced in this world, where he first appeared as a frail animal organism [...] all this not only sounds like a fairy-tale, but actually fulfills all – no, most, fairy-tale wishes. [...] Long ago he formed an ideal conception of omnipotence and omniscience, which he embodied in his gods, attributing to them whatever seemed beyond the reach of his desires – or was forbidden him. We may say, then, that these gods were cultural ideals. Man has now come close to reaching these ideals and almost become a god himself. [...] Man has become, so to speak, a god with artificial limbs.

- Sigmund Freud, *Civilization and its Discontents* (1930)

This thesis takes its title from a passage in Sigmund Freud's *Civilization and its Discontents* (1930)¹. The prosthetic god Freud describes is 'quite impressive when he dons all his auxiliary organs, but they have not become part of him and still give him a good deal of trouble on occasion'². Some cultural critics and philosophers use this passage as a measure of how our relation to technology has changed over the course of the twentieth century, arguing that the novelty of this claim has worn off. According to Hal Foster, the view that the human body and the industrial machine 'could only conjoin ecstatically or torturously, and the machine could only be a "magnificent" extension of the body or a "troubled" constriction of it [...] might strike us as almost quaint'³. Alex Goody argues that the twentieth century has revealed technology's 'profound fusion with the human'; it has become impossible 'to maintain an absolute distinction between the organic expressions of human nature and the technological processes, forms and devices which recorded and communicated these expressions as

culture⁴. Robert Pepperell and Michael Punt exemplify this shift in saying that technology is ‘neither autonomous nor external to human consciousness’ and is ‘better understood as an actualisation of thought that transcends our ‘immaterial’ consciousness’⁵. Technology should therefore be understood as forming part of a prosthetic mind. Sebastian Groes defines the ‘Age of the Prosthetic Mind’ as an ‘immersive, oceanic feeling whereby the mind extends out into, and connects with, the world’⁶. This is not to be understood as a threat to a natural form of subjectivity, or to the self-contained unity of the human body, but, rather, as an opportunity: ‘although we may sometimes feel we are losing solid ground beneath our feet, outsourcing our minds to digital prostheses [...] results in an increasingly accurate reflection of how consciousness and memory work’⁷. The increased role of technology in cognition reveals to us what Roger Bartra calls our ‘genetically inherited incapacity to live as other animals do – naturally, biologically’⁸. This lack is filled in by culture, a ‘strange prosthesis that completes and substitutes activities that the brain cannot perform except with the help of these external symbolic replacement networks’⁹. In externalising and altering different aspects of consciousness and cognition, new technologies reveal the existence and operation of other prosthetics that form part of the mind.

The novel is one such prosthetic. Maryanne Wolf explains that the ‘reading brain is part of highly successful two-way dynamics. Reading can be learned only because of the brain’s plastic design, and when reading takes place, that individual brain is forever changed, both physiologically and intellectually’¹⁰. Much of ‘how we think and what we think about is based on insights and associations generated from what we read’¹¹. The ‘dynamic interaction between text and life experiences is bidirectional: we bring our life experiences to the text, and the text changes our

experience of life'¹². Lisa Zunshine argues that literary narrative influences our theory of mind, an 'evolved cognitive capacity enabling both our interaction with each other and our ability to make sense of fiction'¹³. Our interpretation of what someone is thinking at any one time emerges from the interaction of our theory of mind and 'historically contingent ways of describing and interpreting behaviour and mental states'¹⁴. She cautions that the words '*theory* in Theory of Mind and *reading* in mind-reading are potentially misleading because they seem to imply that we attribute states of mind intentionally and consciously'¹⁵. In fact, it might 'be difficult for us to appreciate at this point just how much mind-reading takes place on the level inaccessible to our consciousness.'¹⁶ This includes what N. Katherine Hayles calls the '*technological nonconscious*', the level at which cognitive processes interpenetrate technological artefacts¹⁷. Human cognition 'increasingly takes place within environments where human behaviour is entrained by intelligent machines' through 'somatic responses, haptic feedback, gestural interactions, and a wide variety of other cognitive activities that are habitual and repetitive and that therefore fall below the threshold of conscious awareness'¹⁸. It follows that these environments partially determine mind-reading. The influence runs both ways: each revision of the narrative through which we explain individual behaviour affects the culture within which technological artefacts and networks are produced and put to work. The trouble technology occasionally entails does not lie in any existential threat to a natural, human way of life or of thought. Neither does it consist of obstacles to be overcome on the path to a final transcendence of human limitations. It is our fundamental and final condition, a continuous process of conflict, negotiation and dialogue.

This process of dialogue leads to the emergence of what John Johnston calls 'technical systems', assemblages which form when 'a technical evolution stabilizes

around a point of equilibrium concretized by a particular technology'¹⁹. As Johnston argues, and as I will demonstrate in the next section of this introduction, the dominant technical system is concretized by the computer. The computer's 'transformative power has left almost no sector of the Western world – in industry, communications, the sciences, medical and military technology, art, the entertainment industry, and consumer society – untouched'²⁰. Far from functioning as a 'mere tool', the computer 'functions as a new type of abstract machine that can be actualized in a number of different *computational assemblages*' comprised of 'a material computational device set up or programmed to process information in specific ways together with a specific discourse that explains and evaluates its function, purpose, and significance'²¹. This discourse includes the computational model of the mind, which has formed the basis of contemporary cognitive science since its development alongside that of the physical computer in the mid-twentieth century. The effects of this equilibrium, founded on an assumed equivalence between the mind and the computer, linger on. The subject of this thesis is the point at which the alteration of psychological concepts by this technical system have become so widespread as to be open to adoption, refinement and subversion by the broader culture, including literature. As well as engaging with this influence, literature has also begun to respond to recent developments within cognitive science which question some of its founding assumptions, some of which have been influenced by work in the humanities. This may prove to be the point at which this equilibrium breaks down, allowing for the emergence of a new and wholly different way of understanding the mind. In this thesis I investigate how mainstream British fiction can be situated within this dialogue, how novelists have been directly or indirectly influenced by work in cognitive science, how they adapted its terms and ideas into a particular metaphorical register and set of formal innovations, and how their work might contribute to an emerging model of the mind.

As I will show, this emerging model is characterized by its widening of the boundaries of the mind beyond those of the brain. In response, my thesis aims at widening the scope of existing work on the relationship between cognitive science and literature, which has tended to centre on the brain. In *Genes, Cells and Brains: The Promethean Promises of the New Biology* (2012), Hilary Rose and Steven Rose note the description of the 1990s and 2000s as the 'Decade of the Brain' and

neuroscience's 'Decade of the Mind', respectively²². By the millennium, 'publishers' lists were awash with books proclaiming neuroessentialism²³. The endeavour to explain of human thought and behaviour through reference to the brain was showing cracks by 2011, a year in which mental and nervous diseases were being diagnosed at record levels' even as 'the largest pharmaceutical companies researching, developing and marketing psychotropic drugs declared that they were withdrawing from the field'²⁴. This was also the period of the spread of the 'neuro-enthusiasms' in the humanities: '[a]rt, literary and music critics – and indeed artists, novelists and musicians – offer to decode the popularity of artworks, music and novels in terms of how they resonate with particular brain structures'²⁵. The response to cognitive science in literary studies can be broadly divided into two strands. Firstly, there is cognitive literary studies, or cognitive literary science. This involves, at its best, an interdisciplinary dialogue, developing new ideas and perspectives with implications for our understanding of literature and the mind²⁶. A second strand focuses on texts which have used distinct forms and styles to respond to advances in the study of the mind, particularly Modernist texts and examples of the emerging genre of the 'neuronovel', which responds to recent neuroscience in its subject matter²⁷. Jason Tougaw's *The Elusive Brain: Literary Experiments in the Age of Neuroscience* (2017) maps the emergence of '[b]rain memoirs and so-called *neuronovels*' as distinct genres made up of texts which 'conceive the physical brain as central to the stories they tell [...] translating neurobiological theories into literary experiments'²⁸. I draw on both of these approaches, but my work is distinct in several ways. While some of the novels I look at could be called 'neuronovels', not all of them take the brain as their subject matter. In defining his approach to the neuronovels, Tougaw adapts Charles B. Harris's term 'neurological realism'²⁹. He uses the term to suggest a formal approach, through which a realist style and narrative structure incorporate elements drawn from neuroscience. The use of the brain as a dominant reference point and aspect of the subject matter complements a formal questioning of narrative. The prime example is Richard Powers's *The Echo Maker* (2006). According to Tougaw, this genre complements a broadly accepted position in the neurosciences according to which thought, memory and perception operate as a kind of unified narrative. As I will argue later on in this introduction, this position predates the emergence of neuroscience, and should be understood as a symptom of the basic limitations of the computational model of the mind. By contrast, I argue in

this thesis that the British novels I examine are characterized by a rejection of narrative as a means of understanding the self. This rejection derives partly from neuroscience, but also from the broader influence of cognitive science on popular science writing and basic psychological terms, the lingering influence of Freud, engagement with various European philosophers and critics, and from J.G Ballard's formal response to the relation between technology and the body. This particular mixture of influences distinguishes these writers from (mainly American) neurological realists while also expanding the reach of the approach proposed by Tougaw.

In widening the scope of my corpus beyond that of previous work on the relationship between cognitive science and the mind, I am emphasizing the wider context in which neuroscience emerged and operates. As Rose and Rose argue neuroessentialism does not derive solely from advances in brain-scanning. It relies on two 'enabling technologies': 'genomics and informatics, one approaching the brain from below, the other from above'³⁰. Furthermore, neuroscience 'does not exist as a single science in the way that genomics does'; even when 'ostensibly studying the same subject, such as memory, cognitive psychologists, molecular biologists and brain imagers have few points of contact, working with different understandings of the phenomenon they study even when using the same words'³¹. The attempt to establish neuroscience as a unified and comprehensive body of knowledge relies on the assumption of a neuroscientific subject, which carries its own limitations: 'A fundamental methodological problem for the neurosciences is that the unit of analysis is individual, yet humans are social animals with brains that have evolved to enable their owners to survive in complex social environments, not to solve abstract problems'³². This point is central to neurological realism as Tougaw defines it. The neuronovels he looks at challenge neuroessentialism by 'foregrounding the strangeness of every brain and the elusiveness of the brain, body, world through which identity seems to emerge – in ways that dethrone simplistic myths about "cerebral subjectivity" and neurotypicality', allowing for a 'productive cultural dialogue about what it means to be an organism'³³. My thesis aims at developing this approach by situating neuroessentialism in its broader context: the progress of cognitive science and of the relationship between minds and digital technologies since the mid-twentieth century. At the same time, I want to extend the reach of this

approach to texts which share some features and reference points with the neuronovel without necessarily taking the brain as their subject matter. To do so, I look at the work of four contemporary British novelists, focusing on two of their respective texts: Tom McCarthy's *Remainder* (2005) and *C* (2010), Ian McEwan's *The Child in Time* (1989) and *Saturday* (2005), Will Self's *The Book of Dave* (2006) and *Umbrella* (2012), and Ali Smith's *The Accidental* (2005) and *How to Be Both* (2014). Each work was published at around the period in which neuroessentialism assumed its cultural dominance. Many of them refer to neuroscientific findings. Tougaw defines two of them, *Saturday* and *Remainder*, as neuronovels, while the plot of *Umbrella* draws heavily on Oliver Sacks' influential 'brain memoir' *Awakenings* (1973). Nonetheless, they are united less through a shared critique of narrative as the basis of consciousness. As I will explain later on in the introduction, each of these novels is influenced partly by Ballard, and that influence determines their focus on the relation between humans and technology. I argue that this influence, and their shared attention to this relation, determines their use of a similar form. This emphasis on the relation between humans and technology rather than the brain has allowed me to use these novels to look at the ongoing influence of cognitive science and the computational model, as well as to read these works in relation to emerging critiques of neuroessentialism.

I have taken these texts as indicative of British literature's relation to neuroessentialism during the two decades of its dominance. Each of these works responds to a culture in which a sense of cognition as extending beyond the individual has become heightened through the role of technology and through the spread of recent ideas from cognitive science, neuroscience and philosophy of mind. I argue that a set of (broadly) similar formal innovations developed by these writers can be read as an incorporation of influences from these disciplines. While these incorporations draw on different sources, for different purposes, the resulting texts all share a conception of consciousness as characterised by a constant process of disruption and revision. This thesis explores the process through which technical systems stabilize and particular models of the mind assume their authoritative position operates, by showing how a similar set of formal techniques and shared terms emerges within a body of literature through various lines of influence. It investigates how literary texts both reflect and contribute to the evolution and

breakdown of technical systems by probing their limitations and questioning their assumptions. It uses those individual literary techniques as a way of mapping the separate components of a psychological model. Finally, it asks whether this body of literature can form the basis of an alternative model of the mind. I argue that my primary texts take the process of disruption and revision that accompanies the ongoing interaction of the mind and technology as the basis of consciousness and of selfhood. I use the term ‘prosthetic mind’ to define cognition as embodied in the looping interactions of processes, material objects, and technologies which extend beyond the individual body. Each of these novels depicts the prosthetic mind.

This model of selfhood contrasts with ‘narrationism’, a position in the cognitive sciences according to which narration is the basis of the conscious self. This concept has been particularly influential within ‘third culture’ texts, popular science writing grounded in cognitive science. In this introduction, I will start by briefly explaining the context of contemporary narrationism as it relates to cognitive science. I will then show how the writers of my primary texts can be characterised by their critical relation to narrative. I argue that this critical view of narrative results partly from their representations of technology and partly from their critical engagement via third culture writing and with ideas derived from cognitive science. I will then give an overview of ideas from the cognitive sciences that have influenced these novels, and how these ideas undermine the narrationist model.

Leaking Systems

The technology that has had the greatest impact on the human mind in the late twentieth and early twenty-first centuries has been the computer. The computer’s ‘transformative power has left almost no sector of the Western world – in industry, communications, the sciences, medical and military technology, art, the entertainment

industry, and consumer society – untouched'³⁴. Far from functioning as a 'mere tool', the computer 'functions as a new type of abstract machine that can be actualized in a number of different *computational assemblages*' comprised of 'a material computational device set up or programmed to process information in specific ways together with a specific discourse that explains and evaluates its function, purpose, and significance'³⁵. This discourse extends to the 'claim that the universe is generated through computational processes running on a vast computational mechanism underlying all of physical reality' that Hayles terms the 'Computational Universe'³⁶. The Computational Universe functions simultaneously as 'means and as metaphor', entangled 'through feedback loops that connect culturally potent metaphors with social constructions of reality'³⁷. These loops also connect literary and cultural narratives with material computational technologies and individual theory of mind. Theory of mind is particularly significant here, because one of the inaugural moments of the Computational Universe grants it a central importance.

In 'Computing Machinery and Intelligence' (1950), Alan Turing addresses the question of whether machines can think through a thought experiment, the 'imitation game', whereby whether a machine can think depends on whether an interrogator, interacting with that machine and another human through typewritten questions and answers, can determine which is which³⁸. Turing predicted that 'in about fifty years' time it will be possible to programme computers [to play] the imitation game so well that an average interrogator will not have more than 70 per cent chance of making the right identification after five minutes of questioning'³⁹. He also predicts that 'at the end of the century the use of words and general educated opinion will have altered so much that one will be able to speak of machines thinking without expecting to be contradicted'⁴⁰. Given these developments, the original question of whether machines

can think is ‘too meaningless to deserve discussion’⁴¹. If we think computers can think, then they can.

Daniel C. Dennett wrote in 1996 that Turing had ‘already been proven right about his last prophecy’, pointing out that the ‘use of words and general educated opinion’ had already altered to the point that ‘one *can* speak of machines thinking without expecting to be contradicted [...] even if, as many today believe, no machine will ever succeed in passing the Turing Test, almost no one today would claim that the very idea is inconceivable’⁴². This shift is largely down to Turing’s own influence on both material technology and scientific and philosophical approaches to the mind. In ‘On Computable Numbers, With an Application to the *Entscheidungsproblem*’ (1937) Turing proposed – again, as a thought experiment – the universal computing machine. The Turing machine, as it is now known, acted as a model for the von Neumann machine, the ‘fundamental architecture for computation’⁴³. The spread of computers based on this design have reshaped the environment. Hayles claims that the material set-up of the imitation game results in an ‘erasure of embodiment’ through which intelligence ‘becomes a property of the formal manipulation of symbols rather than enaction in the human life-world’⁴⁴. The computer has now altered the human life-world in a way that entrenches this shift.

Another sign of the general acceptance of Turing’s ideas is that we take the term ‘cognitive science’ – originally used to describe a specialised discipline in which thought consisted of the formal manipulation of symbols – to mean the study of the mind in general. According to Howard Gardner, cognitive science was ‘officially recognized around 1956’, and explicitly organised around the metaphor of the mind as a computer⁴⁵. As Gardner explains

While not all cognitive scientists make the computer central to their daily work, nearly all have been strongly influenced by it. The computer serves, in the first place, as an “existence-proof”: if a man-made machine can be said to reason, have goals, revise its behavior, transform information, and the like, human beings certainly deserve to be characterized in the same way. [...] In addition to serving as a model of human thought, the computer also serves as a valuable tool to cognitive scientific work: most cognitive scientists use it to analyse their data, and an increasing number attempt to simulate cognitive processes on it.⁴⁶

Cognitive science is predicated on the belief that in order to study cognition it is necessary to ‘posit a separate level of analysis which can be called the “level of representation”’: ‘symbols, rules, images - the stuff of representation which is found between input and output’⁴⁷. Despite changes in the discipline, this model has persisted. Writing in 2005, Paul Thagard describes the central hypothesis of cognitive science as the claim that ‘[t]hinking can best be understood in terms of representational structures in the mind and computational procedures that operate on those structures’⁴⁸. However, Gardner notes that the ‘rigorous application of methods and models drawn from the computational realm has helped scientists to understand the ways in which human beings are not very much like these prototypical computers’⁴⁹. The kind of ‘systematic, logical, rational view of human cognition that pervaded the early literature of cognitive science does not adequately describe much of human thought and behaviour’⁵⁰. He calls this the computational paradox. According to Andy Clark, the mind that emerges in contemporary cognitive science is better understood as a ‘*constitutively leaky system*’⁵¹. This system resists ‘any single *level of analysis*, such as the level of computation or of physical dynamics’ as well as ‘any single *disciplinary perspective*, such as that of philosophy, neuroscience, cultural and

technological studies, artificial intelligence, or cognitive psychology'⁵². It is also leaky 'in the sense that many crucial features and properties depend precisely on the *interactions* between events and processes occurring at different levels of organization and on different time scales'⁵³. Patricia Waugh points out that in contemporary cognitive science mind 'emerges as a distributed entity across body, consciousness, and world, rather than residing – in the more familiar Cartesian picture – in a location 'inside' [...] or 'outside', standing over a world implicitly alien to it'⁵⁴. The emerging '4e' conception of the mind, of which Clark is one of the most influential proponents, is organised around 'some combination of the ideas that mental processes are (1) *embodied*, (2) *embedded*, (3) *enacted*, and (4) *extended*'⁵⁵. The advances in neuroscience made possible by new technologies have also demonstrated the extent to which the brain itself is not like a computer. Surveying these advances, Cornelius Bork remarks that 'it is already hard to reconstruct how it was that the computer so easily assumed the role of central metaphor in brain research over such a long period of time' and that maybe 'one day we will look back on the computer as the most convenient and common form of misunderstanding the brain in modern history'⁵⁶. As I will show, the influence of these developments is gradually displacing the metaphor of the mind as a computer. However, the computational metaphor persists by virtue of having reshaped theory of mind for its own purposes, and of the provisional balance it has established between this variation of theory of mind and the contemporary technological environment.

The reach of the computational metaphor has allowed Dennett to attempt to salvage the computational model of the mind in the form of what Clark calls 'narrationism'⁵⁷. Dennett's argument, in *Consciousness Explained* (1991), proceeds from the assumption that human thought is inherently computational:

We *know* there is something at least *remotely* like a von Neumann machine in the brain, because we know we have conscious minds “by introspection” and the minds we thereby discover are at least this much like von Neumann machines: They were the inspiration for von Neumann machines!’⁵⁸

Computers are not ‘giant electronic brains’, as they were first described, but ‘*giant electronic minds*, electronic imitations – severe simplifications – of what William James dubbed the stream of consciousness, the meandering sequence of conscious mental contents famously depicted by James Joyce in his novels’⁵⁹. The ‘architecture of the brain, in contrast, is massively parallel, with millions of simultaneously active channels of operation’⁶⁰. Clark summarises Dennett’s solution as the ‘narrative twist’:

Our extraordinary immersion in a sea of culture and language [...] creates, in the human brain, a new kind of cognitive organization – a new “virtual machine” [...] which allows us to make cognitive objects of our own thought processes and to weave a kind of ongoing narrative (about who we are, and what we are doing, and why we are doing it) that artificially “fixes” the cognitive contents.⁶¹

On this account, ‘human-style conscious awareness requires an extra layer of judgment rooted in a culturally inculcated capacity to spin a privileged report or narrative’⁶². The conscious mind is a product of the individual’s own theory of mind, applied to their own experience, perception and actions, unifying them by reference to the self, which Dennett defines elsewhere as an ‘an abstract object, a theorist’s fiction.’⁶³

It is worth keeping in mind here that Dennett’s narrationism is grounded in computational science, and explicitly framed as a way of reconciling the

computational model of the mind as a von Neumann machine with a growing body of evidence that the brain is not computational in itself. This point tends to be overlooked in discussions of this and other variants of narrationism in favour of the more general idea that, as Dennett puts it, our ‘fundamental tactic of self-protection, self-control, and self-definition is not spinning webs or building dams, but telling stories, and more particularly concocting and controlling the story we tell others – and ourselves – about who we are’⁶⁴. The acceptance of this idea, and the glossing over of its more contentious theoretical supports, derives from the importance placed on narrative in contemporary culture. Galen Strawson notes ‘widespread agreement that human beings typically see or live or experience their lives as a narrative or story of some sort, or at least a collection of stories’⁶⁵. He calls this the ‘*psychological Narrativity thesis*’⁶⁶. This is often coupled with the ‘*ethical Narrativity thesis*’, according to which ‘experiencing or conceiving one’s life as a narrative is a good thing; a richly Narrative outlook is essential to a well-lived life, to full or true personhood’⁶⁷. Narrativity sustains the computational model of the mind in the face of challenges from within and outside the discipline. In doing so, it relies on the ongoing suspicion of consciousness inaugurated by Freud. However, to define ourselves as primarily narrational we must ignore a great deal of non-narrational conscious experience.

While the novel is used as a reference point to support versions of the narrativity thesis – for example, in Dennett’s references to Joyce - it can also be understood as a form inherently opposed to singular narrative. M. M. Bakhtin defines the novel as a whole as a ‘phenomenon multiform in style and variform in speech and voice. In it the investigator is confronted with several heterogeneous stylistic unities, often located on different linguistic levels and subject to different stylistic controls’⁶⁸. These heterogeneous stylistic unities ‘combine to form a structured artistic system,

and are subordinated to the higher stylistic unity of the work as a whole, a unity that cannot be identified with any single one of the unities subordinated to it⁶⁹. The novel can then 'be defined as a diversity of social speech types (sometimes even diversity of languages) and a diversity of individual voices, artistically organized'⁷⁰. Not only is the novel suited to critiquing narrationism and the narrativity thesis, it is also able to incorporate the discourses through which these positions are articulated in order to do so.

As I will show, the use of metaphors for the mind and basic psychological terms in my primary texts reflects the influence of cognitive science. This historical aspect is important. Given the influence of technology on models of the mind, I don't believe it to be sufficient to read a novel's depiction of thought by reference to some model of the mind without addressing the context in which both were developed. As I've argued above, cognitive science and narrationism emerged from a wider technological context, which they have also affected. Hayles has argued that the significance of the technological nonconscious in determining the contents of consciousness must be reflected in contemporary literature⁷¹. In responding to this context, these texts also exert an influence on it. In my thesis I have identified the sources of the formal innovations of my primary texts in work on the mind in other disciplines. The resulting texts are not illustrative examples to be used in understanding psychological concepts; they are interventions in the bidirectional process through which those concepts emerge and are refined. In this sense, my work aligns with cognitive literary studies, although I have stressed clear lines of influence over similarity, and I have not approached the deep level of engagement with recent scientific texts used by some proponents. The best examples of cognitive literary studies are focused, ignoring meta-dialogues about the relation between the two

disciplines. I reopen this meta-dialogue, but ground it in a critique of narrative. In order to do so, I have selected a corpus that criticises narrative and narrationism. While several contemporary British authors have engaged with the findings of cognitive science, I have chosen to focus on a relatively small sample of these. I have done this so as to be able to show how aspects of individual texts fit into the broader development of the writer's work as a whole, and to trace lines of influence. I have chosen writers who have engaged with cognitive science, who have developed this engagement into formal innovations, and who have also displayed a degree of scepticism towards narrativity. For each of these writers, this scepticism has a particular reference point: the work of J.G. Ballard.

Dehumanised and Utterly Comprehensible

In her introduction to a collection of essays on Ballard, Jeannette Baxter quotes the *Collins English Dictionary's* definition of 'Ballardian' as '*resembling or suggestive of the conditions described in Ballard's novels & stories, esp. dystopian modernity, bleak manmade landscapes & the psychological effects of technological, social and environmental developments.*'⁷² As Baxter argues, this inclusion indicates the extent to which J.G Ballard's work continues to assert its relevance. A particular passage by Ballard has become a reference point for three of the writers of my primary texts, a way of defining and justifying their ambivalent relation to narrative. In his introduction to *Crash* (1973), Ballard wrote that we now 'live inside an enormous novel', a world 'ruled by fictions of every kind – mass-merchandizing, advertising, politics conducted as a branch of advertising, the pre-empting of any original response to experience by the television screen'⁷³. The external world, 'reality, however confusing and

uncertain’, and the ‘inner world of our minds [...] the realm of fantasy and imagination’, have shifted places⁷⁴. These points are fundamental to McCarthy, Smith and Self. They are also relevant to McEwan.

In a 1994 interview with Ballard, Self brings up this passage by way of defining his own interest in the ‘decoupling of the literary enterprise from the relationship of individual characters to social change’⁷⁵. As Self puts it, Ballard went on to argue that the ‘nineteenth-century novelist could move in and out of the individual psyche to show its relationship to society’⁷⁶. Freud, according to Self, is in this context ‘the great deconstructive novelist because he made it impossible for other writers to undertake that project’⁷⁷. Toby Litt argues that despite Ballard’s ‘insistence upon the parapsychological’, he ‘has no interest in the Freudian subconscious as such’; to understand Ballard’s novels, the reader must take ‘the external world inhabited by his characters *as* their subconscious’ and see ‘sublimation as being replaced by efflorescence, by architecture’⁷⁸. In an essay on London published in 1999, Self sets out a model of urban consciousness that fits this description. Self claims that ‘[w]hen you grow up in a great city [...] your sense of it is at first straightforwardly crazy – like a film with appalling continuity’⁷⁹. This is followed by ‘integration, the coalescence of the two hundred billion neurones that will comprise the city-brain [...] the city is filled in with narratives, which have been extruded like psychic mastic into its fissures’⁸⁰. This tendency to create narratives is the defining feature of urban consciousness: ‘Any object the eye pursues becomes a story, another track scored in time. Any person is a potential Medusa, Gorgon-headed with writhing, serpentine tales.’⁸¹ Consciousness in broader terms is itself ‘simply another story, another string of metaphors’⁸². The essay links a broad version of narrationism with a recognisably Ballardian model of the city as a vast nonconscious.

In the same essay, Self discusses giving a lift to a young schizophrenic man who told him that the London A-Z is ‘a plan of a city – it hasn’t been built yet’⁸³. This incident looms large in Self’s *The Book of Dave*, in which the titular cabbie’s breakdown leads him to the same conclusion. The novel makes use of a modified form of free-indirect style, alternating third-person narration with italicised first-person interjections. The first-person speaker gradually develops a separate agency, an amalgam of trauma, social control and drugs revealing prophecy to Dave. Self develops this technique in *Umbrella*, which opens with a sequence in which the protagonist Zack Busner reflects on a split within his own consciousness, between his awareness of those around him, and a dominant narrating voice: ‘None of them is real – nor remotely credible, not compared to this: *Along comes Zachary ... the me-voice, the voice about me, in me, that’s me-ier than me.*’⁸⁴ Busner’s treatment of post-encephalitic patients with L-Dopa is based partly on Sacks’s account of administering the same treatment in *Awakenings*. Describing a meeting with Sacks, Self mentions discussing the ‘narratological view of human identity, which at times he’d advocated’; Sacks ‘said now that if impending mortality taught anything, it was that life was not a story we tell to ourselves’⁸⁵. Reviewing a volume of Sacks’s memoirs a few months earlier, Self describes him as ‘a strong supporter of the “narrativity” theory of the human subject’, noting that he himself thinks ‘it’s only the social being that is narrated – to ourselves we are always “such stuff as dreams are made of”’⁸⁶. This is partly due to the influence of technology. In an essay published in 2016, Self links anxieties over the declining readership of novels and the effects of digital technology with ‘an increase in the number of scientific studies of narrative forms and our cognitive responses to them’⁸⁷. He finds ‘much of this research – which marries arty anxiety with techno-assuredness – to be self-serving, reflecting an ability to win the grants

available for modish interdisciplinary studies, rather than some new physical paradigm with which to explain highly complex mental phenomena'⁸⁸. He is drawn instead to work on the relations between memory, location, and narration⁸⁹. He also professes his belief that 'each successive knowledge technology' – including the printing press – 'brings with it a different form of human being', and notes that our era is 'also replete with the mental illnesses occasioned by such technologies'⁹⁰. He addresses these points in *Umbrella*.

What Self foregrounds through his stylistic innovations is the idea that while we may constantly be narrating our own experience, this narration does not structure the entirety of consciousness, and nor does it necessarily have to be understood as the basis of our self. In responding to culture, technology, and changes in our physical environment, this narration could even be understood as a form of intrusion of the outside environment into inner space. Smith makes this point in an interview on her work: 'We are constantly, I think, as human beings, narrating things to ourselves, even though we don't actually understand or hear that as specific voice'⁹¹. What interests her is the question of where this voice comes from: 'Do we make the voice up or does the voice impinge on us?'⁹² In *The Accidental*, Smith depicts the four members of the Smart family by giving them each a distinctive voice. These voices mediate between separate aspects of their environment. Each character draws on a distinctive area of cultural knowledge, repeating and refining fragments of it, while relying on a particular form of technology – a computer, a camera, or literature - to stand between them and the world. They all respond to Amber, a mysterious woman who inveigles her way into their home, by defining her in terms of their own memories, fears and fantasies. Amber – as a real person, and not as a projection – asserts her presence

through the contradictions and inconsistencies in and between the separate narratives in which she is depicted.

Amber defines herself, in short monologues throughout the novel, as a kind of embodiment of cinema. Visual narrative is central to Smith's work, particularly through the paradox it presents according to which even what is seen is overwritten by language. In *Artful* (2012), Smith quotes Ballard's introduction to *Crash* while discussing fiction and time⁹³. The novel, as she puts it, is 'bound to and helplessly interested in society and social hierarchy, social worlds; and society is always attached to, in debt to, made by and revealed by the trappings of its time.'⁹⁴ The novel is also 'bound to be linear'⁹⁵. Its linearity is not a reflection of human consciousness, but of adult consciousness within a particular society. Smith argues that adults 'tell ourselves those fixed stories about ourselves [...] we do tend to go, 'Well, this is the person that I am, and this is what made me the person that I am.' There's always, always a sense of third-person narrative about adults.'⁹⁶ In *The Accidental* 'the kids were written in the present tense, because they're in the present tense, and the adults were written in the past, because in the present they're already experiencing the past'⁹⁷. *How to Be Both* is structured so as to emphasise this limitation as it applies to written narrative. The novel consists of two halves, each centred on a different protagonist. There are two editions of the novel, with two orderings of these two halves. As Smith puts it, 'whatever way you read this book, you're stuck with it. There are two ways to read this novel, but you'll end up reading one of them.'⁹⁸ The opening of one half of the novel brings up the notion of the book as a form of technology through which the child assumes an adult, third-person narrative consciousness. Teenage protagonist George begins by describing her immediate experience and her memories of her mother in the present tense, before trying to impose structure:

Consider it for a moment, yes, why don't you, her mother says.

No she doesn't say.

Her mother said.

Because if all things really did happen simultaneously it'd be like reading a book but one in which all the lines of the text have been overprinted, like each page is actually two pages but with one superimposed on the other to make it unreadable.⁹⁹

Smith counters this perspective through a focus on the spatial aspects of literature and narrative. Form, as she puts it in *Artful*, is 'always environmental', and always present as an environment¹⁰⁰. She describes *How to Be Both* as a kind of fresco¹⁰¹. The use of a visual medium is important. Building on *The Accidental's* concern with how cultural narratives structure visual perception, *How to Be Both* foregrounds a converse perspective, according to which narrative responds to what is seen. Characters find their understandings of themselves altered by what they look at.

Mark Rowlands argues that while proponents of the cognitive model, such as Dennett, claim to have undermined Cartesian dualism, they replicate many of its assumptions. The Cartesian conception of the mind has two aspects, 'the claim that the mind is a nonphysical thing' and 'the idea that the mind is something that exists inside the head'¹⁰². What Rowlands calls 'Cartesian cognitive science' is grounded in 'a theoretical apparatus of mental *representations* and *operations* performed on those representations'¹⁰³. Mental representations are 'typically regarded either as brain states or higher-order functional properties realized by brain states'¹⁰⁴. Since 'mental representations are things that are to be found in the brain, and only in the brain, their manipulation and transformation are also processes that occur in the brain'¹⁰⁵.

Cognitive processes are brain processes. Smith's and Self's Ballardian critique of narrationism entails an implicit rejection of this perspective. The mind is not a bounded area but an intersection between the operations of various processes operating across the boundaries of the body and environment. As shorthand for the shift in perspective required to articulate this point, McCarthy has proposed, with his collaborator Simon Critchley, replacing 'the notion of the individual with that of the 'dividual' – a subject always-already ruptured, networked, given over to contingency'¹⁰⁶. McCarthy and Critchley define the subject as constituted by its relation to technology and to its environment, as well as to a formless, abject real beyond structure and interpretation¹⁰⁷. The two part ways in their concern with the latter relation. In *Infinitely Demanding: Ethics of Commitment, Politics of Resistance* (2007), Critchley puts forward a theory of the ethical subject as a dividual, a '*split subject* divided between itself and a demand that it cannot meet, a demand that makes it the subject that it is, but which it cannot entirely fulfil'¹⁰⁸. This demand is experienced as an affect that calls the narrative of the self into question. McCarthy's fiction, on the other hand, has been characterised first of all by its refusal of affect, of the psychological interiority which would frame affect, and of the kind of authentic relation to the other that affect might express. As Waugh points out, *Remainder* uses a 'dissociated, affectively flattened narrator with a digital range of feeling: on or off, neutral or tingling'¹⁰⁹. This tingling registers the success of the narrator's compulsive 're-enactments' of memories or fantasies, funded by compensation for a traumatic head injury caused by 'something falling from the sky. Technology. Parts, bits.'¹¹⁰ The structure of the novel and its depiction of its narrator is informed by research into the experiences of post-traumatic patients, as well as Freud's work on traumatic compulsion and the death-drive. By rejecting psychological interiority, McCarthy

relocates traumatic processes within a wider environment. His narrator's re-enactments alter the environment, interacting with the narrator and each other to produce further compulsions. The narrator's self-narrative, such as it is, is determined entirely by the language of contemporary capitalism and of a complementary medical psychiatry, as well as the terms of his legal settlement. These cultural narratives intersect with physical processes in the environment, guiding the narrator's behaviour.

These two aspects of *Remainder* – a rejection of affect and an interest in re-enactment rather than event – draw on Ballard's influence. McCarthy begins a piece on realism in the novel, 'Writing Machines' (2014), by quoting the passage from *Crash*'s introduction¹¹¹. What McCarthy sees as important here is that Ballard 'doesn't tell us that novelists should 'discover' or 'intuit' or 'reveal' reality: they must invent it. Reality isn't there yet; it has to be brought forth or produced; and this is the duty and stake of writing.'¹¹² Realism is, according to McCarthy, a 'literary convention – no more no less – and is therefore as laden with artifice as any other literary convention'¹¹³. The real, meanwhile, is 'an *event*, something that would involve the violent rupture of the form and procedure of the work itself'¹¹⁴. *C* uses a self-consciously realist form to depict another affectless protagonist obsessed with a real beyond conscious perception. The sensory overload that accompanies the early twentieth-century technologies the novel depicts cannot be fully subsumed within language. McCarthy describes *C* as 'like a fake 19th century novel' adding that he wanted 'to use that realist mode as a main frame or Trojan horse to smuggle in much more modernist and avant-garde preoccupations, but in a way that would be legible'¹¹⁵. In doing so, he aligns the limitations of form with those of consciousness, questioning how both are constructed and what they can express. The real is present, but narrative's inability to accurately reflect it has a shaping effect on that reality.

In conversation with Critchley, McCarthy describes contemporary pop neuroscience as a reductive narrative in itself. He one-ups Critchley's claim that you 'can say any sort of stupid weird shit on the radio about biology or neuroscience, and people will just lap it up' by calling neuroscience, or 'the idea that you can transfer neuroscience to the cultural arena', one of 'the biggest follies of our era [...] It's a category mistake. We don't think in our brains, we think in language and culture.'¹¹⁶ Critchley's description of people who 'want to believe that there is some other place, not necessarily God, but some deterministic narrative where we end up with some picture of the brain or some picture of the living organism where everything finally will be in place'¹¹⁷ suits Henry Perowne, protagonist of McEwan's *Saturday*. Operating on a brain, Perowne echoes recent books on consciousness: 'the secret will be revealed – over decades, as long as the scientists and the institutions remain in place, the explanations will refine themselves into an irrefutable truth about consciousness. [...] That's the only kind of faith he has.'¹¹⁸ Perowne has no interest in fiction. Earlier on in the novel, he puts himself forward as 'living proof' that his daughter Daisy's notion, that 'people can't 'live' without stories, is simply not true.'¹¹⁹ Over the course of the novel Perowne develops a form of understanding that does not rely on stories, one which can be understood in the same Ballardian terms as I've used above.

Unlike the other authors, McEwan has deliberately moved away from the influence of Ballard, along with Kafka and Freud, on his early short stories and novellas, towards a realist form influenced by popular science writers. In Daniel Zalewski's reading, *The Child in Time* hints at a 'split in McEwan's mind' in responding to the discoveries of theoretical physics, and the work of physicist David Bohm on the mind, through a form of magical realism¹²⁰. Quantum mechanics is

according to Carlo Rovelli the discovery of three features of the world: ‘*Granularity*’, ‘*Indeterminacy*’, and ‘*Relationality*’¹²¹. It teaches us ‘not to think about the world in terms of ‘things’ which are in this or that state but in terms of ‘processes’ instead’¹²². A process is ‘the passage from one interaction to another. The properties of ‘things’ manifest themselves in a *granular* manner only in the moment of interaction [...] in relation to other things. They cannot be predicted in an unequivocal way but only in a *probabilistic* one.’¹²³ A further implication proposed by Stephen Hawking and Leonard Mlodinow is ‘model-dependent realism’¹²⁴. This view is based on the idea that if two ‘physical theories or models accurately predict the same events, we are free to use whichever model is most convenient’¹²⁵. Don Ross and James Ladyman have argued that a picture of the world as reducible to ‘the types of ultimate causal relations that prevail among the basic types of little things [...] finds absolutely no corresponding image in contemporary fundamental physics’¹²⁶. The Computational Universe is also a metaphor, based on a spatial frame of reference particular to the human sensory apparatus. In *The Child in Time*, McEwan uses Bohm’s work as a reference point for a model of consciousness that reflects these ideas.

In Zalewski’s summary, the shift in McEwan’s fiction reflects a more general one in psychology: ‘like many scientists of his generation, he has shifted his intellectual allegiances. At first, he studied perversity; now he studies normality. His first god was Freud. Now it is Darwin.’¹²⁷ The style of his later work does however bear traces of his earlier engagement with Ballard, an aspect which complements his references to ideas from cognitive science which do not quite fit narrationism. This can be seen in comparing a passage from *Saturday* to his early short story ‘Two Fragments: Saturday and Sunday, March 199-’ (1978), which depicts another Henry making his way through central London. In a particularly Ballardian sequence, he

dreams of driving a car: ‘I found I knew the controls perfectly, of course, I had always known. [...] The afternoon was warm, the traffic around me swift and agile, the landscape dehumanized and utterly comprehensible. Place names were illuminated on clinical road signs.’¹²⁸ Henry walks from his bed into central London past Euston, going South on the Tottenham Court Road: ‘Everywhere it was the same, people came out of their cold houses and huddled round fires. Some groups I passed stood in silence, staring into the flames; it was too early yet to go to sleep.’¹²⁹ *Saturday*’s Henry could have this scene in mind as he makes his way to the same street, reflecting that ‘if the present dispensation is wiped out now, the future will look back on us as gods [...] blessed by supermarket cornucopias, torrents of accessible information, warm clothes that weigh nothing, extended lifespans, wondrous machines.’¹³⁰ The Henry of ‘Two Fragments’ argues with a lover who scavenges for remnants of this age: ‘Collecting these things and setting them out like this amounts to self-love. Without a telephone system telephones are worthless junk.’¹³¹ The point to be made about technology is that it is neither a force in itself, a malign influence, or a collection of benevolent items, but a factor within an extended material network that also includes its users and the cultural ideals through which they seek to understand their place within it. The fetishisation of wondrous machines might lead us to overlook this point. Dennett has warned that the danger is not ‘that machines more intelligent than we are will usurp our role as captains of our destinies, but that we will *over*-estimate the comprehension of our latest thinking tools, prematurely ceding authority to them far beyond their competence’¹³². We might do so through having become ‘overcivilized’, through becoming overdependent on technology¹³³. One of the effects of the contemporary technological nonconscious is a heightening of its complexity accompanied by technologies and cultural ideals giving a sense, either real or false, of

a greater possibility of understanding. The landscape grows more and more dehumanised and comprehensible.

This effect is mitigated by the potential for insights into thought granted by breakdowns in the proper functioning of that environment. As *Saturday's* Henry drives, the complex task of controlling his car and navigating his urban environment has become second-nature to the extent that he becomes wrapped up in increasingly abstract introspection, thinking or sensing 'without unwrapping the thought into syntax and words', so that 'when a flash of red streaks in across his left peripheral vision, like a shape on his retina in a bout of insomnia, it already has the quality of an idea, a new idea, unexpected and dangerous, but entirely his, and not of the world beyond himself'¹³⁴. In this thesis, I take the implications of cognitive science to be that the individual's environment can be said to be a part of their mind and self. Setting aside Ballard, a car-crash represents at least a momentary breakdown in the relation between the individual and their material and sociocultural environment. In this thesis, I argue that such moments of breakdown are articulated within the novels I am looking at through a focus on a distinctly non-narrative form of consciousness, revealing the extent of the individual's integration with technology and language at the point at which this integration is threatened.

Three Cultures

The critique of narrative to be found in these novels is partly due to a tradition of literary engagement with the technological nonconscious. It is also partly due to the influence of cognitive science itself. By 'cognitive science' I mean cognitive science as it has been presented to a wider public. The texts I refer to are, with a few

exceptions, popular science, written for a non-specialist audience. John Brockman calls this wave of popular science writing the ‘third culture’, which ‘consists of those scientists and other thinkers in the empirical world who, through their work and expository writing, are taking the place of the traditional intellectual in rendering visible the deeper meanings of our lives, redefining who and what we are’¹³⁵. Cognitive science looms large here. Kevin Kelly calls the third culture ‘a pop culture based in technology, for technology’¹³⁶. Technologies generate ‘a supernova of slang and idioms swelling the English language’, tools for new research, and a mixture of both, ‘a theory that throws off data, or data with a built-in theory’¹³⁷. In the third culture, ‘the way to settle the question of how the mind works is to build a working mind’¹³⁸. This reflects the centrality of material technology to cognitive science. Gardner argues that the rise of cognitive science in the 1950s was ‘a complex matter, reflecting changes in the *Zeitgeist*, new methods in allied sciences, and the enhanced legitimacy of concepts like intention, purpose, goal, and problem solving now that “mere” mechanical gadgets could lay claim to these processes’¹³⁹. The legitimization of such concepts allowed for an alternative to behaviorism, the previously dominant paradigm in psychology, which rejected any description of mental processes in favour of stimulus-response models. As Douwe Draaisma puts it, ‘[t]hanks to the computer, terms like mind and consciousness returned to the vocabulary of the psychologist’¹⁴⁰. The use of physical technologies, combined with the use of complementary theory, was crucial: ‘The fact that, by working through a formal programme without human intervention, machines executed tasks previously associated with thought [...] had a psychological effect that the computational principles themselves could never achieve.’¹⁴¹ The reach of these models has also been widened by equivalences between cognitive science and evolutionary theory. Dennett argues that Darwin’s discoveries

can be understood as demonstrating the fundamental role of algorithmic processes in nature¹⁴². As I'll discuss, the evolutionary psychology developed by writers such as Steven Pinker draws on Turing as much as on Darwin. Theories of computational processes, and the physical computer itself, have allowed for a completely new vocabulary for talking about consciousness, the mind, and life itself. The third culture responds to these changes.

Slavoj Žižek makes three points about the third culture. First, 'we are dealing not with scientists themselves but (although they are often the same individuals) with authors who address a large segment of the public'¹⁴³. Secondly, 'we are dealing not with a homogenized field but with a rhizomic multitude connected through "family resemblances", within which authors are often engaged in violent polemics but where interdisciplinary connections flourish (between evolutionary biology and cognitive sciences, etc.)'¹⁴⁴. Thirdly, 'as a rule, authors active in this domain are sustained by a missionary zeal, by a shared awareness that they all participate in a unique shift of the global paradigm of knowledge'¹⁴⁵. These kinds of arguments are usually framed by reference to C.P. Snow's 1959 lecture 'The Two Cultures', which addresses mutual ignorance between the sciences and the humanities. The term 'third culture' implies that this problem has been circumvented in the replacement of humanities and social science scholars by scientists as leading public intellectuals. Given the influence the lecture continues to exert, it is worth re-examining its argument. Like Turing, Snow rests his argument partly on a prediction. Unlike Turing, Snow has been proven wrong in his claim that 'the disparity between the rich and the poor' would not survive 'to the year 2000'.¹⁴⁶ Thomas Piketty's best-selling *Capital in the Twenty-First Century* (2013) argues that lessening inequality in the post-war period in which Snow was writing was an effect of the war itself, and that the long-term trend was towards

increased inequality. Introducing a new edition of F.R. Leavis's vitriolic response to Snow's lecture, *Two Cultures?: The Significance of C.P. Snow* (2013), Stefan Collini argues that Leavis's central target was the 'axiomatic status accorded to economic prosperity as the exclusive or overriding goal of all social action and policy', and that 'the relevance or urgency of analysing this dynamic and contesting this status can hardly be said to have diminished' fifty years later¹⁴⁷. Indeed, Picketty makes a similar point when arguing that '[e]conomic and technological rationality at times has nothing to do with democratic rationality', and that the latter does not naturally follow on from the former two, as has been assumed¹⁴⁸. Evgeny Morozov calls the ideology in which this assumption is grounded 'technological solutionism'. On this view, the question of the good life is taken to have either been dealt with, or left to the individual; technology is simply a tool with which to achieve it. As Morozov argues, this kind of rhetoric stems from the defeat of philosophy by 'psychology, neuroscience, economics (of the rational-choice variety), and their various combinations, like behavioural economics'¹⁴⁹. He cites Martha C. Nussbaum's concept of the 'narrative imagination' as a model for the role of the humanities in this context. Citizens, Nussbaum argues, 'cannot relate well to the complex world around them by factual knowledge and logic alone', and therefore depend on the narrative imagination¹⁵⁰. E.O. Wilson makes a similar argument from the perspective of the other culture: 'Thanks to science and technology, access to factual knowledge of all kinds is rising exponentially while dropping in unit cost [...] The world henceforth will be run by synthesizers, people able to put together the right information at the right time.'¹⁵¹ The third culture's self-justification relies on a form of the ethical narrativity thesis. Its widespread adoption of a form of the psychological narrativity thesis, however, often stands in the way of it developing the kind of nuanced relation to narrative required. Defining the self as a

‘fiction’ can involve naturalising a conventional model of selfhood, explaining its contradictions by reference to the inherent limitations of the mind. As Morozov argues, this complements technological solutionism. The ‘narrative imagination’ can be contrasted with the ‘somewhat oxymoronic “numeric imagination,” which can be defined as the predisposition to seek out quantitative and linear [causal] explanations that have little respect for the complexity of the actual human world’¹⁵². Where ‘narrative imagination’ is self-reflexive, ‘painfully aware that in order to account for the world, it also needs to account for the observer’, the numeric imagination ‘believes in objective, firm accounts of reality out there; these accounts are timeless and never expire’¹⁵³. In responding to developments in cognitive science, third culture texts attempt to understand human behaviour in terms of such objective accounts of reality. At the same time, they are limited in this attempt through their generally uncritical position in relation to a conventional model of selfhood and an associated ideal of human and technological progress.

Alternatives to Narrative

In this thesis, I show how the authors of my primary texts have been influenced by ideas derived from cognitive science via third culture texts. In combining this influence with a critical view of narrative, these writers depict the conscious self in terms of the operations of various technical systems. I have structured my thesis around four such technical systems. Each originates in a two-way transfer of the kind described by Raymond Tallis. First, ‘a term most usually applied to human beings is transferred to machines’¹⁵⁴. This ‘begins as a consciously metaphorical or specialist use but the special, restricted, basis for the anthropomorphic language is soon

forgotten: the metaphorical clothes in which thinking is wrapped become its skin.’¹⁵⁵ These machines ‘described in human terms are then offered as models for minds (described in slightly machine-like terms)’¹⁵⁶. Tallis outlines this process to critique it. I believe, however, that by understanding machines as externalisations of aspects of the human cognitive processes we can reach a better understanding of the mind. The first technical system I refer to is the intentional stance. This is Dennett’s adaptation of theory of mind or folk psychology, which expands on the version of theory of mind Turing developed in ‘Computing Machinery and Intelligence’. The second is prosthetics. These are the technologies which make up the perceptual system in Freud’s model. The third is the meme. The term ‘memes’ was coined by Richard Dawkins, to describe units of information which recreate themselves, like genes or like computer viruses of the mind, and developed by Dennett¹⁵⁷. The fourth is homeostasis. This term originates in biology, but its meaning has shifted through its adoption by the discipline of cybernetics. Each of the concepts have been developed in third culture texts and adapted by the writers I look at. In their original context, they have been used to support a broad third culture consensus linked to narrationism. In of themselves, however, they each undermine psychological narrationism. The formal techniques used by the authors of my primary texts do the same, adapting the novel form so as to express the operations of the self in non-narrational terms.

The Intentional Stance

I take Freud as my starting point for this reappraisal of cognitive science. As Dennett argues, Freud's work represented the first major challenge to the dominant model of the mind since John Locke:

For John Locke and many subsequent thinkers, nothing was more essential to the mind than consciousness [...] To discern what went on in one's mind one just "looked" – one "introspected" – and the limits of what one thereby found were the very boundaries of the mind. [...] The influence of this view had been so great that when Freud initially hypothesized the existence of *unconscious* mental processes, his proposal met widely with stark denial and incomprehension.¹⁵⁸

Dennett claims that 'Freud's expansion of the bounds of the thinkable [...] paved the way for the more recent developments of "cognitive" experimental psychology'¹⁵⁹. In 'The Unconscious' (1915), Freud defines psychoanalysis as an extension of theory of mind:

Consciousness makes each of us aware only of his own states of mind; that other people, too, possess a consciousness is an inference which we draw by analogy from their observable utterances and actions, in order to make this behaviour of theirs intelligible to us. [...] Psycho-analysis demands nothing more than that we should apply this process of inference to ourselves also [...] all the acts and manifestations which I notice in myself and do not know how to link up with the rest of my mental life must be judged as if they belonged to someone else.¹⁶⁰

Dennett calls this anthropomorphism a 'crutch', by means of which one could 'cling to at least a pale version of the Lockean creed by imagining that these "unconscious"

thoughts, desires, and schemes *belonged to other selves within the psyche*¹⁶¹. He claims that the innovation of the cognitive model lies in its having dispensed with this crutch. His own model of the mind derives from Turing's revision of theory of mind. He describes this as a shift from the '*anthropomorphism*' of folk psychology to the '*rational-agentism*' of what he calls the 'intentional stance'¹⁶². Dennett defines folk psychology as a 'rationalistic calculus of interpretation and prediction – an idealizing, abstract instrumentalistic interpretation method that has evolved because it works and works because we have evolved'¹⁶³. To understand other entities as '*rational agents* or *intentional systems*' permits us 'to think about them at a still higher level of abstraction, ignoring the details of just how they manage to store the information they "believe" and how they manage to "figure out" what to do, based on what they "believe" and "want".'¹⁶⁴. Dennett asserts that the 'intentional patterns discernible in the activities of intelligent creatures' have an objective reality, but cautions that it is important to recognise the 'incompleteness and imperfections in the patterns [...] the intentional strategy *works as well as it does*, which is not perfectly.'¹⁶⁵ He argues that 'it is the myth of our rational agenthood that structures and organises our attributions of belief and desire to others and that regulates our own deliberations and investigations'¹⁶⁶. As I've argued above, applying the intentional stance – making use of theory of mind, mind-reading, or narrating – has an active, shaping effect. This is partly due to its inability to fully describe what it is applied to. The shift from to 'rational agentism' represents a narrowing. This is reflected in my primary texts.

Prosthetics

Extended Mind Theory (EMT) poses a major challenge to the myth of rational agency and to Cartesian cognitive science in general. EMT, as proposed by Clark and David Chalmers in 'The Extended Mind' (1995), begins with the claim that if the mind is taken to be the material substrate of cognitive processes, there is no reason to limit it to the brain, central nervous system, or body. Clark and Chalmers argue that, in some cases, 'the human organism is linked with an external entity in a two-way interaction, creating a *coupled system* that can be seen as a cognitive system in its own right'¹⁶⁷. Clark notes that the 'ancient seepage' of the human mind and material objects 'has been gathering momentum with the advent of texts, PCs, coevolving software agents, and user-adaptive home and office devices'¹⁶⁸. One of the most significant external entities linked with the mind is language. In this respect, EMT develops Dennett's model. Where Dennett 'places most of his bets on the *radically internally transformative* power of our encounters with language and ends up with a story that seems more developmental than genuinely hybrid', from the perspective of EMT 'words and sentences remain potent real-world structures encountered and used by a basically (though this is obviously too crude) pattern-completing brain'¹⁶⁹.

These ideas were also explored by Freud. In *Beyond the Pleasure Principle*, Freud begins by considering 'a living organism in its most simplified possible form as an undifferentiated vesicle of a substance that is susceptible to stimulation'¹⁷⁰. This 'little fragment of living substance is suspended in the middle of an external world charged with the most powerful energies; and it would be killed by the stimulation emanating from these if it were not provided with a protective shield against stimuli'¹⁷¹. The outer layer hardens into a shield through which 'the energies of the external world are able to pass into the underlying layers, which have remained living, with only a fragment of their original intensity'¹⁷². In a short piece from 1925, 'A Note

Upon the Mystic-Writing Pad', Freud adopts the titular technology as metaphor for memory. In using the Mystic-Writing Pad, 'one writes upon the celluloid portion of the covering-sheet which rests upon the wax slab'¹⁷³. The celluloid 'thus acts as a protective sheath for the waxed paper, to keep off injurious effects from without. The celluloid is a "protective shield against stimuli"; the layer which actually receives the stimuli is the paper.'¹⁷⁴ Freud links this to his description of the perceptual apparatus in *Beyond the Pleasure Principle*: 'the perceptive apparatus of our mind consists of two layers, of an external protective shield against stimuli whose task it is to diminish the strength of excitations coming in, and of a surface behind it which receives the stimuli.'¹⁷⁵ The Pad 'provides not only a receptive surface that can be used over and over again, like a slate, but also permanent traces of what has been written, like an ordinary paper pad: it solves the problem of combining the two functions *by dividing them between two separate but interrelated component parts or systems*.'¹⁷⁶ The mind is made up of a set of interrelated components which define themselves in relation to the environment. Given the reliance of these components on such external structures as language, we can add to this that the mind is made up of prosthetics.

Memes

Concluding 'The Extended Mind', Clark and Chalmers consider the question: 'What, finally, of the self? Does the extended mind imply an extended self? It seems so. Most of us already accept that the self outstrips the boundaries of consciousness'¹⁷⁷. That most people accept this is part of the legacy of Freud's work. Reviewing claims 'concerning extended physical bases for the conscious mind'¹⁷⁸, Clark concludes that 'the case for ECM [Extended Conscious Mind] is at best unproven and that the

machinery of conscious experience is (probably) all in the head/CNS [Central Nervous System]¹⁷⁹. In *Natural-Born Cyborgs* (2003), Clark adapts Dennett's narrationism so as to fit EMT¹⁸⁰. The idea that the conscious self is in some sense a story functions here as an implicit argument that there are limits to our ability to apprehend the actual operations of the mind.

Reading an early case study of Freud's, Steven Marcus identifies an implication 'that a coherent story is in some manner connected with mental life [...]' On this reading, human life is, ideally, a connected and coherent story, with all the details in explanatory place.¹⁸¹ Jason Tougaw locates Freud's work in relation to the shared origins of the novel and the medical case history. On this reading, the novel and the case history 'give narrative form to subjectivity, by examining in concrete and sometimes excruciating detail the overdetermined, often ineffable, relationships between physiology and consciousness'¹⁸². In 'The Unconscious', the same essay in which he equates psychoanalysis with theory of mind, Freud identifies consciousness with language. Conscious presentation of an object consists of 'the thing plus the presentation of the word alone' while the unconscious presentation consists of 'the presentation of the thing alone'¹⁸³. The association of the word with the thing alters perception. In *Consciousness Explained*, Dennett argues that 'the most accessible or available words and phrases' can 'actually *change the content of the experience*'¹⁸⁴. He compares this to Freud's description of the preconscious in *The Ego and the Id* (1923): 'The question, 'How does a thing become conscious?' would be more advantageously stated: 'How does a thing become preconscious?', and the answer would be: 'Through becoming connected with the word-presentations corresponding to it.'¹⁸⁵ This connection alters both the thing and the word. Žižek has situated Dennett in relation to Freud, arguing that Dennett's 'key achievement is to demonstrate how

we literally “see” concepts and judgments [...] the very content that we see – inclusive of its direct physical properties – is the result of the previous judgment.’¹⁸⁶ Language is a prosthetic which determines the contents of consciousness, reacting to external stimuli.

Dennett’s emphasis on language as the distinguishing feature of human consciousness informs his definition of the conscious self as a ‘highly replicated meme-complex’¹⁸⁷. Dennett describes memes as ‘cultural recipes’; they ‘depend on one physical medium or another for their continued existence [...] but they can leap around from medium to medium, being translated from language to language, from language to diagram, from diagram to rehearsed practice, and so forth.’¹⁸⁸ Memes as defined in this way are analogous to words and phrases: ‘Words are basically information packets of some sort, recipes for using one’s vocal apparatus and ears (or hands and eyes) – and brains – in quite specific ways [...] memes are *the same sort of thing* – information packets or recipes.’¹⁸⁹ The concept of memes allows for a way of understanding language not only as a prosthetic but a set of prosthetics, with different ones operating in the mind from moment to moment, transferring from individual to individual. This position differentiates Dennett from other thinkers influenced by cognitive science, such as Pinker, who argues, from an evolutionary perspective, that language maps onto mental representations without altering them.

Dennett has said that Julian Jaynes’s emphasis on language was an influence on his own work.¹⁹⁰ References to Jaynes’s work can be found throughout Dennett’s work¹⁹¹. Taking Jaynes’s influence into account is useful in understanding Dennett’s discussion of ‘intentional objects’, the objects created in perception by the interplay of actual objects in the world and memes. In *Breaking the Spell* (2006), Dennett describes intentional objects as ‘the *things somebody can think about*’¹⁹². Other people

figure as intentional objects in our thinking, depending on our relation to them: ‘I can’t hate or love my neighbour without having a pretty clear and largely accurate set of beliefs that serve to pick this person out of the crowd so I can recognize, track, and interact effectively with him or her’.¹⁹³ Dennett builds on this in developing his theory of religion. Usually ‘the things we believe in are perfectly real, and the things that are real we believe in, so we can usually ignore the logical distinctions between an intentional object [...] and the thing in the world that inspired/caused/grounds/anchors the belief.’¹⁹⁴ This is not always the case. Dennett cites Jaynes’s argument that early religious rituals before the advent of consciousness constituted ‘exopsychic’ forms of thought¹⁹⁵. These rituals arose in relation to, and further defined, intentional objects not linked to any actual objects: gods. Jaynes situates the origin of self-consciousness in such rituals, and in the interplay between intentional objects and corresponding beliefs. In this sense, consciousness can be understood in terms of the interplay of exopsychic forms of thought and objects in the world within the mind.

Dennett’s use of ‘intentionality’ derives from the work of Franz Brentano¹⁹⁶. Freud also studied under Brentano. Donald McIntosh’s reading of Freud’s model of cathexis (the investment of energy in the mind in an object or person) in relation to the concept of intentional objects is useful here. McIntosh claims that Freud ‘initially held the object of a cathexis always to be intra-psychic, a position which is untenable and which he largely abandoned after 1915, when he began (correctly) to take cathected objects generally to be persons or events, not their representations’¹⁹⁷. The ‘object’, on this reading is ambiguous. It can best be understood, according to McIntosh, by analogy to the philosophical concept of ‘intentional’ objects, which McIntosh sees as similar to the object of cathexis¹⁹⁸. The shift in his thought around the time of ‘The Unconscious’ thus entails, according to McIntosh, a revision of earlier mistakes

through a reconnection with the influence of Brentano. There is a long tradition of philosophical work exploring the relation between language and consciousness, which has influenced Dennett and the writers of my primary texts. Dennett's formulation of memes has also become influential.

Homeostasis

Over the course of their work during the Second World War, Norbert Wiener and his colleague Julian Bigelow 'concluded that there were important analogies between the feedback aspects of engineering devices and the homeostatic processes by which the human nervous system sustains purposeful activity'¹⁹⁹. The synthesis Wiener developed from these ideas was formalised into the discipline of cybernetics. As Gardner, shows, cognitive science partly grew out of this discipline, and interdisciplinary work at the Macy conferences on cybernetics²⁰⁰. Andrew Pickering argues that cybernetics is fundamentally different from cognitive science in its understanding of the brain as 'an immediately embodied organ, intrinsically tied into bodily performances' whose main function was adaptation rather than representation²⁰¹. Cybernetics was eventually displaced from its tentative foothold in the academy by the adoption of representational AI and cognitive science in computer science and social science departments; Pickering argues that this shift derived from the latter's 'familiar ontology', its association with digital computers, and disparities in military research funding²⁰². Nonetheless, cybernetics continues to exert its influence through several channels. Johnston demonstrates that Jacques Lacan 'confronted the new challenge brought by information machines', and drew on cybernetics in advancing 'the decentralization of the ego begun by Freud'²⁰³.

Christopher Johnson argues that Claude Lévi-Strauss drew on the influence of cybernetics, particularly in ‘The Structural Study of Myth’ (1955)²⁰⁴. Both of these figures have been influential on the humanities, leading to ideas that contrast with those of cognitive science.

The most significant legacy of cybernetics is its influence on the concept of homeostasis. The basic concept of homeostasis derives from Claude Bernard’s ‘*Milieu intérieur*’, the ‘environment within’, the stability of which Bernard identified as a ‘prerequisite for the development of a complex nervous system’²⁰⁵. Walter B. Cannon coined the term ‘homeostasis’ for ‘the tendency of the mammalian organism to maintain a constant internal environment’²⁰⁶. Reflecting on his treatment of post-encephalitic patients, Sacks maps their experience into three stages, the last of which is accommodation, ‘achieving the optimum which is possible in (or compossible with) particular circumstances – in short, ‘making the best of things’²⁰⁷. Sacks argues that we must ‘recognize homeostatic endeavours at all levels of being, from molecular to cellular to social and cultural, all in intimate relation to each other’²⁰⁸. Both Freud and Dennett describe the narrative self as a product of basic homeostasis processes. Freud’s model of consciousness as characterised by language is grounded in technological metaphor, which is further grounded in a description of basic biological processes. This allows a counterintuitive model of the mind to be aligned with a more conventional notion of consciousness. Dennett’s model is similar. Referring to ‘simple replicators’, he argues that as soon as ‘something gets into the business of self-preservation boundaries become important, for if you are setting out to preserve yourself, you don’t want to squander effort trying to preserve the whole world: you draw the line. You become, in a word, *selfish*.’²⁰⁹ This ‘distinction between everything

on the inside of a closed boundary and everything in the external world' is 'at the heart of all biological processes'²¹⁰.

Cybernetics redefined homeostasis as a process grounded in the flow of information, allowing it to apply to living organism, machines, and assemblages of both. The term 'Cyborg' is an acronym for 'Cybernetic Organism' or 'Cybernetically Controlled Organism', referring to 'both a notion of human-machine merging and to the rather specific nature of the merging envisaged', one based in homeostatic processes²¹¹. This conceptual merging of the human with technology has implications for our understanding of identity. Wiener describes homeostasis as made up of 'negative feedback mechanism of a type that we may find exemplified in mechanical automata', while also arguing that the 'pattern maintained by this homeostasis' is the 'touchstone of our personal identity [...] We are not stuff that abides, but patterns that perpetuate themselves.'²¹² The concept of homeostasis as it is now understood, in terms of information and feedback, offers alternative possibilities for describing consciousness and the self, which Antonio Damasio has explored in his work. With Hannah Damasio, he argues that in humans, there is in addition to basic homeostasis a 'supplementary mechanism of control that involves feelings of the simplest variety, also known as homeostatic feelings'²¹³. The conscious experience of these feelings 'turns the owner of the respective organism into a potential agent of its own regulation'²¹⁴. Core consciousness, as Damasio defines it, derives from the organism's monitoring of its body and internal homeostasis. It consists of an '*imaged, nonverbal account*' of how the body is affected by an object²¹⁵. Core consciousness is generated 'in a pulslike fashion, for each content of which we are to be conscious'; there is 'no noticeable process of inference, no out-in-the-daylight logical process that leads you there, and no words at all – there is the image of the thing and, right next to it, is the

sensing of its possession by you'²¹⁶. The self revealed in core consciousness is 'transient, ephemeral, [...] remade and reborn continuously' in relation to different objects²¹⁷. Damasio distinguishes core consciousness from the 'postlanguage consciousness' analysed by Jaynes and Dennett²¹⁸. Damasio calls this form of consciousness 'extended consciousness'. The sense of self that appears to remain the same is 'the autobiographical self [...] based on a repository of memories for fundamental facts in an individual biography that can be partly reactivated and thus provide continuity and seeming permanence in our lives'²¹⁹. The autobiographical self imposes a form of homeostasis achieved partly through language, through the ability to incorporate the transient instances of core consciousness within a coherent narrative. This structuring of experience is aided by the use of material and linguistic prostheses. The use of language, a prosthesis that joins up the individual self-narrative with those of others and of society as a whole, incorporates the processes of individual homeostasis within a broader process which also tends towards homeostasis. Damasio calls this 'sociocultural homeostasis', the regulators of which include '[j]ustice systems, economic and political organizations, the arts, medicine, and technology'²²⁰. I would add theory of mind to this list. Damasio's model offers a vision of human life in terms of the actions of various interlocking homeostatic processes operating within and between individuals, technologies, environments, and cultural narratives. Consciousness is both a disruptor and driver of homeostasis. Damasio's work proposes oscillation as inherent to the function of consciousness in homeostatic systems:

when homeostasis regulation is enriched by feeling/conscious interfaces, adaptability increases at the risk of basic efficiency. [...] The novelty of some responses deviates from the standard path; in turn, the unexpected response

generates yet another non-standard response because the system is still searching for stability and oscillates.²²¹

The tension between individual and sociocultural homeostasis in this model develops the opposition between the demands of instinct and society in *Civilization and its Discontents*, as well as Freud's more general model of the individual as divided between the *id* and the *superego*. As Žižek argues, it also implies a distinction between the conscious self and narrative:

The properly dialectical tension between the singular Self and narrative is crucial here: the singular Self stands for the moment of explosive, destructive, self-referential negativity, of a withdrawal from immediate reality, and thus a violent rupture of organic homeostasis; while "autobiography" designates the formation of a new, culturally created homeostasis which imposes itself as our "second nature."²²²

The oscillation between individual and sociocultural homeostasis, not narrative, is the basis of personal identity and agency, experienced and enacted through consciousness. I argue that this dynamic is present in my primary texts, as a result of a shared critique of narrativity and a shared engagement with a variety of third culture texts.

Structure

I have structured four of the chapters of my thesis according to these technical systems, as they relate to similar formal aspects of two of my primary texts. In the first chapter, 'Metaphors of the Mind', I take as my starting point George Lakoff and Mark Johnson's response to cognitive science. Lakoff and Johnson argue that the discoveries of cognitive science can be summarised in three propositions: 'The mind is inherently

embodied’, ‘Thought is mostly unconscious’, and ‘Abstract concepts are largely metaphorical’²²³. The implication for study of the mind is that it is ‘virtually impossible to think or talk about the mind in any serious way without conceptualizing it metaphorically’²²⁴. The metaphor system for cognition ‘does not give us a single, overall, consistent understanding of mental life. Instead, it provides us with conceptual metaphors that are inconsistent with each other.’²²⁵ This is not to say that these metaphors are arbitrary. The use of metaphor is structured by the ‘cognitive unconscious’, which consists of ‘all those mental operations that structure and make possible all conscious experience, including the understanding and use of language, and of making use of and guiding the perceptual and motor aspects of our bodies’²²⁶. A metaphor ‘can serve as a vehicle for understanding a concept only by virtue of its experiential basis’²²⁷. This experiential basis includes technology. The role of technology within the extended cognitive system is expressed and reaffirmed through the structuring role of technological metaphors for cognition. Technology also increases the sense of inconsistency, in shaping different forms of cognition in increasingly specialised ways, and in providing concrete and contrasting models for different conceptual metaphors. In this chapter, I identify three interrelated sets of metaphors for the mind found in my primary texts, each relating to a particular form of technology, the human faculty of which that technology is an extension, and a more fundamental set of metaphors. I argue that their interactions, the form of which derives from their inconsistency, provides the basis for the model of cognition I explore in subsequent chapters.

In the second chapter, ‘Thinking and Thought in *Remainder* and *Saturday*’, I focus on how a particularly contemporary conception of theory of mind – the intentional stance – has been used by McEwan and McCarthy. I argue that their use of

the term ‘thinking’ follows on from the model formalised in the imitation game in regarding the question of what someone is thinking as a matter of interpretation. It differs from Turing’s definition here, however, in that these novels present ‘thinking’ as reductive, and not fully reflective of an individual’s conscious experiences and of their relation to the world. This expressed through a disjunction between ‘thinking’ as verb, used to depict an active process, and ‘thought’ as noun, used to depict the contents of consciousness. *Saturday* and *Remainder* incorporate the former but question it by refusing to accept the latter.

In the third chapter, ‘Prosthetics: Language and Vision in *The Child in Time* and *C*’, I trace the influence of Freud’s analysis of perception and cognition as determined by the operations of a set of separate components within the mind. *The Child in Time* and *C* establish an opposition between language and vision, situating what their protagonists see and how they narrate this experience as separate but interrelated aspects of their consciousness. I read this development as a reappraisal of the influence of Freud on their earlier work. While both writers have distanced themselves from Freud, I argue that their use of an opposition between language and vision adapts their earlier use of a Freudian opposition between consciousness and the unconscious. This modified opposition in *Child in Time* and *C* complements the technological model of the mind developed in Freud’s later work, while providing an alternative to the narrationism he used to frame it.

In the fourth chapter, ‘Other Selves: Intentionality in *The Book of Dave* and *The Accidental*’, I examine how Smith and Self have responded to Dennett’s model of the mind as made up of memes. Both writers depict the individual mind as made up of various actual and potential selves, formed through the episodic interactions of intentional states (memes), which spread from person to person in the form of

language, and intentional objects. Smith and Self's shared concern with social control, and the mediation of vision by technology, is reflected in stylistic features in their work, most notably the use of italics to depict memes, conspicuous repetition of significant terms, and an adaptation of indirect free style in which first person prose expresses the intrusion of external processes into the mind. This engagement has led to a literary form which implicitly critiques narrationism and the contemporary understanding of the self in general.

In the fifth chapter, 'The Environment Within: Consciousness and Homeostasis in *How to Be Both* and *Umbrella*', I analyse how Smith and Self's engagement with concepts derived from cybernetics relates to their concern with space, and with their use of modernist form in their later novels. These forms focus on the depiction of visual consciousness, while emphasising the ways in which consciousness undermines assumptions about space, time, and causation as they inform our understanding of the mind. Both emphasise the limitations of literary narrative. Their depiction of consciousness is better understood through reference to the interaction of individual and sociocultural homeostasis in relation to perception and memory.

Writing Machines

My thesis argues that a model of consciousness and the self based on an oscillation between individual and sociocultural homeostasis, rather than narrative, is implied by these novels and their sources. In the fifth chapter, I show how Smith's depiction of visual perception draws on Italo Calvino's characterisation of thought and literature as based around visual images rather than stories in *Six Memos for the Next Millennium*

(1988). *How to Be Both* reflects the influence of the cognitive scientist Douglas Hofstadter on Calvino. Discussing a language program he was involved in the creation of, Hofstadter describes the ‘feeling that the output is coming from a source with no understanding of what it is saying and no reason to say it’, adding that one senses in particular ‘an utter lack of visual imagery behind the words [...] the program had *no idea* what a self is, what a person is, or what anything at all is.’²²⁸ The experience left him with ‘an intangible image’, one he could not convey in words, ‘a glimmering sense that *real* thought was composed of much longer, much more complicated trains of symbols in the brain – many trains moving simultaneously down many parallel and crisscrossing tracks’²²⁹. Hofstadter has collaborated with Dennett, and their models of the mind share some similarities, as can be discerned here in his description of the parallel operations of cognition. Hofstadter’s approach contrasts with Dennett in positing conscious visual imagery as crucial to human thought. Calvino refers to Hofstadter to make the point that the role of mental images in art depends on ‘processes that, even if they do not originate in the heavens, certainly go beyond our intentions and our control – acquiring – with respect to the individual – a kind of transcendence’²³⁰. The imagination is a ‘kind of electronic machine that takes account of all possible combinations and chooses the ones that are appropriate to a particular purpose, or are simply the most interesting, pleasing, or amusing’²³¹.

In an earlier lecture, Calvino responds to the shift in our understanding of thought prompted by cybernetics and cognitive science. He remarks that ‘the ever-changing cloud that we carried in our heads until the other day, the condensing and dispersal of which we attempted to understand by describing impalpable psychological states and shadowy landscapes of the soul’ has been replaced by ‘the rapid passage of signals on the intricate circuits that connect the relays, the diodes, the transistors with

which our skulls are crammed'²³². This is a shift in metaphors, which, as I explore in the first chapter, has an effect on our understanding of the mind in general. In Calvino's account, rather than fixing the nature and role of theory of mind or of literature, this shift only heightens their complexity and mutability. The operations of the 'folk imagination' and of narrative, 'like those of mathematics, cannot differ all that much from one people to another, but what can be constructed on the basis of these elementary processes can present unlimited combinations, permutations, and transformations'²³³. In the creation of literature or of art, at a certain moment,

things click into place, and one of the combinations obtained – through the combinatorial mechanism itself, independently of any search for meaning or effect on any other level – becomes charged with an unexpected meaning or unforeseen effect which the conscious mind would not have arrived at deliberately: an unconscious meaning, in fact, or at least the premonition of an unconscious meaning.²³⁴

The unconscious is the 'ocean of the unsayable, of what has been expelled from the land of language, removed as a result of ancient prohibitions'; the power of modern literature 'lies in its willingness to give a voice to what has remained unexpressed in the social or individual unconscious: this is the gauntlet it throws down time and again.'²³⁵ Literature does not have to be defined by language, or by narrative. It can be understood in terms of the tension between what can be said in a particular time and place and what is unsayable or intangible. Meaning is produced not through narrative, but through the operations of an extended combinatorial mechanism incorporating narrative, the subject, object, and their shared sociocultural and material environment. In the act of writing the writer 'splits into a number of different figures: into an "I" who is writing and an "I" who is written, into an empirical "I" who looks

over the shoulder of the “I” who is writing and into a mythical “I” who serves as a model for “I” who is written. The “I” of the author is dissolved in the writing.’²³⁶ Writers, then, are ‘writing machines; or at least they are when things are going well’²³⁷. What is true of writing is true of thought. Calvino’s response to the influence of cognitive science is an example of a productive interchange between that discipline and literature which questions rather than re-affirms conventional notions of subjectivity, using the example of technology to situate cognition within its full context. My primary texts do the same. This thesis is written in the same spirit.

Chapter One - Metaphors of the Mind

Cognitive science is founded on the metaphor that the mind is somehow like a computer. This metaphor persists because it is a complex of more fundamental spatial and visual metaphors, and because of its relation to a longstanding cultural understanding of rational thought. Since the emergence of this metaphor, other technologies have been altered the use of the spatial and visual metaphors on which it is founded. As a result, the meaning of the computer metaphor has changed. In this chapter, I argue for the continued relevance of the computer metaphor on this basis.

Draaisma points out that many metaphors, ‘particularly in science, owe their existence precisely to the fact that they express what cannot be said literally – either not yet or in principle’²³⁹. This is particularly true in relation to the mind: ‘with much figurative usage in psychology no literal alternative is available’²⁴⁰. In this chapter, I survey the dominant metaphors used to depict the mind, consciousness and cognition in my primary texts. I identify three sets of metaphors. Each relates to a particular form of technology, the human faculty of which that technology is an extension, and a more fundamental set of metaphors: media technology networks/spatial mapping/the mind as a spatial entity, the camera/seeing/understanding as seeing, and the computer/calculation/thoughts as discrete objects. Lakoff and Johnson argue that the metaphors through which we think have an experiential basis in the faculties of the human body. The technologies I have listed extend those faculties, and thus alter the experiential basis of those metaphors. At the same time, the continuity of these technologies with those faculties allows for their incorporation within the associated metaphor. For this reason, if, as Lakoff and Johnson argue, thought is embodied, in that the fundamental components of thought are metaphors derived from the faculties of the human body, it is also extended. Hayles points out that from the EMT

perspective, 'the impact of information technologies on the mindbody is always understood as a two-way relation, a feedback loop between biologically evolved capabilities and a richly engineered technological environment'²⁴¹. I have found that the use of technology in each set of metaphors in my primary texts complements this point. Technological networks and the camera are both used to alter existing spatial and visual metaphors for cognition, undermining the distinctions between inside and outside, and between subject and object, that accompany these metaphors. The computer metaphor is an adaptation of a particular way of understanding thought, but it is also a complex of spatial and visual metaphors. As the contemporary technological adaptations of those metaphors define the associated aspects of cognition as extended, the computer metaphor is a complex of extended processes. I begin by looking at particularly significant metaphors within my primary texts. I then discuss the interaction theory of metaphor as a possible model for cognition in general. I then survey each set of metaphors in turn.

Advertising Materialism

Draaisma describes the metaphor at its most basic as a 'verbal' phenomenon which contains a 'reference to a concrete object' and therefore a 'pictorial aspect'; the metaphor is 'an instrument with two layers, a unification of word and image'²⁴². 'The mind' as a concept is characterised by a certain inconsistency. in that It is linked to a variety of other objects or images through other metaphors, each of which promises to resolve this inconsistency in referring to a discrete, concrete object. This is partly why technological metaphors, based around physical objects which behave in tangible ways, are often central to studying the mind. This is less to do with any actual

properties of material reality than of reality as it available to consciousness, given inherent aspects of the human sensorium. Each such object can, however, only illuminate a particular aspect of the mind. Objects or images capable of embodying the inconsistency of ‘the mind’ as it is defined through metaphor are unusual. McEwan’s *Saturday* does however reference one. Perowne recalls attending the opening of the Tate Modern and seeing a sculpture he describes as ‘like a brilliant idea bursting out of a mind’: Cornelia Parker’s ‘Cold Dark Matter: An Exploded View’²⁴³. The construction ‘a brilliant idea bursting out of a mind’ is made up of two dominant metaphors for thought, visual and spatial, in their most basic form. To know is to see; an idea illuminates. At the same time, to know is to incorporate; the mind is a space containing and incubating ideas. Separately, these basic metaphors make sense. Their combination in the sentence above might seem innocuous, but it introduces a fundamental ambiguity as to the nature and boundaries of the mind. Does the mind illuminate the idea, or is the idea the source of light? Where does the idea come from, and where does it go once it bursts out of the mind? What is left of the mind? How can it be altered by its own product? ‘Cold Dark Matter’ physically embodies this mixing of metaphors while still retaining ambiguity. Shards of an exploded shed are hung from the ceiling by invisible threads, arranged in a loose approximation of the original form. The viewer sees an ongoing explosion, its aftermath, and its absence. At the centre of the shed is a light which casts shadows of the shards onto the walls of the gallery. The components of the mind become objects, lit up by an idea which breaks up their continuity while expanding the boundaries of their presence to include the room containing them, and the viewer. Seen like this, the interactions of fundamental metaphors for the mind suggest a different way of understanding

consciousness and thought which blurs the distinctions between subject and object, inside and outside, and mind and world.

Self's *Umbrella* uses a different method in representing these relations in a sequence in which a bomb falls on one of its characters, Stanley. The passage has an ambiguous status in the novel, for Stanley apparently survives the explosion. Later, the novel hints that this sequence is a fantasy in the mind of his sister, Audrey. Rather than referencing an object that embodies the uncertain spatial structures of the mind, as in *Saturday*, the passage posits that Stanley can see the effects of technology on other minds:

all the scores and hundreds of repetitive motions that led to its triumphantly short-lived embodiment are there, plain to his exophthalmic eye [...] upon impact all of its strings, hammers, levers, cogs and screws will blast upon the shattered terrain in wave upon wave of tics, jerks, yawns, spasms, blinks, gasps, quivers, pursing, bobbing, pouts, chews, grindings, palsies, tremors and twitches, sending them dancing from mind to mind, so animating body after body to perform choreography that will stand in for civilization unprompted.²⁴⁴

The metaphor that knowing is a form of seeing makes sense, in that sight and the way it works impose fundamental limitations on what we can know. Language makes other forms of knowledge possible, but it has its own limitations. The individual bomb is, as Stanley perceives it here, the results of hundreds of repetitive motions, of broader networks and processes, and the effects of its explosion go beyond its immediate environment. Self is making a link between the increased mechanisation of the early twentieth century and the epidemic of Encephalitis Lethargica that occurred around the same time. If there is a causal link here, it is not a straightforward one. This is

partly because causality is itself grounded in a set of visual and spatial metaphors. To say that Stanley can see this process, or that the explosion sends waves of tics ‘dancing from mind to mind’ is a metaphor, but one that expresses something that cannot be articulated in non-figurative language. The use of ‘seeing’ here is ironic, pointing to the limitations on understanding imposed by metaphor and by the experiential foundations of those metaphors.

In a conversation with McCarthy in 2001, Self describes metaphor as ‘another trick for making you believe in the externality and objective character of the material world [...] the advertising of materialism.’²⁴⁵ Metaphor is ‘bound up with what's in the interests of our type of society: to believe in this material world of ashtrays and microphones and cigarette lighters.’²⁴⁶ While our understanding of the externality and objective character of the material world derives from our limited perspective on the world, it is also affected by other factors in society. Technology and technological metaphors can entrench this perspective. McCarthy examines this process in *Remainder*'s depiction of its narrator's relation to his assistant, Naz. When he first meets Naz, the narrator compares his mind to a computer:

Naz's palmtop organizer [...] was lying face up on the table, but Naz wasn't using it. Instead, he was logging his requirements in his mind, translating them into manoeuvres to be executed. I could tell: something was whirring behind his eyes. [...] The thing behind Naz's eyes whirred for a while.²⁴⁷

Whirring, or variants (‘whirred’ and ‘whir’), are used in descriptions of Naz throughout²⁴⁸. At the end of the novel, he is described as ‘like a computer crashing – the way the screen, rather than explode or send its figures dancing higgledy-piggledy around, simply freezes’²⁴⁹. After comparing Naz's breakdown to a computer crashing,

the narrator also describes it in terms of data or information, similarly contained within him: ‘figures, hours, appointments, places, all abandoning their places, all abandoning their posts and scrambling for the exits, sweating their way out of him, rats scurrying from a sinking ship’²⁵⁰. As with the metaphor of the crashing computer, this forms a more developed instance of a recurring metaphor associated with Naz. ‘Processing’ is first used as a synonym for ‘whirring’ in the same context: ‘his eyes went vacant while the thing behind them whirred, processed’²⁵¹. ‘Processing’ or variants is repeated to a similar extent as ‘whirring’, applied not only to Naz but to other characters and the narrator himself²⁵². Information processing is another metaphor for consciousness on which the computational model builds. Draaisma describes the influence of Turing’s work in terms of the ‘metaphor of man-as-an-information-processing system’²⁵³. The analogy between the mind and the computer arose from the latter’s ability to process information, which only the former had been able to do previously. Developing this analogy has had the effect of defining the mind solely in terms of information-processing. The description of Naz implies that an inability to handle the information being presented to him has led to a kind of blockage in his mind. This is one way of explaining his breakdown. Another way is to say that Naz is by this point complicit in the deaths of multiple people, despite his reservations, and has just been informed of another death and the failure of his employer’s plan to rob a bank. The protagonist’s use of this metaphor reflects his inability to empathise with Naz, or to understand the ethics of his actions.

The idea that the mind works like a computer is rooted in the metaphor that thought is a form of calculation. This metaphor is at the heart of various models of cognition, as well as other forms of cultural knowledge, such as (variants of) evolutionary psychology and behavioural economics. In these kinds of works, this

metaphor tends to go unquestioned, and to be accepted in almost literal terms, as a truth claim. In the context of a novel, these claims can be apprehended as metaphors. At several points, Self's *The Book of Dave* places the 'Thought as Calculation' metaphor in its full context by literalising it:

After fifteen years of cabbage Dave Rudman was so finely attuned to the meter that he could minutely calibrate it with his own outgoings. At the beginning of each day a spreadsheet popped up from behind his heavy eyelids, and as he drove, picking up and dropping off, ranking up and driving again – so the figures were instantly calculated to inform him whether he was ahead or behind [...] Time, distance and money – the three dimensions of Dave Rudman's universe.²⁵⁴

The first sentence here contextualises the metaphor by stating that Dave's thought processes include calculation as a function of his job, and establishing his relation to technology (the meter, his cab). The next sentence then develops the metaphor. The exaggerated version of this metaphor emphasises the fact that it is a metaphor, rather than a basic fact about the mind or cognition. A later sequence reiterates this point. Michelle, Dave's future wife, takes cocaine, which chops her into 'two Michelles, idiot drunk and calculating fool'²⁵⁵. The cocaine makes 'tiny little calculations for her, white beads on a sparkling synaptic abacus'²⁵⁶. The 'Thought as Calculation' metaphor is used in an exaggerated form and placed into a provisional context. The mode of thought that corresponds to calculation is a temporary, altered state. Significantly, it also co-exists with other modes of thought within the mind.

By referring to 'other modes of thought' I want to open up thinking to multiplicity, to claim that the individual is capable of different forms of thoughts,

depending on the situation, and that multiple forms of thought can be at work in the same individual mind at any one moment. Attending to multiple modes of thought reveals the limitations of the vocabulary we use when talking about the mind, a point implicit in a passage from McEwan's *The Child in Time*, describing protagonist Stephen:

Much later he was to realise that he never really thought about his situation at all, for thought implied something active and controlled; instead images and arguments paraded in front of him, a mocking, malicious, paranoid, contradictory, self-pitying crowd. He had no distance, no clarity, he was never looking for a way through. [...] He was the victim, not the progenitor, of his thoughts.²⁵⁷

There is a clear distinction here between 'thinking' as a verb and 'thoughts' as a noun. The former implies an associated subject, asserting agency and control and an associated form of rationality. The latter consists of defined objects acted on by the subject. The passage above makes the point that this distinction is contingent on a certain state of mind in which the individual is able to think in a certain way. When this is not possible, the fixed relation between subject and object breaks down. The metaphor of thoughts as a crowd expresses this breakdown, while pushing its implications further. Personifying 'thoughts' in this context makes the point that what is meant by 'thinking' on the one hand and 'thoughts' on the other are both aspects of the mind and of consciousness, and cannot be fully distinguished. If 'thinking' and 'thoughts' are both aspects of the mind, why is Stephen pushing his way through a crowd, not part of it?

The passage also emphasises the use of the visual metaphor for knowledge in maintaining the distinction between subject and object. Thoughts are ‘images’, to be seen by the ‘thinker’. The passage complicates this by introducing ‘arguments’ alongside ‘images’, and, as in the passage from *Saturday*, by constructing a mixed visual/spatial metaphor (‘looking for a way through’). While the distinction between subject and object may be grounded in fundamental features of human vision, that distinction operates through metaphor. There are aspects of thought that do not fit this metaphor, and there are aspects of thought linked to other metaphors which complicate each other. In addition, seeing in itself operates in different ways, given the situation.

In Smith’s *The Accidental*, Astrid, the youngest member of the Smart family, reflects on causality and time, based on a particular form of seeing, mediated by a camera, when looking at her footage of the sunrise: ‘All there is when you look at it on the camera screen getting more visible. So does this mean that the beginning is something to do with being able to see?’²⁵⁸ She applies this to the beginning of the self: ‘Possibly the real beginning is when you are just forming into a person and for the first time the soft stuff that makes your eyes is actually made, formed, inside the hard stuff that becomes your head, i.e. your skull.’²⁵⁹ The fact that she associates objective sight with the camera subtly alters her understanding of seeing: ‘The outside world shifts on her eyes, like an inside photograph. Then the inside photograph is laid over the outside world when she opens them. If she could take photographs with her eyes it would be amazing.’²⁶⁰ Astrid becomes aware of the subjectivity of vision, through the use of a metaphor which elsewhere posits the possibility of objective sight. Understanding consciousness as a photograph defines visual consciousness as an objective representation of the object. Visual experience without perception can be understood as an ‘inside photograph’, according to this model. However, the enduring

effects of the inside photograph on subsequent perception emphasizes the subjectivity of vision. Technology extends and complicates fundamental metaphors.

The process through which technology extends these metaphors suggests a continuity between the mind and technology within metaphor. This continuity is emphasised in a passage from McCarthy's *C*:

Serge carries the sound of the celluloid strip running through its gate to bed with him, clicking and shuffling in his ears long after the machine's been put to sleep, more real and present than the trickle of the stream of the chirping grasshoppers. Each time Widsun racks up and starts running with it, Serge feels a rush of anticipation through the cogs and sprockets of his body; his mind merges with the bright bedsheet, lit up with the possibilities of what might dance across it in the next few seconds.²⁶¹

Like Astrid, the young Serge feels himself to be physically altered by his encounter with technology. Serge becomes more machine-like, while the machine is subtly anthropomorphised, sleeping and dancing. Serge carries the 'clicking and shuffling in his ears', while the machine 'sleeps'. While Serge's body contains 'cogs and sprockets', the machine is described in terms of moths, mosquitoes, hair and speckles. 'Artificial life' applies both to the machine and to Serge by the end of the passage. This is accomplished through metaphor, but the passage also implies that it can be understood as literally true through its own relation to vision. If a piece of technology, a camera or a projector, determines what we see, then that technology is part of the mind.

Understanding the mind in spatial terms, for example, as a container, capable of 'carrying' sense impressions such as sound, raises the possibility that it can be

located in space. Visual and spatial metaphors dovetail at the end of the above passage, as Serge's mind 'merges' with the projector. All of the examples from my research corpus above are based on combinations of these fundamental metaphors, which they share with more conventional models of the mind. As I discussed in the introduction, the novel is also a technology, which serves the same purpose. In Smith's *How to Be Both*, George uses the novel as a metaphor to reaffirm a particular mode of thought in the face of conscious experience undermining it. By the end of her half of the novel, George has reached a new understanding by accepting the enduring presence of memory, and the continuity between herself and the outside world. The narration responds by acknowledging the spatial basis of narrative:

This is the point in the story at which, according to its structure so far, a friend enters or a door opens or some kind of plot surfaces (but which kind? the one that means the place where a dead person's buried? the one that means the place where a building's to be built? the one that means a secret stratagem?); this is the place where a spirit of twist in the tale has tended, in the past, to provide a friendly nudge forward to whatever's coming next.²⁶²

Understanding narrative as grounded in spatial metaphors allows us to apprehend and explore the ways in which it complicates those metaphors applied to the mind. In the introduction, I argued that the authors of my primary texts all share at least an ambivalence towards narrationism. This is reflected in their use of metaphors for the mind. Their use of new metaphors, or their adaptations of existing ones, emphasise inconsistency. Each metaphor is a complex of other metaphors. This complicates the material referents of the metaphors; rather than grounding the implicit models of the mind in relation to discrete material objects, those material objects assume an uncertainty mirroring that of the verbal layer of the metaphor. Questioning the material

basis of these metaphors hints at a way of understanding the mind which overcomes the limitations of the human senses.

The Mangrove Effect

Draaisma reads the computer metaphor through Max Black's interaction theory of metaphor. Black argues that the 'maker of a metaphorical statement selects, emphasizes, suppresses, and organizes features of the primary subject by applying to it statements isomorphic with the members of the secondary subject's implicative complex'²⁶³. In a particular metaphorical statement, the two subjects interact in the sense that:

the presence of the primary subject incites the hearer to select some of the secondary subject's properties; [...] invites him to construct a parallel implication-complex that can fit the primary subject; [...] reciprocally induces parallel changes in the secondary subject.'²⁶⁴

In Draaisma's summary, in a metaphor 'the topic term and vehicle term are linked by a set of associations and these associations are involved in an interaction. This reproduction creates a new meaning which is given neither in the one nor in the other term separately.'²⁶⁵ In the computer metaphor, 'the exchange of associations between computer and memory has not only made the memory more technical, but has made the computer more psychological'²⁶⁶. Both memory and the computer are grounded in a broader material context. The interaction theory of metaphor offers one way of understanding how two extended processes determine each other.

Black argues that 'every implication-complex supported by a metaphor's secondary subject [...] is a *model* of the ascriptions imputed to the primary subject:

Every metaphor is the tip of a submerged model²⁶⁷. Psychological language is embedded within and partly determined by a broader context, as Kurt Danziger has shown. Psychological categories such as ‘cognition, emotion, learning, motivation, personality, attitude, intelligence etc. [...] were not invented as a consequence of empirical investigation – they were there before anyone used them to identify the objects of empirical studies’²⁶⁸. Most terms in psychology also ‘remain heavily dependent on shared understandings in general culture’:

Psychology may have developed certain theories *about* motivation, *about* personality, *about* attitudes, and so on, but the network of categories that assigns a distinct reality to motivation, to personality, to attitudes, etc. has been taken over from a much broader language community of which psychologists are a part. Most psychologists want to preserve the relevance of their work for life outside the laboratory. To do this they have to demonstrate correlates between their scientific categories and phenomena defined in terms of common categories of everyday life. But that entails taking on board much of the traditional meaning of the everyday category.²⁶⁹

This point is relevant to Draaisma’s use of the interaction metaphor. Material technologies such as the computer alter our understanding of the mind. There is, however, no pre-existing understanding of the mind that has not already been determined by a broader cultural context and by previous technologies.

These points could be taken to imply that metaphor, and the models of the mind it grounds, derive entirely from material aspects of existence, whether embodied or extended. Claire Colebrook claims that to argue as Lakoff and Johnson do

that thinking emerges from a metaphoric of the lived body [...] not only restricts the range of metaphor to those that emerge from the lived body; such a theory of genesis must occlude the *figure* of metaphor itself. For metaphor is only conceivable if we have installed ourselves within an imaginary of a mind that molds its world: the image of the body that shapes and makes sense of its own mind and world is itself figural and cannot provide some ultimate pre-imaginary reality.²⁷⁰

This critique also applies to some readings of EMT: ‘As long as we regard relations, texts, apparatuses, assemblages, distances, gaps or points of inertia as retrievable or reducing to the complexity of the lived, we remain at the level of organic narrative (tracing relations from bodies)’²⁷¹. Contrary to Colebrook’s summary here, Lakoff and Johnson acknowledge the active role of metaphor as a filter. They note that the ‘very systematicity that allows us to comprehend one aspect of a concept in terms of another [...] will necessarily hide other aspects of the concept.’²⁷² In ‘allowing us to focus on one aspect of a concept [...] a metaphorical concept can keep us from focusing on other aspects of the concept that are inconsistent with that metaphor.’²⁷³ They also reject the objectivist notion of a reality ‘made up of distinct objects, with inherent properties and fixed relations among them at any instant’ prior to and distinct from interpretation²⁷⁴. Even so, Colebrook’s critique is worth keeping in mind to counter a tendency in some cognitivist accounts to disregard the role of language in thought (I discuss this point in the next chapter in reference to Pinker). Clark’s work suggests another response. He describes public language as, in many ways, ‘the ultimate artefact’: ‘Not only does it confer on us added powers of communication; it also enables us to reshape a variety of difficult but important tasks into formats better suited to the basic computational capacities of the human brain’²⁷⁵. He describes language’s

top-down structuring of thought through analogy: the mangrove tree grows out of floating seeds, setting out roots which trap floating matter, forming islands which effectively grow out of the trees they support²⁷⁶. While it is ‘natural to suppose that words are always rooted in the fertile soil of pre-existing thoughts’, sometimes, at least, ‘the influence seems to run in the other direction’²⁷⁷. This model complements the interaction view of metaphor, which can be understood in terms of a feedback loop between different aspects of the material operating within the individual mind. The material, and our limited human forms of engagement with it, determine fundamental metaphors, but as Colebrook says, language has its own agency. The possibilities of language, its abstractions and interconnections, allow for the development of self-contradictory complexes of metaphors, requiring unusual referents, such as ‘Cold Dark Matter’ or the mangrove tree.

Metaphors of the mind are extended in two senses. Firstly, psychological language is embedded in an extended context connected to other aspects of culture and of individual experience. Secondly, the experiential, embodied basis of metaphor is altered by material objects and processes occurring beyond the body, including various technologies. In the case of the computer metaphor, each of these extended aspects of metaphor has altered the other. Draaisma reads this through the interaction theory, which can be understood in this context as a feedback loop characterised by the kind of unstable oscillation described by Damasio. The medium for the interaction is the individual mind. If we think of metaphor as extended, then the interaction theory of metaphor can be understood as a model of cognition in itself.

Something in the Structures

To a large extent, what differentiates the contrasting theories of cognition I reference in this thesis is their response to the question of where the mind can be located. The question of language is crucial to this debate. Clark remarks that ‘the sheer intimacy of the relations between human thought and the tools of public language bequeaths an interesting puzzle [...] it is a delicate matter to determine where the user ends and the tool begins!’²⁷⁸ The role of language in thought undermines any attempt to fix the spatial dimensions of the mind. The assumption Clark refers to here, that user and tool cannot, by definition, occupy the same space is a product of how language works rather than of any inherent physical properties of entities falling into those categories. Lakoff and Johnson survey the interconnections between language, both spoken and written, and spatial metaphors²⁷⁹. As Ross and Ladyman point out, however, there are no facts ‘about where minds are located at all. To talk about the location of the mind is simply to resort to metaphor.’²⁸⁰

Lakoff and Johnson argue that thinking and the mind are primarily understood through spatial metaphors²⁸¹. The spatial metaphor forms the basis of two interlinked groups of metaphors used for the mind in the novels I have looked: neural metaphors and technological network metaphors. These two subsets of metaphors are linked through an assumed correspondence between neural plasticity and global informational networks. Kelina Gotman argues that the ‘neural metaphor’ offers ‘a seductive portrait of society and human life: networked, changeable, full of flows of information and capital and goods, conveniently biological as well as subject to a form of free will’²⁸². The role of the neural metaphor in this view ‘offers a “networked” conception of actions performed intra- and interindividually, at a metaphoric level as well as at the level of “real” biosocial processes’, shaping ‘the biological and sociopolitical models it seek to describe as much as it is shaped by them’²⁸³. There is

however a contradiction here. Neural plasticity entrenches a model of causality understood in spatial terms: the mind's relation to its environment is literally embodied in a material interaction. The actual experience of information technology, on the other hand, complicates the spatial model of causality in allowing for interactions between subjects and objects at great distances. Smith emphasises this contradiction in *How To Be Both*. An internet video is described as having 'changed something in the structures of George's brain and heart and certainly her eyes'²⁸⁴. What George sees affects her mind on a physical level despite the various layers of mediation. The point is repeated later on, when George receives a text from her friend H: 'Back came a text that pierced whatever was between the outside world and George's chest. In other words, George literally felt something.'²⁸⁵ The text's content, '*It's good to hear your voice*'²⁸⁶, is partly ironic, since it is sent in response to another text; the reference to 'hearing your voice' and 'literally feeling something' both emphasise the immediacy of the experience achieved through various layers of mediation and distance²⁸⁷. Perception and communication are able to exert a physical effect on the body, changing the structures of the brain, piercing boundaries. This is despite the actual physical distance, in time and space, between the subject and object made possible through the mediation of technology.

In a short piece from 2010, Smith describes looking at a nature painting by a Cézanne: the gallery 'falls away, leaves nothing but leaves and striplings in a landscape where the curve of the tree is the curve of the eye is the curve of the surface of the piece of gristle inside the chest that happens to be keeping me breathing'²⁸⁸. The act of seeing involves a fundamental continuity between subject and object, even at the material level. In mediating the subject's perception of the object, the gallery also forms part of the extended machinery of perception. George uses metaphors in which

she describes parts of herself in terms of architecture and feels that parts of actual buildings are parts of her²⁸⁹. This complements references throughout which link nature to visual perception²⁹⁰. There are also references to a mingling of the two, to plants taking root within buildings²⁹¹.

In her earlier novel *The Accidental*, Smith calls attention to her characters' use of different spatial metaphors for the mind. A passage shows one character, Eve, developing a metaphor, describing trying to forget another character as like 'trying to forget a tune once you knew it off by heart. Or rather, off by brain; new research suggested, Eve had read somewhere, that tunes actually etch themselves, as if with a little blade, into our brain.'²⁹² Smith refers to recent developments in the study of neuroplasticity, the shaping of neural connections in response to experience. Smith surrounds her use of the term with metaphors. One is used to articulate it ('as if with a little blade'). One is a dead metaphor with the same function and origin ('off by heart'). Smith does this throughout her novels, subtly foregrounding the metaphor *as* metaphor. Another example from *The Accidental* foregrounds the spatial metaphor: 'As Eve thought this, another thought struck her. It struck her forcibly.'²⁹³ The phrase 'a thought struck her' is almost a dead metaphor; by literalising it, Smith activates it. *The Accidental* also explores the etymology of another metaphor: 'Cliché, as well as its clichéd meaning of hackneyed phrases of stereotypical response, also meant the fixed impression made by a die in any soft metal. Michael Smart, stamped. Bitten by the teeth of cliché.'²⁹⁴ Smith here activates the dead metaphor of impressions. The implication of this metaphor is that 'to perceive something is to incorporate its form into one's mind, to actualize that form in the mind'²⁹⁵. The above reference to neuroplasticity places it in its proper context, as an extension of existing spatial metaphors for the mind.

The use of these contrasting spatial metaphor raises the question of to what extent it is possible to incorporate the workings of extended technological networks within the mind. McCarthy's *Remainder* explores this tension when the narrator describes his therapy:

Rerouting is exactly what it sounds like: finding a new route through the brain for commands to run along. It's sort of like a government compulsorily purchasing land from farmers to run train tracks over after the terrain the old tracks ran through has been flooded or landslid away. The physiotherapist had to route the circuit that transmits commands to limbs and muscles through another patch of brain – an unused, fallow patch, the part that makes you able to play tiddlywinks, listen to chart music, whatever.²⁹⁶

The brain is material in the sense of containing a limited amount of space. Utility is, however, determined by an outside force, judging which aspects of human behaviour can be understood as occupying an 'unused, fallow patch'. Materiality frustrates this mode of utility, which as the novel points out is technological. Trying to lift a carrot, using a set of defined procedures, the narrator feels the 'surge of active carrot input scrambling the communication between brain and arm', comparing it to 'how air traffic controllers must feel in the instant when they know a plane is about to crash'²⁹⁷. In this model, the spatially extended nature of control jars with the localised, material substrate of cognition. The point is made near the start of the novel when a character argues that 'Markets are all global; why shouldn't our conscience be?'²⁹⁸ The narrator tries to 'visualize a grid around the earth [...] linking one place to another, weaving the whole terrain into one smooth, articulated network', but loses the image among 'disjoined escalator parts', referencing an earlier sequence²⁹⁹. *Remainder*'s catalyst, the 'something falling from the sky' which injures its protagonist and ends up funding

his re-enactments, is described in limited though vivid terms that belie that protagonist's evasions and claims to inarticulacy: 'Technology. Parts, bits. That's it, really: all I can say.'³⁰⁰ C. Namwali Serpell argues that it 'is striking that a novel published in 2005 starts with neither the *bytes* nor the *bits* of computer technology – in which the narrator invests some of his money but about which he knows little – but rather with the material bits of a disintegrating physical world'³⁰¹. Groes, on the other hand, claims that the use of the term *bits* at the start of the novel can be read as referring to both the 'material parts of technology' and 'the basic units of information in computing'³⁰². Serpell and Groes's readings also differ in their response to the novel's use of metaphors of the mind such as 'rerouting'. Serpell argues that 'in this day and age, nerve repair might more aptly be described in terms of networks; the materially minded narrator likens it to land, train tracks, floods. Transportation – cars, planes, the Tube – and telephone wires also offer figures for cognition.'³⁰³ Groes meanwhile points to the novel's obsession with 'analysing technological infrastructure, and its communication circuits that impact so heavily on the overladen mind at the start of the twentieth century', reading the minimalist style of the novel as depicting 'what is left of consciousness after overstimulation'³⁰⁴. Both readings are important in illuminating contrasting though complementary aspects of the novel. *Remainder* establishes its own form of dualism in a contrast between the immateriality sought by the narrator and pursued through his re-enactments, and an environment which resists it, expressed through 'the novel's innumerable images of matter – plaster, glass, soil, metal, tarmac – cracking, crumbling, and breaking into fragments'³⁰⁵.

Other novels make similar points through metaphors which explain the brain in terms of the city, and vice versa. *The Book of Dave* references a particular example of neuroplasticity, the changes in the brains of London taxi drivers caused by their

acquisition of the Knowledge, a comprehensive memory of the city streets. Dave implicitly refers to this in his choice of metaphor when reflecting on how his identity has been fixed by his profession: ‘*There’s no going back now, no three-point turn out of here. All that Knowledge, the city crumpled up in my head ... he could envision it, the streets superimposed on the whorls of his cerebellum and I’m holding on to it...*’³⁰⁶ Dave’s self-understanding is determined by a feedback loop between his brain and the city, conveyed here through an awkward synthesis of various spatial metaphors for the mind: he has moved into an area of experience that he cannot drive out of, in which the city is simultaneously inside his brain, able to be seen, and an object that he is holding onto. The novel uses various spatial metaphors for the mind throughout which develop this correspondence³⁰⁷. Complementing these are metaphors which describe people in terms of cars, or cars in terms of people³⁰⁸.

A sequence from McEwan’s *Saturday* depicting Perowne at work uses the city as a metaphor for the physical structure of the brain: ‘He’s looking down at a portion of Baxter’s brain. He can easily convince himself that it’s familiar territory, a kind of homeland, with its low hills and enfolded valleys of the sulci, each with a name and imputed function, as known to him as his own house.’³⁰⁹ The relation between the two derives from familiarity, from the extent to which the structuring of both takes place at an unconscious level: ‘How much time he has spent making routes to avoid these areas, like bad neighbourhoods in an American city. And this familiarity numbs him daily to the extent of his ignorance, and of the general ignorance.’³¹⁰ The brain is taken to be the material substrate of the mind, but it is understood through reference to extended spatial structures, such as those of the city.

In *Civilization and Its Discontents*, Freud compares memory to a city in order to establish what is distinctive about the mind:

If we wish to represent a historical sequence in spatial terms, we can do so only by juxtaposition in space, for the same space cannot accommodate two different things. [...] The fact remains that the retention of all previous stages, together with the final shape, is possible only in the mind, and that we are not in a position to illustrate this phenomenon by means of any parallel.³¹¹

We could argue that the novel is one possible parallel, building on Bakhtin's definition of the form as characterised by its ability to contain multiplicity. This point might be at the root of Freud's use of literary forms and tropes. Nora Pleske notes that *Saturday* includes a nod to this passage³¹². Trying not to think of his pregnant daughter's Italian boyfriend, Giulio Perowne 'thinks instead about Rome'³¹³. He recalls visiting Nero's palace, 'entered by a gated hole in a hillside', where a curator described the rediscovery of the place during the early Renaissance, and its influence on the work of Raphael and Michelangelo, who 'had themselves lowered down on ropes'³¹⁴. The mayor of Rome 'had offered an image he thought might appeal to his guests; the artists had drilled through this skull of brick to discover the mind of ancient Rome'³¹⁵. He reflects on this image: 'If only the mayor was right, that penetrating the skull brings into view not the brain but the mind. Then within an hour, he, Perowne, might understand a lot more about Baxter; and, after a lifetime's routine procedures would be among the wisest men on earth.'³¹⁶ Perowne acknowledges here that the mind is not the brain. The use of the spatial metaphors in these novels heightens the difference between the mind and the material. This has the effect of undermining the spatial boundaries that enclose the mind within the body.

The Bright Inward Cinema of Thought

The spatial metaphor for the mind is fundamentally contradictory on its own. It achieves a limited coherence when supported by visual metaphors for the mind. Again, this derives from human sensory capacities. We map our position in space by seeing. This set of metaphors has its own contradiction: while it is used to distinguish the subject from the object, it implies that the subject is determined partly through its relation to the object, by the act of seeing something. The incorporation of modern technologies within this metaphor heightens these contradictions, in constructing an ideal of objective sight based on an increased mediation of perception.

Various examples from my primary text depict the experience of seeing as altering the spatial structures of the mind. Near the start of *Saturday*, Perowne reflects on the ‘Schrödinger's cat’ thought experiment. In the Copenhagen interpretation, the determining factor in whether the cat is alive or dead is the conscious observer. This is articulated through spatial metaphors: when the box is opened, a ‘quantum wave of probability collapses’³¹⁷. While none of this makes any ‘human sense’ to Perowne, he adapts the spatial metaphor in arguing against it: what ‘collapses’ in the act of observation ‘will be his own ignorance’³¹⁸. As Perowne notes later on, ‘the close at hand, the visible [...] exerts an overpowering force’³¹⁹. In a moment of confusion he again uses spatial metaphors drawn from physics:

he’s feeling too many things, he’s alive to too many contradictory impulses. His thoughts have assumed a sinuous, snaking quality, driven by the same undulating power that’s making the space in the long room ripple, as well as the floor beneath his chair. Feelings have become in this respect like light itself – wavelike, as they used to say in his physics class. He needs to stay here and, in his usual manner, break them down into their components, the quanta, and

find all the distal and proximate causes; only then will he know what to do, what's right.³²⁰

His 'contradictory impulses' here recall Schrödinger's cat, as well as being depicted in the mixing of metaphors in this passage: His thoughts are like light, or water, but they can also possibly be broken down, 'sift[ed] and order[ed]'³²¹. There is no clear overall structure. In order for Perowne to think through his situation, he needs to break his thoughts down into discrete objects, to reassert the implicit spatial structuring of the computational model. The model is undermined by the fact that the objects of consciousness can assert a similar alteration on their container, 'collapsing' or 'tipping' different aspects of the mind.

The most fundamental visual metaphor for the mind is 'Knowing is Seeing'. Lakoff and Johnson point out that this metaphor 'was present in Plato, as it has been for virtually every conception of mind in the history of Western philosophy'³²². Draaisma gives this summary:

The eye's primacy among the senses is reflected in the imagery for higher mental activities. In the Classical period the intellect was the natural light, the *lumen natural*; when you have a luminous idea you see the light. [...] Introspection too, literally, 'looking inward', is a quasi-visual process, as is reflective thought. The eye is the only sense that has an inner pendant in the 'mind's eye'.³²³

Draaisma cites Gilbert Ryle's description of such metaphors as 'para-optics' which 'reconstruct the image of consciousness as a ghostly theatre in which quasi-sensory images are projected'³²⁴. The mind, in this metaphor, is split between the viewer and the theatre. Seeing implies its own spatial structure.

As with computers, the ubiquity of cameras and screens can be said to implicitly reinforce this understanding of consciousness, despite a rejection of the ‘Cartesian theatre’ in cognitive science. The division within this model can be understood in terms of a more fundamental distinction between the Subject and one or more Selves³²⁵. The Subject is ‘the locus of consciousness, subjective experience, reason, will and our “essence,” everything that makes who we uniquely are’, while the Selves ‘consist of everything about us – our bodies, our social roles our histories, and so on’³²⁶. Lakoff argues elsewhere that ‘incompatible aspects of the Self are conceptualized in different Selves, and compatibility of Subject and Self is conceptualized as Subject and Self being in the same location’³²⁷. The distinction between Subject and Self maps onto the distinction between the core self and the autobiographical self made by Damasio. It is also embodied and altered in the distinction between viewer and camera/projector in the visual metaphors for cognition in my primary texts.

In *The Child in Time*, when Stephen encounters a place he thinks he has experienced before, he makes no distinctions between the possible explanations that he has seen it before in ‘a memory, a dream, a film, a forgotten childhood visit’³²⁸. The Subject’s visual relation to the object is the same regardless of the Self’s mediation of that relation. *Remainder* emphasises this point when its narrator watches a film:

My memory had come back to me in moving images, as I mentioned earlier – like a film run in instalments, a soap opera, one five-year episode each week or so. [...] It could have been another history, another set of actions and events, like when there’s been a mix-up and you get the wrong holiday photos back from the chemist’s.³²⁹

The rest of the novel implies that the narrator is trying to establish a relation between himself and his environment modelled on film, beginning with his use of a filmic register to describe fantasies which he would ‘play, refine, edit and play again’³³⁰ on the next page. The ground has already been paved by his description of his memories as ‘vague images, half-impressions’ on the opening page, and of his recovered memories as returning ‘in instalments, like back episodes of some mundane soap opera’³³¹. His repeated insistence on having no cameras, or other forms of recording, used during his re-enactments is an indirect signal³³². This is complemented by the use of a filmic register elsewhere, along with the suggestion that the narrator wants to take the place of the absent camera. As McCarthy puts it, he wants ‘to “be” in some kind of movie *without there being a movie*’³³³. The Enactor ‘scan[s]’ his imagined building in his mind, ‘moving from left to right and back again’³³⁴; hires a set designer on the principle that ‘you only have to make the bit the camera sees look real’³³⁵; runs through scenarios in his imagination in which bad ones ‘cut in’ to good ones³³⁶; applies for filming licence for one re-enactment; runs through a re-enactment at half speed ‘Like in an action replay on TV’³³⁷; imagines a brain editing visual impressions³³⁸; and wants a re-enactment set up like in a film but for him instead of an audience or cameras³³⁹. Other metaphors are possible, however. Near the end of the novel, the narrator uses a very different metaphor for perception, using photography as a reference point. After his last re-enactment, the narrator watches a van of security guards emerge ‘like a stain, a mark, an image emerging across photographic paper when it’s dunked in liquid’³⁴⁰. A few pages later he describes himself ‘taking in’ the sight of one of his re-enactors, ‘absorbing it like blotting paper or like ultra-sensitive film, letting it cut right through me, into me till I became the surface on which it emerged’³⁴¹. The passage builds on the container metaphor of the mind – the narrator ‘taking in’, ‘absorbing’,

‘letting it cut right through me’ – while foregrounding a water metaphor to suggest a fundamental continuity within the material. Visual images, the contents of consciousness are in this context the product of an ongoing interaction between mind, body, and environment.

McEwan addresses this point through subtle irony. After Perowne witnesses a burning plane from his window, he checks the news: ‘Straight away it’s obvious that the burning plane has yet to enter the planetary matrix. It remains an unreliable subjective event.’³⁴² ‘Objectivity’ depends in *Saturday* on the mediation of cameras, news organizations, and the medium of television, in contrast to which a direct view from a window is unreliable. A few pages later, Perowne’s son Theo is described as emerging ‘into adult consciousness’ through an ‘initiation, in front of the TV’, with the result that as long as ‘there’s nothing new, his mind is free’³⁴³. Perowne’s ‘nerves, like tautened strings, vibrate obediently with each new release. He’s lost the habits of scepticism, he’s becoming dim with contradictory opinion, he isn’t thinking clearly, and just as bad, he senses he isn’t thinking independently.’³⁴⁴. Again, there’s an irony to such statements, but passages elsewhere in the novel act as evidence for the shaping of contemporary consciousness by visual media. In one passage, this is expressed through an implicit conflict between Perowne’s materialism and his use of visual metaphors:

Walking up three flights of stairs has revived him, his eyes are wide open in the dark; the exertion, his minimally raised blood pressure, is causing local excitement on his retina, so that ghostly swarms of purple and iridescent green are migrating across his view of a boundless steppe, then rolling in on themselves to become bolts of cloth, swathes of ragged velvet, drawing back

like theatre curtains on new scenes, new thoughts. He doesn't want any thoughts at all, but now he's alert.³⁴⁵

The individual's relation to their environment determines conscious experience. This materialism is juxtaposed with a model of consciousness as the presentation of 'new scenes, new thoughts' to the Subject. The operative metaphor attempts to link these contradictory models of the mind: the effect of excitement on the retina transforming into curtains rolling back to give a view onto thought. Visual experience carries its own spatial structure – the theatre – which then alters what is seen. The metaphor works the same way in a later sequence in which Perowne, operating on Baxter's brain, reflects on the future of knowledge about the mind:

Just like the digital codes of replicating life held within DNA, the brain's fundamental secret will be laid open one day. But even when it has, the wonder will remain, that mere wet stuff can make this bright inward cinema of thought, of sight and sound and touch bound into a vivid illusion of an instantaneous present, with a self, another brightly wrought illusion, hovering like a ghost at its centre. Could it ever be explained, how matter becomes conscious?³⁴⁶

Perowne's materialist view of the brain shares space with a conspicuous set of metaphors, two of them technological: 'the digital codes' of DNA and the 'bright inward cinema of thought'. The use of the metaphor in the sequence from *Saturday* seems to relate to the deeply ingrained metaphor that 'Knowing is Seeing', the persistence of the container metaphor, here adapted as a 'bright cinema of thought', and the primacy of vision to consciousness and action. Perowne is literally looking at Baxter's brain as he thinks this. The experiential basis of this metaphor stands in the way of and alters Perowne's neuromaterialism.

In *The Accidental*, the camera metaphor allows Astrid to begin to question her own perception, and to become conscious of the role of nonconscious processes. Early on in the novel, Astrid recalls her brother Magnus telling her that ‘something on a film is different from something in real life. In a film there is always a reason. If there is an empty room in a film it would be for a reason they were showing you the empty room.’³⁴⁷ Later on she applies this logic to what she remembers: ‘When Astrid thinks of the village the weirdest details come into her head like the lamppost next to the field on the road [...] Why would anyone’s memory want to remember just seeing a lamppost like that?’³⁴⁸. She also becomes aware of the subjectivity of memory: ‘When Astrid remembers that morning in the class, it all takes place inside her head in a kind of strange film with strange colours, everything bright and distorted, like the colours have had their volume turned up to full too’³⁴⁹. Elsewhere, she approaches the realisation that this understanding of thought might be determined by the prevalence of cameras in the environment, wondering whether a shop worker thinks ‘inside her head that she *is* being recorded, by something that watches everything we do, because she is so used to it being everywhere else?’³⁵⁰

When *C*’s Serge watches the landscape from a plane, the links between similarity and perception cause an alteration of the landscape articulated through another film metaphor. While flying the landscape ‘prints itself on Serge’s mind by dint of his repeated passage over it’³⁵¹. His visual experience from the plane is made up of discrete images, ‘reappearing at his vision’s upper edge and sliding down his eyes like a decorated screen being lowered just in front of them’³⁵². The same thing happens while driving in a car. The landscape blurs into a ‘tapestry’, which becomes ‘a screen, a fixed frame through which sky and landscape race, nearer and nearer all the time; soon it’s as though he were no longer merely watching the projected image

but pressing right up against the surface of the screen itself.’³⁵³ The ‘screens’ described here, are static images that are the products of movement through space. Contrasts between successive screens then give the illusion of movement: ‘Sliding his mind’s gaze between the old images and these updated ones, Serge has a flickering apprehension that the landscape’s somehow moving, as though animated’³⁵⁴. The sequence builds to a depiction of Serge as a god: ‘As space runs backwards like a strip of film from his tail, the world seems to anoint him, through its very presence, as the gate bulb, aperture and general projection point that’s brought it about: a new, tar-coated orb around which all things turn’³⁵⁵. The Self – the individual, moving through space, integrated with technology – creates the Subject and the visual images it views. These visual images are projected over the landscape as ‘screens’. The Subject is god-like in creating the landscape around it.

Enda Duffy has posited the experience of driving as tied to a particular kind of consciousness characteristic of modernity:

On the one hand, the shock effect of multiple images that appear to rush up close and then zip by on either side seems to offer a new kind of sensory immediacy, a contact between the viewer and the scene that is more intense, because faster, than any previous imaginable. Paradoxically, however, the same view turns out to be constructed around a new kind of distancing, a glance that is always framed in advance, which offers the sensation of looking into a scene of which one is not a part.³⁵⁶

Walter Benjamin’s ‘The Work of Art in the Age of Mechanical Reproduction’ (1935) offers another perspective on the transformation of consciousness by the urban environment and by film. For Benjamin, film has a paradoxical effect because it

provides a supposedly objective image of reality – ‘an aspect of reality which is free of all equipment’ – through a ‘thoroughgoing permeation of reality with mechanical equipment’³⁵⁷. The individual is integrated into an extended technological machinery of perception, which determines what they see. And yet, their relation to this is distanced. Serge repeatedly ‘pictures’ or ‘sees’ things in response to his experience, or thinks of clearly defined ‘images’³⁵⁸. The phrase ‘mind’s eye’ recurs throughout³⁵⁹. The abstract images he ‘sees’ are composites of different objects united by a similarity in language or in the way a recurring word or phrase links two aspects of his experience. Later, Serge wonders whether the Egypt he sees around him is

one big, endlessly repeating pornographic film [...] The camel-schoolchildren turn into dancing girls with flailing limbs, then flowers or umbrellas opening, or perhaps bodies being torn apart: tricks of the light casting a flickering pageant of agony and remorse across a dense and endless sheet of matter.³⁶⁰

This form of perception is not so much an illusion, a barrier between the individual and their material environment, as a function of their embedding within that environment. The phrase ‘tricks of the light’ here refers to an earlier discussion, in which an optician explains to Serge how mirages work:

“It’s an illusion, then?” Serge asks. “There are no birds?”

“Oh, there are birds all right. But the light’s bending and expanding them. Ditto the salt.”

“You’re seeing it too?”

“We’re both seeing what the light’s gradient as it hits the warmer air is conveying to our retinas.”³⁶¹

This is a significant point. What the individual ‘sees’ is determined by the interaction of the object of perception, light, environment, and what the novel refers to near the start as the ‘perceptual apparatus’³⁶². There is no unmediated perception. The mirage occupies a halfway point between what we might want to think of as perception on the one hand, and memory of fantasy on the other. In doing so, it blurs the distinction between the eye and the mind’s eye. Pepperell and Punt argue that ‘what one sees as the ‘objects in themselves’ is actually the accumulation of reflections and deflections caused by the interaction of objects and light. [...] From a purely visual standpoint, there is little to distinguish the real from the reflection.’³⁶³ It would be a mistake to believe that ‘images of things and reflections of things are not ‘the things in themselves’ but only observable consequences of them’, however: ‘There is no intrinsic distinction between things and their consequences, nor between objective reality and its reflection in the mind’³⁶⁴. In a similar vein, Alva Noë argues that ‘the world itself can be described as belonging to the very machinery of our own consciousness’³⁶⁵. The subjectivity of vision is not proof that visual consciousness is made up of representations. It is instead proof of the extended nature of perception.

Everything presented to consciousness through the mind’s eye is a screen overlaid on an unknowable material realm. *The Child in Time* and *The Book of Dave* define time as a screen, a product of thought and not an objective property of reality. The former novel establishes this from the start in its depiction of Stephen imagining his missing daughter’s existence:

The clock, sinewy like a heart, kept faith with an unceasing conditional; she would be drawing, she would be starting to read, she would be losing a milktooth. She would be familiar, taken for granted. It seemed as though the proliferating instances might wear down this conditional, the frail, semi-

opaque screen, whose fine tissues of time and chance separated her from him; she is home from school and tired, her tooth is under the pillow, she is looking for her daddy.³⁶⁶

The screen here is a metaphor for the difference between two grammatical tenses. McEwan returns to the idea of time as contingent when replaying his memories of the day she went missing: ‘He had been back a thousand times [...] and tried to move his eyes, lift them against the weight of time [...] But time held his sight for ever on his mundane errands, and all about him shapes without definition drifted and dissolved, lost to categories.’³⁶⁷ Earlier, the narration mentions time ‘not necessarily as it is, for who knows that, but as thought has constituted it’³⁶⁸. Thought in this case includes tense, and language in general, understood in terms of visual metaphor; on the next page Stephen’s daughter is described as finding ‘no word to frame what she saw’³⁶⁹. Self makes the same point in *The Book of Dave*. At the height of his delusion Dave ‘could see nothing that wasn’t presented to him on the screen’³⁷⁰. After he walks away from his cab, he has a similar vision through time:

Dave knew none of it – his Knowledge was gone. The city was a nameless conurbation, its street and shop signs, its plaque and placards, plucked then torn away by a tsunami of meltwater that dashed up the estuary. The screen had been removed from his eyes, the mirror cast away, and he was privileged with a second sight into deep time.³⁷¹

Screens include Dave’s cab, its effect on his consciousness, the mapping of the city streets embodied within his mind in the Knowledge. What lies beyond these screens cannot be understood in objective terms. *The Accidental* questions the notion of

objective knowledge understood as unmediated perception from the starting point of a reflection on film and its relation to consciousness:

Magnus looks at the edges of the screen, where the edges of light of the film meets the blackness. He wonders why the thing films are shown on is called a screen. What is it in front of?

Behind this one is probably just a blank brick wall.

He thinks about the way that human eyes take the outside world and flash it back, like an upside-down film, on the retinal screen at the backs of the eyes, then the brain instantaneously turns it the right way up.³⁷²

The incorporation of the camera within the visual metaphor for thought emphasises the fact that perception is inherently a 'screen' in this sense, a construction based on various embodied and extended processes. Nonetheless, the Subject is constituted in part by what they see.

Hum and Rush

Turing's 'universal machine' is made up of a set of spatial and visual metaphors for the mind. Turing describes a 'computer', a human being performing a set of calculations:

The behaviour of the computer at any moment is determined by the symbols which he is observing, and his "state of mind" at that moment. We may suppose that there is a bound B to the number of symbols or squares which the computer can observe at one moment. If he wishes to observe more, he must

use successive observations. We will also suppose that the number of states of mind which need be taken into account is finite.³⁷³

The computer interacts visually with discrete symbols, which he can observe one at a time. The computer is distinct from those symbols. His mind, when engaged in this activity, has a basic input/output structure. His response to these symbols is determined by a finite, discrete set of states of mind: For the purpose of his thought experiment, Turing imagines ‘the operations performed by the computer to be split up into “simple operations” which are so elementary that it is not easy to imagine them further divided’³⁷⁴. The proposed machine concretises these metaphors: ‘We may now construct a machine to do the work of this computer. To each state of mind of the computer corresponds an “m-configuration” of the machine.’³⁷⁵ Charles Petzold comments that the *m* used here stands for machine: ‘A machine has a finite number of configurations and does something different depending on its current configuration. A more modern term is *state*, and later Turing makes reference to “states of mind” that are analogous to these machine states.’³⁷⁶ A washing machine, for example, ‘has states called fill, wash, rinse, and spin. Performing a long division likewise involves a number of different mental configurations or states of mind: “Now I need to multiply.” “Now I need to subtract.” “Now I need to borrow.”’³⁷⁷ There is already an implicit ‘mind as machine’ metaphor at work in Turing’s thought experiment, even before he introduces the calculating machine. This machine embodies a set of metaphors. As we have seen above, these metaphors have been complicated. The computer metaphor therefore acts as a medium through which the two forms of extension implied by the contemporary adaptations of the spatial and visual metaphors for thought interact. Uses of the computational metaphor in my primary texts respond to these shifts in the

spatial and visual metaphors for the mind, breaking up the basic model of causality at work in Turing's example.

The most basic spatial metaphor for the mind is that of a container, with thoughts or representations as objects³⁷⁸. Self's use of spatial metaphors to depict particular forms of consciousness resulting from the use of technology in *Umbrella* complicates this model. When protagonist Zack Busner watches office workers 'twitch-twitch-twichtety-twitching at their computer mice, their ticking back and forth across a few fractions of inches, and *in these acts alone crossing continents, journeying to alien worlds, or penetrating the psyches of others*'³⁷⁹. Rather than responding to symbols, the user of technology metaphorically travels through space. Minds are conceptualised as spatial structures, but the consciousness of one person can move in and out of these forms. The passage refers to one near the start of the novel, in which two brothers, reading, exemplify possible variations of the computer metaphor:

Albert's glassy paperweight eyes, Welsh-slate blue, scan up and then down the narrow columns of Rous's Trigonometric Tables – not consigning cosines, sines and tangents to memory, only confirming the tight joins of the granite setts already laid out along the rule straight roadways of his metropolitan mind. And Stanley [...] he sighs, shuffling fingertips from one page to the next of a Free Library book. His eyelids flicker and his fringe bobs, the whirring mechanism of Bakelite and crystal rods, propelled by scores of flywheels, squeezes his very atoms into the kinetomic beam.³⁸⁰

Albert takes in information, applying a fixed store of knowledge to it, remaining unaffected by it. His 'metropolitan mind' is depicted as a material container in which knowledge takes on a spatial form. The computational mind excludes the outside

world rather than admitting and responding to it, but it also linked to an outside environment, the city, through an embedded metaphor. Stanley, by contrast, is dissolved and conveyed by a form of machinery. In both cases, the mind is depicted in spatial terms, as a machine which extends beyond the individual. The difference lies in the individual's relation to that machine.

The 'Mind is a Machine' metaphor is a component of the computational model³⁸¹. Complementing this is the 'Thinking is Mathematical Calculation' metaphor³⁸². Smith's *The Accidental* draws out contradictions within the computational model by contrasting this metaphor with the ethical consequences of one character's use of computers. Magnus has been split into two selves through his guilt over his part in the death of a schoolmate: 'Hologram Boy', a 'creation of coherent light [...] a three-dimensional reproduction of something not really there', and 'the real Magnus [...] massive, unavoidable'³⁸³. As in *Umbrella*, the individual is either a shifting, mutable product of the machine, with no physical embodiment, or extended so far outwards into the material world as to lose all agency. With two others, Magnus has photoshopped a pornographic image of a classmate and distributed it email. The 'equation', as he calls it, a structure which includes him, the others, and a computer, has had equivalent consequences in the material: 'The bone, the muscle that held her body on her head were snapped. [...] They took her head. They put it on the other body. Even though it was a lie it became true. It became more her than her.'³⁸⁴ The image of her has determined her treatment at school, and the taking of her head from her body in the image has been repeated in her suicide by hanging. After Magnus's school has discovered Magnus's part in the death, but decided not to punish him, he tries to process his feelings of guilt through calculation: 'Simple as abc, 123. He can let it go, now that the old year is ending and the new one is beginning [...]' He

can forget it. A simple act of subtraction. Him minus it. He can have his memory erased by a special laser pen-torch'³⁸⁵ In the earlier chapter, Magnus deals with the consequence of equations and computers in the material. In the latter chapter, he sees how his own emotions resist their structuring by calculation, and how this resistance prevents his conscious experience from being determined by extended social structures.

Lakoff and Johnson describe how the 'Thought is Mathematical Calculation' metaphor, combined with the 'Thought as Language' metaphor, led to the understanding of thought as a formal system, separate from its material substrate, in the mid-twentieth century³⁸⁶. McCarthy explores the relation between thought and language, understood as a formal system, and the material, in *C*. One character gives a talk discussing how deaf children can be taught to speak. He starts with the claim that the human body is a 'mechanism' from which speech must be 'wrenched out', adding that the 'body's motor must be set to work, its engine-parts aligned, fine-tuned to one another'³⁸⁷. Language acts as an external force: the children 'stare straight ahead, vacant, as though entranced, or taken over by a set of ghosts'³⁸⁸. Protagonist Serge perceives his words as seeming not to issue from him but to 'divert *through* him – as though his mouth, once it formed and held the correct shape for long enough, received a sound spirited in from another spot, some other area, eerie, ear'³⁸⁹. Meaning is a transmission from somewhere beyond the interlinked machines of the material realm. The model of thought as a formal system, understood in spatial terms, forms the basis of the conduit metaphor. The characteristics of the conduit metaphor, identified by Michael J. Reddy, are

- (1) language functions like a conduit, transferring thoughts bodily from one person to another;
- (2) in writing and speaking, people insert their thoughts and

feelings in the words; (3) words accomplish the transfer by containing the thoughts or feelings and conveying them to others; and (4) in listening or reading, people extract the thoughts and feelings once again from the words.³⁹⁰

The metaphor draws on the basic container metaphor of the mind, while sharing several features with the computational model. Reddy argues that contemporary use of the conduit metaphor functions as a frame conflict, expressing a failure to conceptualise the implications of information theory and cybernetics when moving from the theory's original mathematical formulation into ordinary language: 'The theory conceives of information as the power to reproduce an organization by means of nonrandom selections. Signals *do* something. They cannot *contain* anything.'³⁹¹

While the conduit metaphor seems appropriate to technologies like the above, its contradictions are exposed when the unconscious is depicted as the source of meaning. McEwan has repeatedly emphasised this point. Perowne, is a 'dreamer', in that, like 'a car-radio traffic alert, a shadowy mental narrative can break in, urgent and unbidden, even during a consultation'³⁹². *The Child in Time* draws out the consequences of this model for agency and understanding. Near the beginning, protagonist Stephen '[runs] memories and daydreams, what was and what might have been', before the narrative interrupts to ask 'Or were they running him?'³⁹³ If we accept a description of the contents of consciousness as symbols, representations of objects outside of the individual, and of thought as the manipulation of these symbols, the way in which they are made present to consciousness undermines individual agency. The conduit metaphor defines the contents of consciousness as transmissions from a source outside of consciousness.

Another contradiction of this model is expressed by references to a ‘clear mind’, the stated aim of McEwan’s protagonists. A sequence from *Umbrella* depicts the experience of post-Encephalitis and of death as a literal version of a clear mind: ‘There is no information, no current, no up or down or back-to-front – only this that worms through the mind, a thought that sucks its own tail even as it is reborn, disappearing into one hole, re-emerging from another, expressing only this nightmarishly symmetrical identity.’³⁹⁴ A ‘clear mind’ might be a viable consequence of the container and conduit metaphors, but it does not work when taken literally. The computational mind cannot function without content, without representations. These representations form a fundamental aspect of the conscious mind. Our understanding of agency in this model must then address the role of the individual’s relation to their environment within consciousness. *C* provides an alternative to the conduit metaphor in a sequence in which Serge listens to his radio, describing the static as like ‘the sound of thinking. Not of any single person thinking, nor even a group thinking, collectively. It’s bigger than that, wider – and more direct. It’s like the sound of thought itself, its hum and rush.’³⁹⁵ In a contemporary context in which much of conscious experience is mediated by technology, the ‘container’, the medium for conscious experience, extends beyond the individual.

Dennett addresses the status of the computer metaphor in a 2013 interview:

The vision of the brain as a computer, which I still champion, is changing so fast. The brain’s a computer, but it’s so different from any computer that you’re used to. It’s not like your desktop or your laptop at all, and it’s not like your iPhone except in some ways. It’s a much more interesting phenomenon.³⁹⁶

Nicholas Carr argues that this admission signals the failure of the computer metaphor at the level of metaphor:

Normally, the explanatory power of a metaphor comes from describing a thing we don't understand in terms of a thing we do understand. But this brain-as-computer metaphor now seems to be diverging from that model. The computer in the metaphor seems to be something very different from what we mean when we talk about a "computer." The part of the metaphor that is supposed to be concrete has turned into a mystery fluid.³⁹⁷

The brain is not like any computer that actually exists but is still assumed to be like a 'computer' in some sense. The state of the metaphor, as exemplified by Dennett, derives from the fact that the computational model is made up of a set of interlinked metaphors. This uncertain status is what gives the metaphor validity as a way of understanding the mind. Given changes in the use of the spatial and visual metaphors due to new technologies, the computer metaphor can be used to express something radically different from what was intended in its original formulation: the interaction of two extended processes operating in a feedback loop.

Chapter Two - Thinking and Thought in *Remainder* and *Saturday*

There are other surgeons Jay can call on, and as a general rule, Perowne avoids operating on people he knows. But this is different. And despite various shifts in his attitude to Baxter, some clarity, even some resolve, is beginning to form. He thinks he knows what it is he wants to do.

- Ian McEwan, *Saturday* (2005)

I did it because I wanted to. Seeing him standing there in Four's position as I stood in his, replaying in first my mind and then my body his slow fall, I'd felt the same compulsion to shoot him as I'd felt outside Victoria Station that day to ask passers-by for change. Essentially, it was the movements, the positions and the tingling that made me do it – nothing more.

- Tom McCarthy, *Remainder* (2005)

In the last chapter, I surveyed the types of metaphors for the mind used in my primary texts. From the position that the mind is inherently metaphorical, I came to several conclusions that will provide my starting point here. Firstly, I have built on Lakoff and Johnson's argument that thought is metaphorical, and therefore embodied, to suggest that thought is extended because technology provides a material and experiential grounding for contemporary metaphors for thought, in the same way as the body. Secondly, I have adapted Black's interaction theory of metaphor to suggest that both subjects of contemporary metaphors of the mind (the mind and a particular technology) alter each other. The cognitive model is an example of this process: a material object, the computer, derives from a particular understanding of the mind based in a set of existing metaphors. This object then further alters the mind through

its effects on consciousness. Again, building on the work of Lakoff and Johnson, I have taken this process as my model for other forms of thought. As I showed in my reading of Turing's 'On Computable Numbers', the cognitive model is partly based on a complex of visual and spatial metaphors for the mind. In my primary texts, the incorporation of contemporary technologies within visual and spatial metaphors allows both of them to be used to depict extended modes of thought. In this context, the computer metaphor therefore expresses two contradictory models of the mind. Firstly, a reductive cognitive model of the mind as information-processor, with a fixed spatial structure and a simple input-output visual relation to its environment, and secondly, a feedback loop consisting of two processes extending beyond the individual.

In this chapter I will show how this contradiction is reflected not only in psychological metaphors, but in the use of the most fundamental psychological terms, 'thinking' and 'thought'. By assuming that thought consisted of a set of operations which could be understood in terms of a defined visual relation between subject and object and a set spatial structure, Turing laid the foundations for the computer and for cognitive psychology, thereby altering how we understand the mind. His definition of thought in his later paper 'Computing Machinery and Intelligence' complements this shift, as well as operating in the same way. Turing seeks to address the question 'can machines think' by replacing it with another 'which is closely related to it and is expressed in relatively unambiguous words'.³⁹⁸ This replacement is the imitation game. This thought experiment can be read in metaphorical terms, as operating in the same way as the Turing machine. To 'think', according to Turing's logic here, is simply to be able to convince someone through the use of words that you can think. This assumption is grounded in a set of metaphors, most prominently that of thought

as language, and embodied in the material technological set-up of the imitation game. This embodiment then subtly alters the definition of the term ‘thinking’ such that it excludes what was left out of the original assumption. The most significant exclusion here is of consciousness. Another significant exclusion here relates to the term ‘thinking’ itself. The noun ‘thought’ is distinct from the verb ‘to think’ in ways that reflect the metaphorical underpinnings of both terms. In the spatial metaphor, ‘thoughts’ are objects to be manipulated, while ‘to think’ is the act of manipulation. In the visual metaphor ‘thoughts’ are object to be seen, while ‘to think’ is the act of seeing. Turing’s has explicitly redefined ‘thinking’ so as to allow for the possibility that a machine could be said to think without being able to have ‘thoughts’.

Metaphors for the mind operate through the interaction of psychological terms, which are embedded in a broader context including other metaphors, everyday usage of those terms, and the structure of language, and of the body, embedded in a contemporary technological environment. I address each aspect of this relation in the work of McCarthy and McEwan in turn. I begin with McCarthy’s use of the term ‘thinking’, relating it to his depiction of computers. I then address McEwan’s use of the terms ‘thinking’ and ‘thought’, before showing how their disjunction relates to his analysis of the individual’s relation to a mediatised contemporary environment. I then discuss McCarthy’s concern with how particular uses of language alter perception, and the links he makes between the reductive aspects of contemporary psychology and the limitations of language itself as a way of understanding the mind.

Relatively Unambiguous Terms

Remainder uses a version of the computational model in its descriptions of Naz. This metaphor is emphasised through conspicuous repetition of the terms ‘whirring’ and ‘processing’. It is also framed in ethical terms: the narrator’s reduction of Naz to a computer whose function is to process information is self-serving, blocking the possibility of reflecting on his motivations or on the consequences of his actions. The same dynamic applies to the novel’s use of the term ‘thinking’.

At various points in the novel, the time taken by Naz to process the information presented to him becomes longer and more pronounced:

His eyes had glazed over while the thing behind them processed. [...] I could almost *hear* the whirring: the whirring of his computations and of all his ancestry, of rows and rows of clerks and scribes and actuaries, their typewriters and ledgers and adding machines all converging inside his skull into giant systems hungry to execute ever larger commands. [...] “I’ve never managed so much information before,” he eventually replied.³⁹⁹

Naz is literally *computing* here; processing quantitative information entirely within his mind. The term computing, as used here, is split into its various components: broadly, the current meaning of the term as it applies to the mind’s processing of external stimuli, references to various forms of computing technology (computers, typewriters, ledgers and adding machines), and the computing of numbers. The passage is an example of what Groes identifies throughout *Remainder* as moments where the impact of information is ‘literalised in a surreal fashion through metaphor’⁴⁰⁰, while also fitting Serpell’s identification of an outdated metaphorical register in the novel. This metaphor also refers back to the history of the term ‘computer’. The three aspects of the term at work in the above passage fit three broad shifts in its use. Before the development of the von Neumann machine, the term computer would have referred to

‘professional calculators of flesh and blood, working for a university or a company’⁴⁰¹, much like Naz. From there, the term was applied to computing machines. The term was then applied to human beings through the adoption of the von Neumann machine as dominant metaphor for cognition in the 1950s⁴⁰². ‘Computing’ thus moves from a description of a specialised, regimented form of human activity to a description of the fundamental activity of the mind. Draaisma describes this pattern, which he identifies in relation to various other technologies, in terms of an ‘advanced technique which is absorbed without too much fuss into psychological theorising; again it is a technique with impressive public effects; this time too, the technique is to serve as a proof of existence’⁴⁰³.

The sequence from *Remainder* can be read in terms of this pattern, as Naz becomes more and more machine-like. The use of ‘whirring’ is repeated later on: ‘Naz’s eyes went vacant while the thing behind them whirred. Another plane passed overhead, moaning and tingling.’⁴⁰⁴ The description of the plane here is a reference to the plan Naz is beginning to formulate here, according to which he will gather all of the narrator’s employees into a plane and destroy it. This second sentence also acts as a counter-point to the first: as Naz whirrs and becomes more machine-like, the plane moans and tingles (a sensation felt by the protagonist, his only form of affect), anthropomorphised. The machine is humanised: it is described as similar to the narrator, negating its status as an object separate to the narrator’s perception of it. Naz loses agency as he becomes more like a machine. Serpell argues that the narrator ‘transforms an uncertain synchronicity into a synchronic synthesis, merging things that ought to remain separate into a single quasi-religious vision with one cause: himself’⁴⁰⁵. McCarthy’s description enables this dynamic. Another description of Naz in this sequence develops the idea: ‘Naz’s whole body tensed. He was completely

static for a while, his musculature suspended while the calculating part of him took all the system's energy. After a while the body part switched back on.^{'406} Here, Naz is split into two: a 'system' incorporating various apparently separate parts, and a machinic assemblage of those parts. This split refers back to the first description of Naz. Naz is introduced as one of the components of the narrator: 'He was like an extra set of limbs, tentacles spreading out in all directions, coordinating projects, issuing instruction, executing commands. My executor.'⁴⁰⁷ Naz comes from a 'long line of scribes, recorders, clerks, logging transactions and events, passing on orders and instructions that made new transactions happen. Facilitators. That made sense: Naz facilitated everything for me.'⁴⁰⁸ The passage subtly hints at the idea of the narrator as not so much an individual as a system made up of transactions.

At other points in the novel, Naz is situated within an extended informational and technological network through his use of his phone: "“And then...” Naz began; his phone beeped. He looked at it, then slipped it back into his pocket and continued: “And then we'd also have to separate...”⁴⁰⁹ As in the preceding descriptions, Naz pauses to process information. In contrast to those descriptions, there is no physical description of Naz, and the interruption to his train of thought is shorter, allowing him to resume his sentence. This shift in the prose style responds to a more direct integration of Naz and machine in his interaction with his phone. The beep signals a message from his employees, returning information Naz has requested on behalf of the narrator. The narrator, Naz, his phone and his employees, as well as the network infrastructure allowing for mobile phone communication, all form parts of an overall system understood in terms of the flow of information. Despite the erasure of boundaries between human and technology within this system, the particular form of

technology at work – the mobile phone – doesn't register in terms threatening of subjectivity and agency.

In a sense, moments when Naz has his employees look up a word have become obsolete. The narrator could now look up the word himself on a smartphone. Clark predicted in 2003 that 'we will one day live in a world in which, thanks to some easy-to-access implant or wearable device' we will be able to look up words instantly⁴¹⁰. The implication is that our sense of self is 'surprisingly plastic and reflects not some rigid preset biological boundary so much as our ongoing experience of thinking, reasoning, and acting within whatever potent web of technology and cognitive scaffolding we happen currently to inhabit'⁴¹¹. However, the problem here is that the terms through which we articulate our sense of self may be inadequate in engaging with this scaffolding.

Uses of 'thinking' in *Remainder* occupy the same space as 'whirring' and 'processing': brief pauses during which one or another character processes some kind of information. The term is first applied to the protagonist in a sentence placed between dialogue spoken by him and Mark Daubenay, his lawyer: 'I thought about this for a while, then said.'⁴¹² 'This' is the content of Daubenay's previous statement, and the results of this act of thinking are contained entirely within the next line of dialogue spoken. This dynamic is then repeated, with the roles reversed: 'Daubenay thought about this for a moment'⁴¹³. Here, the result of thought is compliance with the protagonist: "'I suppose it should," he answered.'⁴¹⁴ Subsequent references to thinking follow on from and develop the dynamic used to describe Daubenay, and the use of 'whirring' and 'processing' to describe Naz; in other places, pauses or silences between dialogue occupy the same space⁴¹⁵. This continues when the protagonist offers to buy a homeless teenager a meal: 'He looked up at me with his mouth still

hanging open, thinking. I wasn't a Christian soul-hunter, and he could tell I wasn't police.'⁴¹⁶ The moment is distinct within the novel in that the protagonist seems to be attempting to determine the thought processes of another person, perhaps in a hint at the empathy we might expect him to be in the course of developing here, if we follow Zadie Smith's reading of the sequence⁴¹⁷. The logic of these assumed thought processes leads to the teenager assenting; we learn shortly afterwards that the entire episode has been made up by the narrator⁴¹⁸. Arne de Boever reads this scene, and the subsequent revelation, as McCarthy 'interrupt[ing] his narrative in order to draw attention to the power-practice of writing'⁴¹⁹. As Sidney Miller puts it, *Remainder's* narrative depicts the narrator attempting 'to strip the accidental of its essential stochastic quality by systematically taking control of everyone and everything in his world, until an unintended fall catastrophically subverts a carefully planned trip'⁴²⁰. The narrator, planning a re-enactment 'calculat[es]' that if one of the participants 'slightly tripped on purpose, this would prevent him tripping by mistake'⁴²¹, an assumption later proving fatal. While 'calculated' could be read as a synonym for 'thought' or 'conjectured' here, the error's repercussions reveal the arbitrary nature of the narrator's assumption, and its distinction from 'calculation' as strictly defined. The narrator describes how others 'think' in a way that actively strips them of their agency by depicting them as information-processors within a network he controls. As the use of the term 'calculating' – used elsewhere as a synonym for 'thinking' – shows, this does not reflect what is actually happening, or what those characters are actually thinking. Instead, it is active, part of the narrator's attempts to control others.

The depiction of thinking fits into what de Boever identifies as an emphasis on the power-practice of writing in the sense that characters have no agency within an ongoing narrative largely determined by the protagonist. Moments at which they

‘think about’ what he has said to them are simply brief interruptions. Given the relation of this depiction of thought to the depiction of Naz, and the shared use of such terms as ‘processing’, we can further link this to a computational model of thought. The computational model is not just a flawed interpretation, but something which responds to other pressures and actively shapes the narrator’s conscious experience and his response to those around him.

Hordes of Bits and Bytes

McCarthy has since developed the relation between thinking and the computer through *Satin Island*’s (2015) references to ‘buffering’. Rather than acting as conspicuous metaphors, the uses of this term are developed by the protagonist, U, in reference to his immediate circumstances, and a material environment filled with computers. *Satin Island* also furthers McCarthy’s foregrounding of narration and writing as something that actively shapes experience.

Thought and computers are first linked when a Skype call freezes. The description, like that of Naz’s breakdown, blurs the distinction between human and machine: ‘I’m lacking, she began to tell me – but just then the audio dropped. Her face froze in mid-sentence too [...] a little circle span in front of her, to denote buffering.’⁴²²

This spinning circle is later described as whirring:

I’d spend long hours staring at the little spinning circle on my screen, losing myself in it. Behind it, I pictured hordes of bits and bytes and megabytes, all beavering away to get the requisite data to me [...] the data itself, its pure, unfiltered content as it rushed into my system, which, in turn, whirred into

streamlined action as it started to reorganize it into legible form. The thought was almost sublimely reassuring.⁴²³

U uses a form of the conduit metaphor in his reference to the ‘pure, unfiltered content’ of data rushing ‘into [his] system’. This develops into an explicit comparison between consciousness and buffering:

Staring at this bar, losing myself in it just as with the circle, I was granted a small revelation: it dawned on me that what I was *actually* watching was nothing less than the skeleton, laid bare, of time or memory itself. Not our computers’ time and memory, but our own. This was its structure. We require experience to stay ahead, if only by a nose, of our *consciousness* of experience⁴²⁴.

U’s interpretation misses out, however, on the situated, contextualised nature of his revelations. His first experience of buffering is a direct encounter with it, in an airport surrounded by screens; his elevation of it to a model of consciousness follows on from problems with the bandwidth throughout his office; the last realisation is set up by a reflection on the pervasiveness of technology. The models of consciousness tentatively developed by the protagonist always follow on from his surroundings. The novel begins by running through the history of the Turin shroud. The image ‘isn’t really visible on the bare linen’, and only became so in the late nineteenth century on a photographic negative, its legitimacy subsequently disproven a few decades later by radiocarbon dating⁴²⁵. There is an irony in the narrator hinting at an awareness of how technology determines meaning while remaining unaware of the contemporary form of this process, in his use of metaphor in the same passage: ‘We see things shroudedly, as through a veil, an over-pixelated screen’⁴²⁶. The irony is developed in the

retrospective situating of the opening fragment, which follows on from the narrator being stuck in an airport. ‘As through a veil’ references McCarthy’s previous novel, *C* (2010), written between *Remainder* and *Static Island*, which explored the effects of new technology on subjectivity in the early twentieth century⁴²⁷. As I mentioned in the previous chapter, that novel emphasises the alternate meaning of ‘screen’, as something which obscures rather than illuminates. U’s own veil is the over-pixelated screen.

Other passages show U beginning to adapt the metaphor of buffering to fit the experience of others, with varying levels of success. When he reads about a skydiver, dead after his parachute fails to open, he imagines the skydiver’s ‘experiences of his experiences – his awareness of himself, his whole reality’ as ‘mere side-effects of a technical delay, a pause, an interval; an interval comparable, perhaps, to the ones you get down phone-lines when you speak long-distance or on Skype’⁴²⁸. Later, he tries to apply it to a friend’s account of dying, but is ignored:

What do you mean? I asked. Well, he said, throughout my life I’ve always lived significant events in terms of how I’ll tell people about them. What I mean is that even *during* these events I would be formulating, in my head, the way that I’d describe them later. Ah, I tried to tell him: that’s a *buffering* probl ... but Petr wasn’t listening.⁴²⁹

The success of interpretation through metaphor depends on the situation; there is a clear contrast between an individual responding to news media and to a conversation between two people each in different emotional states. U’s growing understanding of all reality and experience as algorithmic is allowed to develop without interruption or counter-argument when reality and experience is at its most algorithmic, when he is

interacting primarily with (or through) technology. In conversation, his power-play falters.

U mistakes situated metaphors for timeless and universal truths about the human mind. He does so partly because of the nature of the project he is engaged in. He has been tasked by his employer, Peyman, with writing the ‘Great Report’: ‘The Document, he said; the Book. The First and Last Report on our age.’⁴³⁰ Just as U’s reflections on the mind are always inflected with computer metaphors, the ‘Great Report’ is primarily literary, as the examples above indicate. This literary aspect derives from Peyman and U’s understanding of anthropology. Peyman explains the Great Report by describing the working methods of an anthropologist: you return home from the jungle, and ensconced in your study, you ‘write the book [...] Not just a book: *the* fucking *Book*. You write the Book on them. Sum their tribe up. Speak its secret name.’⁴³¹ U counters that this version of anthropology is outdated, but accepts the task nonetheless⁴³². Anthropology, as he describes it, is a literary endeavour. The ‘First Commandment’ of the anthropologist Bronislaw Malinowski, is ‘Write Everything Down’⁴³³. U’s understanding of the Great Report emphasises the contrast between this mode of literary interpretation and the nature of the contemporary environment and of conscious thought, which are described through visual and spatial metaphors:

Had it [the Great Report], when these events (*q.v.*) took place, found its shape? It was finding it – *finding* it in the same way we might say that we’re *looking* for an object rather than that it’s lost or non-existent. Shapes were happening inside my thought; or, rather, *shapings*, a preliminary set of shifts and swirls [...] Frames, contexts, modes, tones, formats would suggest themselves – pipe up, step forwards, as though volunteering for a task – then, no sooner than

they'd made their willingness known to me, fall silent again, slink back into the crowd and disappear.⁴³⁴

'Thoughts' are multiple, visual and resistant to a mode of interpretation that is inherently singular and literary. Later on, U has an epiphany when watching the objects a woman in a bar has placed around herself:

Where previously I would have made a mental note of all these objects and then, *a la* Malinowski, written them down later [...] now I simply looked at them, blurring my vision till my own gaze became soggy and I lost myself among them till my own gaze became soggy and I lost myself among them.⁴³⁵

He wonders whether 'just *coexisting* with these objects and this person, letting my own edges run among them, occupying this moment, or more to the point, allowing *it* to occupy *me* [...] was part of the Great Report? What if the Report might somehow, in some way, be lived, be *be-d*, rather than written?'⁴³⁶ He calls this 'Present-Tense Anthropology'⁴³⁷. His vision of a new approach is immediately frustrated by the recognition that the Report 'still had to be composed. That was the deal: with Peyman, with the age.'⁴³⁸ Interpretation cannot fully reflect experience because it requires a form that is always to some extent imposed rather than shaped by experience.

As I argued in the metaphors chapter, this point is inherent to any discussion of the mind – psychological models and concepts are metaphors, partly determined by their use in contexts other than psychology, and partly shaped by the material referents used in particular metaphors. *Remainder* defines 'thinking' in terms of the computational metaphor, emphasising the way in which this metaphor actively shapes the narrator's relation to his environment. As such, it can be linked to narration. *Satin Island* develops this point by having its narrator actively creating several

computational metaphors for the mind while disregarding their situated nature. At the same time, he becomes aware of the limitations imposed by narration and by literary interpretation. This awareness is prompted partly by his ‘thoughts’, primarily visual objects expressing the embodied multiplicity that literary interpretation excludes.

McCarthy sets out *Satin Island*'s theoretical background and main concerns in ‘The Death of Writing’ (2015). He equates the novelist with the anthropologist, describing the work of the latter as the writing of a ‘Great Report’ in exactly the terms used by Peyman⁴³⁹. The literary form of anthropology leads to an ‘almost systematic unworkability inscribed’ in the discipline: ‘the very ‘purity’ it craves’ is no more than a state in which all frames of comprehension, of interpretation or analysis, are lacking’⁴⁴⁰. McCarthy ascribes this point to Lévi-Strauss. Gardner has argued that Lévi-Strauss’s work shares several important features with the cognitive science of the time and deserves to be situated alongside it⁴⁴¹. As Johnson points out, Lévi-Strauss also praised work in cybernetics, and collaborated with participants in the Macy conferences from the field of cognitive psychology emerged. McCarthy’s references to Lévi-Strauss, in ‘The Death of Writing’ and in *Satin Island*⁴⁴², take issue with the idea that universal features of cognition can be articulated in written form, in a way that complements his critical depiction of U’s computational metaphors for consciousness. Another reference in *Satin Island* suggests another way of reading Lévi-Strauss’s relation to cognitive science. U mentions one of Peyman’s characteristic aphorisms, ‘*What are objects? Bundles of relations...*’⁴⁴³, a reference to a passage from ‘The Structural Study of Myth’ in which Lévi-Strauss argues that the constituent units of myths consist of bundles of relations⁴⁴⁴. Johnson reads this phrase as referring to ‘groups of relations of the same type’: ‘The ‘meaning’ of the myth, as Lévi-Strauss understands it, derives not from the ‘diachronic sequence of its narrative

(which can often be absurd and senseless), but from the combinations (or more precisely, the binary oppositions) between these bundles of relations'⁴⁴⁵. The myth has a 'cybernetic function, to the extent that it is a 'looped' message from a given society to itself, a meta-discourse whose function [...] is the regulation and resolution of contradiction' through a process of 'negative feedback'⁴⁴⁶. Myth could therefore be seen as 'a king of information technology, an instrument, a 'logical model' or 'logical tool' [...] that supplements human cognition and permits the intuitively unthinkable to be thought.'⁴⁴⁷ Interpretative structures respond to the contemporary environment, to the individual's conscious experience, and to the limitations of human cognition through a feedback process. The use of metaphor in McCarthy's novels expresses this extended process. The use of the computational metaphor to describe Naz is grounded in Naz's relation to technology, and in his profession, but it also serves other purposes for the narrator.

The Extent of his Turmoil

The distinction between 'thoughts' – embodied, visual, resistant to interpretation – and 'thinking' – linear, computational – present in *Remainder* and developed in *Satin Island* is also at work in McEwan's *Saturday*. McEwan's use of 'thinking' and 'thought' ties into the subtle doubling allowed by his use of indirect free style, which allows Perowne to take a somewhat removed perspective on himself, interpreting his own thoughts and actions. While Perowne the 'thinker' loosely corresponds to a computational model of the mind, the thoughts express his relation to his environment. The opening epigraph, from Saul Bellow's *Herzog* (1964), embodies this dynamic. The passage McEwan quotes follows on from Herzog conducting a form of internal

dialogue, in which the act of narration is an implicit subject. Herzog feels that he is being taught a lesson by another character, and asks ‘how was he to describe this lesson?’⁴⁴⁸ He responds to this, tentatively: ‘The description might begin with his wild internal disorder, or even with the fact that he was quivering. Any why? Because he let the entire world press upon him. For instance?’⁴⁴⁹ McEwan begins his quotation on this last question. The response is ‘Well, for instance, what it means to be a man.’⁴⁵⁰ This is complicated by a set of modifiers which broaden outwards: ‘In a city. In a century. In transition, In a mass. Transformed by science. Under organized power.’⁴⁵¹ The question of what it is to be a man requires context, but this context is so broad as to render the question unanswerable. The context cannot even be represented without some form of interpretation. Midway through the list, which has taken on a pessimistic, critical position with regard to progress, the narrative voice argues against itself, attacking that pessimism⁴⁵². The complexity of this context implies that any act of narration is subjective because it actively shapes the individual’s response to that environment. This creates a split within the conscious self: ‘There, Herzog, thought Herzog, since you ask for the instance, is the way it runs.’⁴⁵³ What it means to be a man, in a city, in a century, is to be in constant dialogue with that environment through the medium of a separate self within your own consciousness, at least if you are honest.

As Martin Ryle points out, the epigraph also ‘suggests a perspective on state power, militarism, technological modernity, and urban disorder more complex and more critical than Perowne ever adopts’, thus acting as evidence that the novel ‘does not simply endorse Perowne’s view of things’⁴⁵⁴. Rather than being expressed directly, as in the passage from *Herzog*, a similar split is introduced through a distinction between ‘thinking’ and ‘thought’. From the first line of the novel, there is a split between Perowne as actor and Perowne as conscious observer, and a sense that the

latter is secondary, not in control. He ‘wakes to find himself already in motion [...] It’s not clear to him when exactly he became conscious, nor does it seem relevant.’⁴⁵⁵

This split is also central to the novel’s ethical concerns:

Now that the shutters are closed and he’s in darkness again, he understands the extent of his turmoil. His thoughts have a reeling, tenuous quality – he can’t hold an idea long enough to force sense out of it. He feels culpable somehow, but helpless too. These are contradictory terms, but not quite, and it’s the degree of their overlap, their manner of expressing the same thing from different angles, which he needs to comprehend.⁴⁵⁶

His ‘culpability’ here relates partly to his wondering whether he should have called the emergency services when faced with the major incident of a burning plane, a dilemma which, as Graham Hillard points out, is an ‘absurdity’ he ‘imposes upon himself’⁴⁵⁷. In this, the novel builds on McEwan’s reflections on the individual’s relation to 9/11 in the 2001 essays ‘Beyond Belief’ and ‘Only Love and then Oblivion’⁴⁵⁸. The passage above dramatises parts of the latter: ‘Waking before dawn, going about our business during the day, we fantasize ourselves into the events. What if it was me?’⁴⁵⁹ The essay also notes that ‘[m]ost of us have had no active role to play in these terrible events. We simply watch the television, read the papers, turn on the radio again [...] we remember what we have seen, and we daydream helplessly.’⁴⁶⁰ Caroline Lusin has identified references to daydreaming as a significant motif in McEwan’s fiction, particularly from *The Child in Time* onwards, and notes that such references are used throughout *Saturday* to emphasise the theme of ‘helplessness and control’⁴⁶¹ established here. ‘Thought’ as a term is tied here with helplessness, while ‘thinking’ expresses at least the possibility of control. There is also an analogy made between ‘consciousness’ and ‘conscience’, two words used on the first page of the

novel. 'Conscience' is also used on the last. Andrew Foley takes this bookending of the novel as evidence for McEwan's concern with the two terms as the basis of human nature⁴⁶². Consciousness/conscience is a disturbance originating in the mind's inextricable link with the outside world: in darkness, seeing nothing, Perowne is faced with 'the extent of his turmoil', a situation repeated at the end of the novel when, in the same darkened room, 'all he feels now is fear'⁴⁶³. Despite this, Perowne several times expresses a wish to be back there. Following his first confrontation with Baxter, it 'occurs to Perowne that what he really wants is to go home and lie down in the bedroom and think it through, the dispute in the University Street, and decide how he should have handled it, and what it was he got wrong'⁴⁶⁴. Visiting his mother, he wants to 'stretch out on the oversprung bed and start to think about the day, and perhaps to doze a little'⁴⁶⁵. The sense Perowne has that to be alone and free from the outside world would allow him to actively think through what has occurred over the day, to take some degree of control over it, is shown to be mistaken in the opening and closing scenes of the novel. This contradiction is implicit in the dual nature of thinking/thought. The first use of the term, as noun, implies a passive relation appropriate to the half-awake Perowne: 'the prospect of the experience ending saddens him briefly, then the thought is gone'⁴⁶⁶. The second use of the term, as verb, begins to establish the awakening Perowne's sense of himself in terms of his evaluation of events such as 9/11: 'And now, what days are these? Baffled and fearful, he mostly thinks when he takes time from his weekly round to consider. But he doesn't feel that now.'⁴⁶⁷

In McEwan's essays on 9/11, the motifs of daydreaming and helplessness identified by Lusin gain a new relevance as a way of describing our mediated relation to the event. In 'Beyond Belief' McEwan describes how '[f]or most of us, at a certain

point, the day froze, the work and all other obligations were left behind, the screen became the only reality. We entered a dreamlike state. We had seen this before, with giant budgets and special effects, but so badly rehearsed'⁴⁶⁸. The individual's relation to the screen here implies not only the lack of agency of the 'dream' but a numbed sense of helpless culpability: 'The information junkie inside me was silently instructing the cameras: go round that tower and show me that aeroplane again; get down in the street; take me on to the roof [...] Cameras, at last, were everywhere, just as I was sickening of this surfeit and horrified at myself for wanting it.'⁴⁶⁹ Television here functions as a metaphor for the mode of consciousness depicted in *Saturday*. Our relation to the outside world is essentially passive in that our relation to it is that of an observer. 'Thoughts' are the medium for this relation. The televised images are representations, discrete visual images presented to the subject through a defined conduit. The subject, as a 'thinker' responds by trying to assert control through the ordering of those representations.

Hayles distinguishes 'thinking', 'what conscious entities such as human (and some animals) do', and 'cognition', a 'broader term that does not necessarily requires consciousness but has the effect of performing complex modelling and other informational task'⁴⁷⁰. The built environment 'increasingly instantiates nonconscious cognition', creating a general trend for 'more and more communication to flow among intelligent devices, and relatively less among devices and humans'⁴⁷¹. This creates a shift in the meaning of 'thinking' in relation to cognition. This shift can be seen in *Saturday*. 'Thinking' denotes a response to the operations of cognition as they are available to consciousness, in the form of visual representations. The continuity of the cognitive nonconscious between the body and the technological environment is

expressed through a correspondence between ‘thoughts’, mental representations, and television images.

Hardly a Language

McEwan claims that ‘the moral basis’ of the novel as a whole lies in the fact that ‘the apprehension of other minds is something that we’re cognitively sophisticated at doing, perhaps instinctively so’⁴⁷². The verb ‘thinking’ is also associated in *Saturday* with theory of mind, applied to others and to oneself. This point is complicated by the fact that the terms through which theory of mind is formulated are in many cases inadequate in responding to the technological nonconscious. This creates a disjunction between theory of mind and other aspects of conscious experience, expressed as ‘thoughts’. This disjunction allows McEwan to situate theory of mind within its embodied and affective context.

The use of ‘thinking’ is most prominent in *Saturday* in scenes of conflict, particularly during Perowne’s argument with his daughter Daisy and the confrontation with Baxter which follows. In the argument, ‘thinks’ is repeatedly used by both: ‘I think you’d still be against it’; ‘if you think that’s a good idea’; ‘it’s called thinking through the consequences I’m against this war because I think terrible things will happen. You seem to think good will come of it’; ‘I honestly think I could be wrong’; ‘do you think we’re going to be any safer?’⁴⁷³ The term is used to define both one’s own position and that of the other, in the context of a competition in which one must win. The term’s use resists genuine dialogue, and is misleading in its ascription of definite positions to both. Perowne is left ‘with a hollow feeling from arguing only half of what he feels. He’s a dove with Jay Strauss, and a hawk with his daughter’⁴⁷⁴.

The implicit distinction between what Perowne *thinks* and what he *feels* is significant in contrasting thinking with a more embodied and affective register.

The prominent use of ‘thinking’ as a verb continues with Baxter’s entrance, with an added attention to theory of mind. Perowne speculates throughout about what others are thinking: Baxter⁴⁷⁵, Rosalind⁴⁷⁶, Theo⁴⁷⁷, and even himself⁴⁷⁸. Such speculation has a clear purpose: finding an advantage, taking control of the situation. Rosalind’s ‘understated ‘I think’’ carries ‘rebellion’⁴⁷⁹; Nigel’s ‘you know what I’m thinking?’ is met with Baxter’s ‘I do Nige. And I was thinking the same thing myself’⁴⁸⁰ as a confirmation of Perowne’s helplessness. This association of thinking with power continues even after Daisy’s reciting of a poem begins to alter the situation. Baxter is described as ‘finding nothing extraordinary in the transformation of his role, from lord of terror to amazed admirer’⁴⁸¹, his lack of self-consciousness signalling a loss of control. This transformation is subtly mirrored in the prose, as from this point descriptions of Baxter’s thoughts are no longer marked as speculation, but as narration, consistent with Perowne’s earlier diagnosis:

It’s of the essence of a degenerating mind, periodically to lose all sense of a continuous self, and therefore any regard for what others think of your lack of continuity. Baxter has forgotten that he forced Daisy to undress, or threatened Rosalind. Powerful feelings have obliterated the memory.⁴⁸²

The shift plays on an ambiguity inherent to indirect style, in which objective descriptions still bear some relation to the perspective of individual characters. Tim Gauthier notes the ‘palpable condescension’ of the description of Baxter as ‘amazed admirer’ or ‘excited child’, arguing that this tone marks the narration as Perowne’s thoughts, and that ‘from that moment on, Perowne effectively establishes a

professional, objective distance from his adversary, as though observing a test subject⁴⁸³. Hannah Courtney's reading of the initial confrontation claims that 'Perowne believes that as soon as he can pinpoint the cause of the disorder that is causing a man to threaten his life, he can predict Baxter's every move and thus be free from harm'⁴⁸⁴. Perowne is 'thoroughly convinced that he is safe because Baxter's actions are determined by his genetic makeup and free choice is therefore not playing a part in his decisions'⁴⁸⁵. This dynamic is similar to that in *Remainder*: theory of mind, interpretation, is a form of power-play. In contrast to that first encounter, in the later sequence power does not follow from interpretation. Apparent confirmation of Baxter's condition merely confirms a deeper unknowability:

Even if the trial existed, why would Baxter believe that this doctor would keep his word rather than call in the police? Because he's elated as well as desperate. Because his emotions are wild and his judgment is going. Because of the wasting in his caudate nucleus and putamen, and in his frontal and temporal regions. But none of this is relevant. Perowne needs a plan, and his thoughts are too quick, too profuse⁴⁸⁶.

The mention of thoughts – as opposed to thinking – confirms Perowne's lack of control. The conflict is resolved not by a thinking through, or by theory of mind, but in unthinking collaboration, as Perowne and Theo throw Baxter down the stairs following Nigel's exit⁴⁸⁷. The chain of events leading up to this point could not have been fitted into Perowne's reading of the situation in terms of what each individual is thinking.

The shift in this section from speculating about Baxter's thinking to a helplessness not lessened by that knowledge comes from a confirmation of his

condition, and an associated irrationality. Baxter can no longer be understood as what Dennett calls an '*intentional system*', 'a system whose behaviour is reliably and voluminously predictable via the intentional strategy'⁴⁸⁸. Dennett acknowledges that the intentional stance, and the associated characterisation of humans as 'rational-agents', is not always applicable, even to healthy individuals: 'It is important to recognize the objective reality of the intentional patterns discernible in the activities of intelligent creatures, but also important to recognize the incompleteness and imperfections in the patterns'⁴⁸⁹. *Saturday* juxtaposes several alternative levels of explanation. As Courtney points out, while Baxter's behaviour throughout the scene may not be predictable according to 'Perowne's determinist theory', it is 'highly predictable from the vantage of literature, where revenge and violence commonly run amok to heighten tension, especially in the final dramatic climax. [...] Free will is not predictable through science, yet it is also not possible in literature.'⁴⁹⁰ The point here is not that Perowne's literary philistinism is preventing him from arriving at a correct reading of the situation, but that there is, as Mark Currie puts it, a 'gap between knowledge and life'; Perowne's 'own knowledge is deficient to the extent that the real debate between scientific and fictional knowledge is being conducted at a level to which he has no access'⁴⁹¹. Groes further notes and maps the 'overwhelming extent of intertextual references'⁴⁹², linking this to a certain gap between Perowne and the narrator: 'It is made clear to the reader that Perowne's experience is at the mercy of the narrator's locutions, which constantly deride him by pointing out the limits of his frame of reference'⁴⁹³. Molly Clark Hillard, reads Perowne's mistaken belief that the poem Daisy reads is her own as 'McEwan's wink at a literary audience that Perowne misprizes what Daisy and we readers conceive'⁴⁹⁴. Waugh argues that the intertextual references in *Saturday* set up a 'kind of Socratic dialogue on the mind that underpins

both its moment-to-moment phenomenology and its thematic plot'⁴⁹⁵. While maintaining his use of indirect free style, McEwan introduces other forms of discourse into the novel, placing them in dialogue with Perowne's scientific materialism, in line with Bakhtin's view of the novel of the possibilities of the novel form. The fact that Perowne's materialism is closely aligned with his theory of mind allows this dialogue to question several of the premises of narrationism, including the supposed ubiquity of a singular narrative within consciousness, and the suitability of a singular interpretation.

McEwan's conceptualisation of theory of mind through a distinction between similar sets of psychological terms originates in his teleplay 'The Imitation Game' (1982), based partly on Turing's work at Bletchley Park during the war, and originating in McEwan's research into machine intelligence and conversations with Andrew Hodges, Turing's biographer⁴⁹⁶. In one scene, Turner, a version of Turing, describes the imitation game as a response to a discussion on whether machines can think⁴⁹⁷. Turner mentions that the trouble is that 'one tends to get bogged down in definitions of 'machines' and 'think''⁴⁹⁸. The teleplay repeats variants of two terms: 'think'⁴⁹⁹ and 'know'⁵⁰⁰. The introduction of 'know' as a complement to 'think' allows for Turing's modification of theory of mind to be situated within a broader context. McEwan notes in writing the teleplay he had come to think of Bletchley Park as a 'microcosm', not only of the war but of a whole society', organised on a 'need to know' basis as a set of concentric rings'⁵⁰¹. In this context, what one thinks - but does not know - has significant consequences. The ending turns on a phrase spoken by the protagonist, Cathy, to Turner in bed: 'You know all the secrets'⁵⁰². She means this as flirtation, but Turner interprets it as an insult: 'Do you know what you are? [...] You're a ... do you know what you are? [...] 'You know all the secrets' ...

You vindictive little bitch.’⁵⁰³ Cathy is unaware that Turner is either sexually inexperienced or gay. The latter interpretation is assumed as common knowledge by several male characters, none of whom openly tell Cathy. After she says to one that the men from Cambridge at Bletchley must be in ‘great demand’, a male character replies: ‘Not them, you must have heard about them. [...] Half of them ... are, you know...’⁵⁰⁴ The privileged knowledge of male characters, together with their assumptions about what Cathy must know, lead to a series of misunderstandings that culminates in Cathy being mistaken for a spy. Speculation about others has a tangible effect, and the embodied context of these speculations must be taken into account, particularly in an environment defined by interpretation and withheld knowledge, such as Bletchley Park or the imitation game.

McEwan returns to this point in *The Innocent* (1990) when one character, Glass, gives an account of the origins of consciousness again rooted in a cold-war context:

When he sees a leopard coming, he knows something the others don’t. And he knows they don’t know. He has something they don’t, he has a *secret*, and this is the beginning of his individuality, of his consciousness. If he wants to share his secret and run down the rack to warn the other guys, then he’s going to need to invent language. From there grows the possibility of culture. Or he can hang back and hope the leopard will take out the leadership that’s been giving him a hard time. A secret plan, that means more individuation, more consciousness.⁵⁰⁵

Glass claims to have learned this from his study of biology and evolution⁵⁰⁶. In ‘The Imitation Game’, the distinction between thinking and knowing was also mapped onto the distinction between what is articulated and what is left unspoken or indirectly

implied. This distinction is partly determined by the operations of power and control. McEwan's take on evolutionary psychology in this passage bears the traces of his critical engagement with Turing's work. This continues in *Enduring Love* (1997). A significant intertext for that novel is Pinker's *The Language Instinct* (1994), which McEwan mentions in the acknowledgments⁵⁰⁷. In that book, Pinker argues that the language instinct is an evolutionary adaptation, a structure in the human brain enabling communication and cooperation. His argument is explicitly grounded in cognitive science, and in the computational or representational model inaugurated by Turing in particular⁵⁰⁸. The representational model forms the basis of his rejection of (his interpretation of) the Sapir-Whorf hypothesis that people think in language and that therefore language partly structures conscious experience⁵⁰⁹. Drawing directly on 'On Computable Numbers', Pinker claims that thought consists of representations – which he calls 'mentalese' – and that since language cannot provide the medium for such representations, language is secondary to thought⁵¹⁰. As well as cognitive science, this argument also draws on evolutionary psychology. For language to be effective in an evolutionary sense, it must correspond to mentalese – which must correspond to objects and processes in the world – without altering it⁵¹¹. *Enduring Love* uses references to 'mentalese' to establish a split between linguistic and 'pre-verbal' thought. Going over his memories of a traumatic incident, protagonist Joe notes that he believes himself to have been aware of the scene around him, despite not being aware at the time: 'I must have assumed a good deal about the relationships of our neighbours, and done it barely consciously, out of the corner of my eye, wordlessly, in that pre-verbal language of instant thought linguists call mentalese'⁵¹². He refers again to this concept when describing a conversation: 'I was about to say something to her when I got it, I understood completely, it came to me without effort, in that same

neural flash of pre-verbal thought that comprehends relation and structure all at once, that knows the connection between things better than the things themselves'⁵¹³. The distinction between what is spoken and what is known is situated at the level of individual consciousness. As with the distinction between thinking and thought, this creates a split within the individual self. Despite Pinker's grounding of his argument in Turing's work, McEwan's adaptations of both reveals an inconsistency. The implication of the representationalist model established in 'On Computable Numbers' is that thought is not linguistic. In on 'Computing Machines and Intelligence', the representationalist model is the basis of an argument according to which the interpretation of written language is the criteria for thinking.

McEwan also refers to mentalese in *Saturday*. Reflecting on anti-war marchers, and on his position in the world in general, Perowne comes up against the limitations of language in thought:

These questions don't spell themselves out. He experiences them more as a mental shrug followed by an interrogative pulse. This is the pre-verbal language that linguists call mentalese. Hardly a language, more a matrix of shifting patterns, consolidating and compressing meaning in fractions of a second, and blending it inseparably with its distinctive emotional hue, which is rather like a colour. A sickly yellow. Even with a poet's gift of compression, it could take hundreds of words and many minutes to describe.⁵¹⁴

Time is important here. Perowne notes at the beginning of this passage that a second 'can be a long time in introspection'⁵¹⁵. In relaying his memory, Joe admits that '[w]hat takes a minute to describe took two seconds to experience'⁵¹⁶. Courtney identifies and discusses three 'distended moments' in *Saturday*, points at which time is represented as momentarily slowed down: the representation of the crashing plane

at the start of the novel, the confrontation with Baxter here, and the final confrontation in Perowne's home⁵¹⁷. She concludes that these moments allow McEwan to 'skilfully embed in his text the theory of the relativity of time as experienced by the human mind, using the science to aid his creation of a new variation of the literary techniques associated with the exploration of character consciousness in moments of crisis'⁵¹⁸. Groes, on the other hand, reads these moments as introducing 'a rupture between lived experience and its narration', demonstrating how 'our experience of the contemporary twenty-first century has become increasingly complex, while sense-making processes are increasingly difficult'⁵¹⁹. These readings complement one another. Linguistic thought, along with spoken and written language, operates at a different timescale to pre-verbal thought. In this sense, they are distinct. McEwan takes this point from Pinker. However, both linguistic and pre-verbal thought, and the relation between the two, are partly determined by the contemporary environment. Linguistic thought can affect pre-verbal thought. Pinker claims that language allows to 'shape events in each other's brains with exquisite precision. [...] Simply by making noises with our mouths, we can reliably cause precise new combinations of ideas to arise in each other's minds'⁵²⁰. This fits the scene in which Daisy's reading of a poem causes a change in Baxter's mood. The poem's effects on Perowne are shown through impressionistic descriptions of what he 'sees' when listening to it⁵²¹. He 'feels himself slipping through the words in to the things they describe'⁵²². The fact that language does not map directly onto thought means that language has the capability to alter thought, whether through conversation – for example, when Perowne finds himself misrepresented in arguments which hinge on the word 'think' – or through an internal dialogue.

McEwan's initial response to Turing was to emphasise the disjunction between what is spoken and what is known. This point continues to inform his response to a cognitive model which, implicitly or explicitly, assumes that language is secondary to representational thought. Theory of mind, whether folk psychology or rational-agentism, does not map onto experience or reality perfectly. It is precisely because of this that it has the capacity to alter thought and behaviour. While McEwan is influenced by Pinker, his adaptation of his ideas aligns him with McCarthy's response to Lévi-Strauss.

Obliterate a Whole Universe

The use of 'thinking' and 'thoughts' in *Saturday* derives partly from the long-standing influence of cognitive science on McEwan's work. The distinction between these terms expresses several internal contradictions within the computational/representational model of the mind. Broadly, 'thinking' is associated with the computer, while 'thoughts' correspond to representations. The implication of McEwan's use of a distinction between the two is that these can be understood as two separate aspects of the mind, each of which partly determines the other. This dynamic requires that we think of both of these aspects of the mind as extended. Representations are a medium through which the outside world interacts with perception and cognition. Different forms of 'thinking' that act on these representations, such as calculation, narration or theory of mind, are themselves shaped by structures external to the individual brain, such as language. *Saturday* and *Remainder* both establish a link between the use of technological metaphors for cognition and the role of technological media and networks within cognition. In *Saturday*, 'thoughts', understood as discrete objects corresponding to events in the outside world, prompt a response according to

a computational model of ‘thinking’. In *Remainder*, a computational mode of ‘thinking’ determines the narrator’s relation to the outside world in terms of representations to be manipulated.

Baxter’s invasion into Perowne’s home has been read as analogous to Perowne’s relation to world events⁵²³. Baxter is taken as a discrete embodiment of the outside world in its most troubling aspects, and the resolving of the conflict becomes inseparable from the resolving of Perowne’s relation to the outside world. Throughout the second confrontation, Perowne is locked in a cycle of speculation and doubt. Early on he ‘suddenly sees’ that until now ‘he’s been in a fog [...] In his usual manner he’s been dreaming’⁵²⁴, his plans ‘the stuff of fantasy’⁵²⁵, but soon drifts back into more conjecture. ‘Is this fantasy again?’ he asks of one course of action, describing another as ‘more fantasising’ two paragraphs later⁵²⁶. Throughout this section there is a tension between his speculative response to the situation, into which references to ‘thinking’ fit – rejected again and again as fantasy – and a more embodied register which includes references to ‘thoughts’:

Henry *feels* himself rocking on his feet in fear and indecision. A strong urge to urinate keeps nudging between his *thoughts*. [...] Henry’s *self-cancelling thoughts* drift and turn, impossible to marshal [...] But when Henry *imagines* himself about to act, and sees a ghostly warrior version of himself leap out of his body at Baxter, his heart rate accelerates so swiftly that he *feels* giddy, weak, unreliable. [...] He simply doesn’t *know* how to be reckless.⁵²⁷

When Perowne attempts to imagine another possibility, he is still in a passive position: despite the fact that he has imagined it, he cannot control it.

There is a similar depiction of thought near the start of *Enduring Love*: ‘Like a self in a dream I was both first and third persons. I acted, and saw myself act. I had my thoughts, and I saw them drift across a screen.’⁵²⁸ Perowne’s response to Baxter in this sequence, and to his thoughts in general, replicates his relation to television news. At the start of the chapter leading to Baxter’s entry he has the realisation while watching the news that ‘it’s an illusion, to believe himself active in the story’⁵²⁹. As I discussed in the previous chapter, references to television in *Saturday* hint at a continuity between the body and the television. In the above examples, Perowne’s passive to his body, and to his visualisations, correspond to his passive relation to the television and the images it conveys.

This correspondence extends to Perowne’s understanding of ‘thinking’ and of agency, which is structured in relation to technological media. Earlier, during a break in a game of squash, a frustrated Perowne cautions himself that he has to ‘think about his game’⁵³⁰. In the next paragraph, he does so in relation to a news report on a television in the changing room:

Isn’t it possible to enjoy an hour’s recreation without this invasion, this infection from the public domain? He begins to see the matter resolving in simple terms: winning his game will be an assertion of his privacy [...] It seems to Perowne that to forget, to obliterate a whole universe of public phenomena in order to concentrate is a fundamental liberty. Freedom of thought.⁵³¹

The passage looks ahead to the home invasion that will follow, and to the breaching of the quasi-private space of Henry’s car that preceded it. The model of ‘thinking’ that Henry develops in response is grounded in a spatial metaphor according to which he can create a boundary between himself and the outside world. Joe describes a similar

state of mind as a ‘high-walled infinite prison of directed thought’, a ‘clean beach’ free of ‘the usual flotsam, the scraps of recent memory, the tokens of things not-done, or ghostly wrecks of sexual longing’⁵³². Perowne’s understanding of the mind is based on the spatial metaphor for thought at work in the computational model: a fixed structure (the mind) with an input and output, acting as a container for thoughts, discrete representations of the outside world. Television complicates this model in presenting the subject with visual images corresponding to those discrete representations, while allowing them no scope for agency (control over those representations). It also undermines the spatial boundaries of the container model in greatly extending the scope of the subject’s perception and in externalising the medium for representations. This point is reinforced by the use of an embodied, affective register to describe Perowne’s relation to the television throughout. His recourse to a computational model of thought and of agency in response to the threat posed by the intrusion of thoughts and of television confirms his essentially passive relation to both. His use of a spatial metaphor for the mind with a clear boundary between himself and the outside world is a function of the outside world’s continuity with his mind. As he puts it later on, television has led to a ‘narrowing of mental freedom, of his right to roam’⁵³³. A spatial metaphor determined by his visual experience has an effect on how he thinks.

Framed like Saints

‘To obliterate a whole universe in order to forget’ also works as an apt summary of the project attempted in *Remainder*. The narrator responds to trauma by radically reshaping his environment to fit his own desires. The computational model which

characterises the narrator's limited theory of mind also acts as a means through which he controls those around him. This works primarily within his own consciousness, in that he actively works not to acknowledge any individual agency on the part of his employees. This also applies to his visual experience. In contrast to Perowne, McCarthy's narrator is able to actively shape what he sees. He does by adopting an understanding of consciousness partly informed by cognitive representationalism and partly modelled on cinema.

Like television, cinema in a sense acts as a technology literalising representationalism, in that the experiences mediated through it are presented to the viewer as representations, literal images. In doing so it renders the viewer passive while transferring agency to the medium itself, in its capacity to manipulate and edit the images shown. Alongside its use of a computational metaphorical register for cognition, *Remainder* makes use of a metaphorical register for perception related to film and to cameras. The first reference to register appears in the narrator's claim to a 'photographically clear memory'⁵³⁴ at the end of the first chapter. The register is inconspicuous for the moment but is picked up on and developed at the start of the next chapter, which details the narrator's recovery. To 'cut and lay new circuits' in the brain, he is made to 'visualize' things. The example given is of lifting a carrot⁵³⁵. Actually lifting a carrot is taken to be a matter of visualising doing so, and breaking down the action into a series of motions which must be understood and pictured⁵³⁶. There is a clear correspondence between this treatment and a representationalist model of cognition. As the narrator points out, however, the actual experience does not follow on from this: the sequence cannot be broken down into an arbitrary number of actions⁵³⁷. The feeling of the carrot as physical object is 'enough to start short-circuiting the operation'⁵³⁸. The narrator's training leads him to think of his hand,

fingers and brain as ‘active agents, and the carrot as a no-thing’, but the physical carrot is ‘more active’ than him⁵³⁹. On one level, the narrator understands that this treatment does not correspond to actual experience: ‘in the normal run of things you never *learn* to walk like you learn swimming, French or tennis. You just do it without thinking how you do it: you stumble into it, literally.’⁵⁴⁰ Thinking – defined in terms of computation and representationalism – is secondary to embodied processes. The Enactor soon finds an example of experience that does function in this way: cinema. Robert de Niro’s character in *Mean Streets* has no such gap separating him from his actions: ‘He doesn’t have to think about them, or understand them first. He doesn’t have to think about them because he and they are one.’⁵⁴¹ He and they are one because ‘thinking’, in the sense that the narrator has been taught during his recovery, corresponds more closely to film as a medium than it does to consciousness. The narrator is persuaded that the gap between his consciousness and his actions is universal, that he is ‘just more usual than everyone else’⁵⁴². The narrator’s relation to the outside world is not universal; it is one determined by an explicitly representationalist model of the mind which corresponds to the relationship between the camera and the film set.

As noted by Waugh and Jennifer Hodgson, the use of the word ‘vision’ in the novel references a ‘neo-corporate’ register⁵⁴³. This register complements the model of the mind taught to the narrator; agency requires ‘picturing’ what he wants to do, which is later developed into ‘communicating’ what he calls ‘vision, what I wanted to do’⁵⁴⁴ to others. The use of the word ‘speculation’ also develops this link. It is initially used in relation to the narrator’s investment of the settlement⁵⁴⁵. Later, Naz returns a definition: ‘The faculty of seeing, [...] observation of the heavens, stars etc.; contemplation or profound study of a subject; a conjectural consideration; the practice

of buying and selling goods.⁵⁴⁶ Seeing, understanding, buying and selling: the way in which the narrator understands the mind derives from connections between these concepts operating in economics, psychology and media. In the chapter which contains these reflections on vision and speculation, the narrator repeatedly ‘pictures’ what is happening on the other end of the telephone⁵⁴⁷. At first, the imagined images correspond to his frustration. He pictures ‘workmen in their jeans stained white with sandstone and cement discussing politics or football or whatever it was they were discussing – anything, but not my project’⁵⁴⁸. Explaining his project to Daubenay, there is a long silence on the other end: ‘I pictured his office in my mind [...] I gripped my phone’s receiver harder and frowned in concentration as I thought about the wires connecting me to him, Brixton to Angel. It seemed to work.’⁵⁴⁹ It works in the sense that Daubenay resumes the conversation, suggesting Naz’s company, Time Control. The narrator calls Naz: ‘I couldn’t quite picture his office, but I saw his desktop clearly: it was white and very tidy.’⁵⁵⁰ Naz proves his usefulness by communicating the narrator’s vision in arranging to meet at a restaurant which corresponds to the ‘image’ which comes to the narrator⁵⁵¹. Talking to Naz, he pictures his office again. This time the connection between the two spaces is a different form of communications technology, Naz’s mobile phones: ‘I traced a triangle in my mind up from our restaurant table to the satellite in space that would receive the signal, then back down to Time Control’s office where the satellite would bounce it’⁵⁵². Repeated use of the term ‘picturing’ continues in the next chapter, in which the narrator finds the building in which to stage his re-enactment⁵⁵³. The aim of the re-enactment at this point seems to be a correspondence between what the narrator ‘pictures’ and what he actually sees, developing on the assumed logic of his therapy earlier on. The narrator’s conceptualisation of Naz’s suggestion to kill the employees through the use of mental

images is used to emphasise the ethical limits of his reductive model of the mind. During this sequence, the narrator ‘sees’ a series of abstract and ‘beautiful’ images corresponding to the suggestion which prompt him to agree to the suggestion. Throughout, ‘understanding’ is tied to ‘looking’ or ‘seeing’: ‘I thought: Naz wants to vaporize these people. I pictured them again being fed through a tube and propelled upwards, turned into a mist, becoming sky’; ‘He looked back at me’; ‘I looked at him again, and tried to understand’; ‘his eyes still stared straight at me, making sure I understood what he was telling me. I looked away from them and saw in my mind’s eye a plane bursting open and transforming itself into cloud’⁵⁵⁴; ‘I saw it in my mind again’; ‘I saw it a third time [...] I’d never seen something so wonderful before’; ‘running this picture through my mind again and again and again’; ‘I lay there for the rest of the night, picturing planes bursting, flowers dehiscing’; ‘I pictured all my people lifted up, abstracted, framed like saints in churches’ stained glass windows, each eternally performing their own action’⁵⁵⁵; ‘I pictured this all night’⁵⁵⁶; ‘the image of the plane dehiscing played across my mind again’⁵⁵⁷. What the narrator ‘pictures’ is determined by extended processes. These images then exert a corresponding effect on the narrator’s actions, influencing those processes.

Like Perowne, the narrator’s relation to the world is determined by film technology, and his elevation of this model to the level of thinking morally compromises him. Our awareness of this ethical aspect lies in how the actual content of the images exceeds their status as images, and of how their reduction to images originates in a particular way of thinking.

Overwhelmed by Sunlight

The reduction of thought, and of the individual's relation to their environment in general, to representations, follows on from the definition of 'thinking'. While the relation between visual images and the camera is one example, *Remainder* also explores a broader and perhaps more fundamental form of this dynamic in its attention to grammar.

At one point, the narrator asks Naz to have the meaning of the word 'residual' looked up. The definitions returned by his employees define the term as an adjective tied to particular processes: "Of or pertaining to that which is left – e.g. in mathematics [...] "In physics," Naz continued, "of what remains after a process of evaporation; in law, that which – again, remains of an estate after all charges, debts, etc. have been paid. [...] Residual analysis [...] Residual heat [...] Residual error."⁵⁵⁸ There is of course an implicit reference to the title of the novel here, again contrasting two aspects of a term: 'that which remains'/'Remainder'. The narrator has been prompted to look up the word by someone using it like a 'thing', which Naz corrects to a 'noun'⁵⁵⁹. In attempting to differentiate 'residual' as noun from 'residual' as adjective the narrator suggests 'recidual'⁵⁶⁰. The employees come back with the similar words 'rescinding' and 'recidivate', defined as 'the act of rescinding, taking away (limb, act of parliament, etc.)' and 'to fall back, relapse – into sickness, sin debt...'⁵⁶¹ The brief emphasis on grammar here is important. The use of the adjective 'residual' in relation to particular processes implies, for the narrator, the existence of 'residual' as noun. This corresponds to the way in which his 'thoughts', visual images, are determined eby extended processes rather than the objects they supposedly represent.

The passage from *Remainder* continues by incorporating the intersubjective technological networks which drive the novel within the ongoing depiction of Naz as computer: ‘Naz’s eyes rested on a spot vaguely near my head for a few seconds. I could see him running what I’d just said past his data-checkers, and deciding I was right: I *did* say what was important.’⁵⁶² Just as the data-checkers cannot identify ‘residual’ as noun, meaning here does not fit what is implied by a model of thinking as processing. The ‘decision’ made by Naz here is not a result of rational thought, but of other processes. Most obviously, economic: the narrator is his employer, rich enough to hire him, the data-checkers and many others. References to this debt in this passage are significant in alluding to the economic formulation of residual. McCarthy reads *Ulysses* (1922) as a novel in which ‘the logic of accountancy has permeated the prose’⁵⁶³: a correspondence between ‘financial computation’⁵⁶⁴ and the computational model of thought is expressed through the use of verbs shared by the register of both. ‘*Ulysses and its Wake*’ (2014) alludes to a moment in *Ulysses* in which the sun ‘profligately flings, through a chequerwork of leaves, dancing coins onto Deasy’s shoulders: light itself turning into money’⁵⁶⁵. The moment is reworked in *Remainder*, when the narrator is ‘overwhelmed by sunlight [...] streaming from the sun’s chest’⁵⁶⁶ in a reference to the death of one of his employees, whose blood flows into the stolen money, ‘dampening one of its edges, eddying into a pool behind a crinkle, as though the bag and not he had leaked. [...] “Speculation,” I said; “contemplation of the heavens. Money, blood and light.’⁵⁶⁷

The economic and psychological models at work here use the same or similar terms, and also correspond to what McCarthy has called the ‘grammar’⁵⁶⁸ of the novel. The propensity to repeat by which Freud and contemporary researchers define the experience of trauma fits the ‘laying out of time along the trajectories of capital’⁵⁶⁹

implied by financial models. Pieter Vermeulen points out that trauma, ‘far from registering as a psychologically significant event, is merely mobilized as a device that triggers and structures the plot’, and that in ‘indirectly funding the events that make up the novel’s plot [...] provides the novel with the narrative capital it needs to keep going for some 280 pages.’⁵⁷⁰ This refusal to address trauma in itself is the starting point of the novel, the opening lines of which admit to an inability to articulate: ‘About the accident itself I can say very little. Almost nothing. It involved something falling from the sky. Technology. Parts, bits. That’s it really: all I can divulge. Not much, I know.’⁵⁷¹ Again, we find a gap between two levels of knowledge, one deliberately limited – what the narrator ‘can say’ – and an acknowledgement of something more comprehensive beyond articulation – ‘Not much, I know’. The narrator’s elaboration of this refusal defines the accident as singular: ‘a blank: a white slate, a black hole.’⁵⁷² He excuses this refusal to articulate the ‘vague images, half impressions’ he retains of the accident by reference to the subjectivity of consciousness: ‘Minds are versatile and wily things. Real chancers.’⁵⁷³ The next paragraph complicates this, by mentioning the ‘terms of the Settlement’ that *legally* prohibit him ‘from discussing, in any public or recordable format (I know this bit by heart), the nature and/or details of the incident, on pain of forfeiting all financial reparations’⁵⁷⁴. The opening lines acquire a new layer of meaning, as does the narrator’s description of a mind whose creations go against his contractual obligation to inarticulacy. Miller also notes that ‘by heart’ here suggests that the narrator’s capacity for short-term memory, at least, remains unaffected by the accident, despite what he implies at the start⁵⁷⁵. Miller argues that the narrator, as well as other characters, stop short at the point of stating exactly what happened to him, ‘intimating that the whole text is bound by the same nondisclosure agreement’⁵⁷⁶.

McCarthy repeats this in *Satin Island*: U mentions that what he is writing here is determined partly by confidentiality agreements relating to ‘the Project’, which is at the same time resistant to articulation, ‘a project formed of many other projects, linked to many other projects’, its complexity rendering it ‘well-nigh impossible to say where it began and ended, to discern its “content”, bulk or outline’⁵⁷⁷. Describing his boss’s brief on the project, he mentions that he is being vague ‘in part because I’m obliged to be vague; but in part because he was quite vague as well’⁵⁷⁸. The legal and financial aspects of the situation in *Remainder* are similarly broken down into a series of individual concepts, the ‘Requirement’, the ‘Clause’ and the ‘Settlement’. In the reduction of these relations to a series of discrete nouns, the opening defines the model of the mind which dictates the narrator’s treatment during his recovery. Given that the narrator’s action through the rest of the novel attempt to shape his environment so that it can embody this model, these legal factors have a clear, though unacknowledged, influence on the form of the novel and its plot.

At one point, the narrator describes the effects of the accident through a metaphor derived from Plato. He claims that it was ‘as though my memories were pigeons and the accident a big noise that had scared them off. They fluttered back eventually – but when they did, their hierarchy had changed.’⁵⁷⁹ Draaisma points out that the ‘image of the memory as a dovecote or aviary’ developed by Plato in the *Theaetetus* ‘represents retention of information as the preservation of an experience in an enclosed space.’⁵⁸⁰ It also defines memories, or thoughts, as discrete objects. Dennett uses the metaphor in arguing that consciousness is a result of thousands of memes ‘mostly borne by language, but also by wordless “images” and other data structures, [taking] up residence in an individual brain, shaping its tendencies and thereby turning it into a mind’⁵⁸¹. According to Dennett, ‘what Plato saw was that

merely having the birds is not enough; the hard part is learning how to get the right bird to come to you when you call. [...] Learning to reason is, in effect, learning knowledge-retrieval strategies.⁵⁸² The computational metaphor is founded on aspects present in this metaphor: ‘thinking’ as spatial structuring, and ‘thoughts’ as discrete objects. Other technologies undermine this distinction. ‘Thoughts’, or representations, can exist both inside and outside the individual, created by the perceptual apparatus or by cameras, and can reshape the spatial structuring of the mind. The spatial structuring at work in cinema or even in language can determine the precise form of representations. Both aspects are revealed as extended. As the example from Plato shows, the visual and spatial metaphors for the mind at work here predate the technological metaphors which they have incorporated in my primary texts. However, these technological metaphors, and their influence on psychological terms, have the effect of calling into question the fundamental aspects of these metaphors.

Chapter Three - Prosthetics: Language and Vision in *The Child in Time* and *Saturday*

There was no succour to be had from the legends and symbology, the great, enveloping tradition of marital breakdown, for like many before him, he thought his own case was unique. [...] Any drunk in a bar could have told Stephen that he was still in love with his wife, but Stephen was a little too clever for that, too in love with thought.

- Ian McEwan, *The Child in Time* (1989)

“Narrative, Carrefax.” The recording officer, seated behind a table with a stack of papers at the hangar’s exit, stops him.

“What?” asks Serge, taking his globes off and wiping his hand across his face.

“Flight narrative for Corps HQ. I have to remind you every time.”

“Oh,” says Serge. “Well ...” His hand has gathered a thick wedge of tar. He looks at it, then up at the recording officer. “We went up; we saw stuff; it was good.”

- Tom McCarthy, *C* (2010)

The distinction between thinking and thought I discussed in the last chapter maps onto several other significant distinctions relating to the mind. Firstly, that between language and vision. Secondly, that between inside and outside; this includes the distinction between subject and object in perception, as well as the boundaries of the body, and the implicit boundaries established by spatial metaphors for the mind. I found that ‘thinking’ and ‘thought’ could be understood as mutually constitutive. This

dynamic implicitly undermines the other distinctions it is associated with. In *Saturday*, Perowne's linguistic understanding of himself and his relation to others is secondary to the operations of mentalese, which are represented in visual terms, and his embodied relation to what he sees around him, including images on television. The strictly defined spatial model of cognition through which he seeks to resolve his relation to the outside world is itself the result of the outside world's presence within his mind. In *Remainder*, how the narrator describes others seems to alter his own visual perception. This mode of narration is determined by a particular understanding of psychology, by contemporary economic networks, and by the structure of language. What determines both 'thinking' and 'thought' incorporates material processes external to the individual.

In this chapter I will discuss how this distinction maps onto that between consciousness and the unconscious. 'Thinking' corresponds to 'consciousness' as it was defined by Freud: supposedly the seat of individual agency, but in fact secondary to unconscious processes. 'Thought' corresponds to the unconscious as it is associated with a separate agency within the mind. As I discussed in the introduction, Freud's later work also links the division between consciousness and the unconscious to those I mention above. He identifies consciousness with language and grounds his model of the mind in the organism's tendency to develop a 'protective shield' between itself and the world. The basic distinction between what is and is not available to consciousness is determined by this tendency.

Freud's work has been read as a forerunner of cognitive science. The influence of his work lead to a widespread acceptance of the idea that the mind includes non-conscious processes. In this chapter, I discuss his influence on the work of the two writers I looked at in the previous chapter. The distinction between 'thinking' and

‘thought’ I identified derives partly from the influence of Freud on each writer. This influence was pronounced in McEwan’s early fiction, while in his later fiction he has moved away from it. McCarthy, on the other hand, was partly influenced by Freud’s work on trauma in *Remainder* but has since embraced the influence of Freud and his followers. *The Child in Time* was McEwan’s first novel to question Freud’s ideas and to begin to incorporate the influence of contemporary popular science, in particular the work of Bohm. McCarthy’s *C* is partly based on one of Freud’s case studies and heavily influenced by Lacan. Both Bohm and Lacan build on Freud’s thought, drawing on the insights of physics and cybernetics respectively to emphasise the ego’s continuity with its environment. They diverge from Freud in questioning both the fixity of the spatial structures Freud describes, and the use of the ‘Lockean crutch’. Following their lead, McEwan and McCarthy have adapted Freud’s ideas, and in doing so implicitly question the contradictions inherent to his distinction between consciousness and the unconscious. I begin by showing how both novels depict consciousness in terms of a tension between linguistic interpretation and a visually mediated relation to their environment. I then discuss how the use of this tension complicates each writer’s relation to their stated influences. I then consider how the figure of the ‘prosthetic’ can be used to link these formal aspects of the texts to the extended model of the mind I have developed in earlier chapters. Finally, I argue that the use of the prosthetic provides an alternative to conventional notions of individual agency and selfhood for both writers.

Not Recordings but Stories

The association of consciousness and the self with language and a coherent narrative complicates any straightforward distinction between conscious and unconscious thoughts. Perception and memory are aspects of conscious experience which are partly structured by narrative but not fully subsumed by it. In this sense they fit into a modified understanding of the unconscious defined by its resistance to the narrative consciousness. In *The Child in Time* McEwan develops his early use of this opposition through a prose style that splits the thought processes of a single character into what that character sees and how he interprets it. This alignment of consciousness with literary narrative suggests another level of self-consciousness open to the novel form, in the contrasting of a distinctively novelistic prose style with one responding to what the other excludes. *The Child in Time*, building on McEwan's dissatisfaction with Freud, limitations of his own earlier work, and the political aspects of language itself, takes this option through the use of a visual prose style.

Stephen Lewis, protagonist of *The Child in Time*, is introduced as 'always, though barely consciously, on the watch for children'⁵⁸³. The first chapter of the novel explores what it means to be 'barely conscious' in this sense. In a committee meeting at the start of the novel, Stephen '[runs] memories and daydreams, what was and what might have been. Or were they running him?'⁵⁸⁴ Throughout the chapter, Stephen is preoccupied by memories of the day Kate, his daughter, went missing. He 'runs' them, interrogating them in the hope of understanding what has happened. The question which interrupts the narrative here literally and formally suggests that the role of consciousness is passive, interpreting what is presented to it. The beginning of the novel introduces an opposition between memory and daydreams, represented through visual impressions, and Stephen's narrative interpretation of them. His inability to

establish a coherent narrative is caused by the trauma of losing his daughter. The interpretation of his memories aims at re-establishing such a narrative.

McEwan describes the committee members as ‘divided between the theorists, who had done all their thinking long ago, or had it done for them, and the pragmatists, who hoped to discover what it was they thought in the process of saying it’⁵⁸⁵. Dennett notes that we ‘often do discover what we think (and hence what we mean) by reflecting on what we find ourselves saying’⁵⁸⁶. In contrast to Pinker, for Dennett this means that language plays an active role within cognition. Dennett writes that in human cognition a ‘multitrack process occurs over hundreds of milliseconds, during which time various additions, incorporations, emendations of content can occur, in various orders’⁵⁸⁷. Contents ‘arise, get revised, contribute to the interpretation of other contents or to the modulation of behaviour (verbal and otherwise), and in the process leave their traces in memory’⁵⁸⁸. At any point in this process ‘there are multiple drafts of narrative fragments at various stages of editing in various places in the brain’⁵⁸⁹. Probing these drafts precipitates different ‘narratives [...] single versions of a portion of “the stream of consciousness”’⁵⁹⁰. Stephen himself, mirroring the committee meeting, delivers ‘compulsive imaginary speeches, bitter or sad indictments whose every draft was meticulously revised’⁵⁹¹. The opening of the novel depicts the editing process as stuck in a loop, unable to narrativise trauma.

Stephen lacks ‘the concentration for sustained thought’, daydreaming ‘in fragments, without control, almost without consciousness’⁵⁹². These fragments are visual impressions, while ‘consciousness’ seems to denote their processing: ‘When he straightened he might have been conscious of a figure in a dark coat behind Kate [...] he was barely a conscious being at all’⁵⁹³. Running through the day of Kate’s disappearance, Stephen observes that the ‘bitter, anti-cyclonic day was to serve an

obsessive memory well with a light of brilliant explicitness, a cynical eye for detail'⁵⁹⁴. The description of memory as an 'eye for detail' served by light is belied by the irony of the details it offers up: a 'flattened Coca-Cola can' lying in the sun, an 'ingenious, sparkling' tree, and a dog shitting 'as though illuminated from within'⁵⁹⁵. Descriptions of light here suggest that McEwan may be drawing on the concept of the 'flashbulb memory', a term coined by Roger Brown and James Kulik in 1977⁵⁹⁶. The term denotes 'emotionally charged memories' wherein the world 'suddenly becomes very clear and enriched as we notice all manner of trivial details that we would not normally care about', as if the scene had 'suddenly been illuminated in a brilliant blaze of light'⁵⁹⁷. As Stephen runs through his memories, the novel begins to question those memories themselves in several ways. Stephen lists the items he bought at the supermarket that day:

What else did he buy? Toothpaste, tissues, washing up liquid, and best bacon, a leg of lamb, steak, green and red peppers, radice, potatoes, tin foil, a litre of Scotch. And who was there when his hand reached for his items? [...] He had been back a thousand times, seen his own hand, a shelf, the goods accumulate, heard Kate chattering on, and tried to move his eyes, lift them against the weight of time, to find that shrouded figure at the periphery of vision [...] But time held his sight for ever on his mundane errands, and all about him shapes without definition drifted and dissolved, lost to categories.⁵⁹⁸

The narration formulates a split between language and visual memory. Stephen's knowledge of that day is limited entirely to what he saw. The sequence goes on to emphasise gaps in Stephen's memories of the event: 'Something was rising in his throat and he bent double. Perhaps he was sick, but he had no memory of it'⁵⁹⁹; 'Then without any apparent interval, any connecting events, he was outside the supermarket,

waiting at the zebra crossing with half a dozen other people'⁶⁰⁰. As in *Saturday*, the determination of consciousness by a set of discrete visual images is associated with a lack of control.

There are two sets of metaphors at work in this sequence, verbal and visual, each of which is associated with a particular technology (the camera and written narrative). The two modes of thought (flashbulb and narrative memory) implied by these distinct sets of metaphors are both available to consciousness. This model of memory as a complex of two sets of metaphors is also present in contemporary third culture texts. Bruce Hood distinguishes between flashbulb memories and ordinary memories, the latter of which are 'not recordings but stories we retrieve from the compost heap that is our long-term memory; we construct these stories to make sense of the events we have experienced'⁶⁰¹. These memories 'change over time as they become distorted, merged, turned over, mixed in and mangled with other experiences that eventually fade'⁶⁰². Charles Fernyhough describes memory as a 'great storyteller.'⁶⁰³ This metaphor has been adopted partly as an alternative to the spatial metaphor of memories as 'physical things', which Fernyhough claims is 'guaranteed to mislead'⁶⁰⁴. Fernyhough categorises the metaphor of the flashbulb memory with the latter, and argues that they, and traumatic memories in general, are also fabrications⁶⁰⁵. McEwan first hints at a similar idea in *The Child in Time* through his reference to the 'shrouded figure at the periphery of his vision'. Given the phrasing, it is uncertain whether this fantasy figure is present at the periphery of his vision in memory, or whether this is a figure of speech. The bottle of Scotch is also ambiguous. An earlier passage mentions Scotch as his drink of choice since Kate's disappearance, before describing 'the stubborn conspiracy of objects – lavatory seat, bed sheets, floor dirt – to remain exactly as they had been left'⁶⁰⁶. The objects he lists in the passage above

undermine Stephen's initial attribution of a sustained objective character to his memories. This is further undermined by the role of language in constructing these memories, which are shown to be shaped by their telling. At one point, Stephen's stomach contracts and 'a bolt – he thought of it as a black bolt – of morning coffee' shoots into his mouth⁶⁰⁷. As Stephen prepares to tell his wife Julie what has happened, he finds himself 'looking down at her from an immense distance now, from several hundred feet', reflecting that 'from up where the air was thin and the city below was taking on geometric design, his feelings would not show, he could retain some composure'⁶⁰⁸. Fernyhough points out that observer memories, 'in which the rememberer appears as an objective, third-person character', also act as evidence that memories are reconstructions⁶⁰⁹. He notes that Freud argued that such memories 'acted as screens for other, more significant events which our developing egos have repressed'⁶¹⁰. This appears to be what is happening at the end of this sequence. Unable to make any sense of his visual memories through sustained interrogation, Stephen allows them to be altered into a fantasy.

The structuring of visual impressions by narrative applies to perception as much as to memory. Later on in the novel, Stephen thinks a girl in school is 'unmistakabl[y]' Kate⁶¹¹. After arguing his case with the headmaster, his recognition of the 'enormity of his claims and lack of immediate proof' has 'a physical effect [...] permeating to the very surface of his retina, right to the rods and cones, for the girl crossing the reception area was taller, more angular'⁶¹². Stephen becomes conscious of incongruous physical details he had previously overlooked, such as a woman behind him in a dress, 'an odd choice for a cold day', and a man carrying an empty bucket who refuses to answer Stephen when he asks why he is carrying it⁶¹³. At the same time, he revises the fantasy of Kate's presence in the face of evidence: 'Stephen was

thinking about Kate's spirit, how it might hover high above London, [descending] to inhabit the body of a young girl, infuse it with its own particular essence to demonstrate to him its enduring existence'⁶¹⁴. William Watkin's reading of the novel notes that Stephen's failure to mourn stems from his inability 'to see the lost object [Kate] as a lost part of himself and to see the missing Kate as only partially missing', in the sense that while 'the child in space is gone, the real child and his memories, the child in time, still lives'⁶¹⁵. This corresponds to the distinction between the intentional object and the real object, which I address in the next chapter. In contrast to Julie, who is able to distinguish between her 'love' for Kate and her 'desire' for her⁶¹⁶, Stephen 'cannot divide his daughter into parts and so his love for her is tainted by her lack making him love her as a thing he hates. In effect he loves his daughter as an idealised hallucination.'⁶¹⁷ Stephen is unable to distinguish between memory and desire, as components of himself, and their relation to objects outside of himself.

McEwan's novella *The Comfort of Strangers* (1981) includes a similar instance of misrecognition, when one character sees another swimming from a distance and thinks that she is drowning⁶¹⁸. McEwan explains the passage by saying that 'if you are so wrong about something you have to question whether your desires aren't involved in your judgment'⁶¹⁹. Influenced by Freud, this idea has persisted in his later fiction. Variants on the idea that 'satiated desire' brings 'clarity' recur in *The Child in Time*⁶²⁰ and *Saturday*⁶²¹. Lynn Wells notes another instance of belated recognition in the *The Comfort of Strangers*, figured 'like a repressed memory in a dream'⁶²². She argues that this description 'underscores the chronic inability of characters in this novel to see others distinctly, not as extensions of themselves'⁶²³. Seaboyer argues that a division 'between vision and language, looking and speaking'⁶²⁴ informs the novel's structuring; the first two chapters, for example, are dominated by 'a plethora of

concepts that are linked to the field of vision' while the third is 'a lengthy confessional monologue recited before a captive audience'⁶²⁵.

McEwan's early work depicts memory and perception as constructions in a way that is both influenced by Freud and congruent with the contemporary science of memory. He creates a split between vision and language: what is seen is determined by an overall narrative and altered by interpretation. On one reading, vision corresponds to consciousness while language corresponds to the unconscious. This is complicated by the fact that vision is also the medium for trauma, for incongruous, fixed details which undermine interpretation and narrative. As I discussed in the previous chapter, in his later work McEwan associates pre-linguistic thought (mentalese) with vision, building on an engagement with cognitive science begun in 'The Imitation Game'. M. Hunter Hayes and Groes note that 'formally and stylistically, the attention to detail, above all visual perspective and point of view, which is the hallmark of McEwan's writing [...] suggest an imagination schooled in the demands and conventions of visual media'⁶²⁶. The form's potential for a literal disjunction between what is seen and how it is described can be read as playing a part in the transition from the 'gruesome specificities'⁶²⁷ of McEwan's early work to *The Child in Time*'s treatment of memory and perception. A scene in 'The Imitation Game' shows an ATS officer giving a speech to male officers on the role of women. This speech is carried on in voice over in subsequent scenes, contrasted with the actions of female recruits, as well as with visuals of the officers' response to the speech. The form of knowledge depicted visually undermines the voice over. The claim that women 'need a 'thrill' to produce enthusiasm which is the first step toward *esprit de corps*' precedes a cut to 'ATS orderlies washing up'⁶²⁸; the claim that women 'have a fairly good instinct for justice and respect it, even at their own expense'⁶²⁹ is given in

voice over at the beginning of a scene in which an ATS sergeant disciplines the female recruits through abuse and by denying them permission to speak⁶³⁰. This disjunction between language and vision mirrors the one between thinking and thought (or ‘knowing’ in ‘The Imitation Game’) that I identified in the last chapter. McEwan’s formal and thematic response to Turing relates to his earlier response to Freud in this sense.

McEwan’s depiction of the operations of memory in *The Child in Time* complements his use of ‘thinking’ and ‘knowing’ in ‘The Imitation Game’, and of ‘thinking’ and ‘thought’ in *Saturday*, in its use of a formal distinction between seeing and interpreting. It also develops on aspects of his earlier work influenced by Freud, reformulating a distinction between consciousness and the unconscious as one between two aspects of conscious experience.

Begin to Transcribe

What links the models of thought proposed by Freud, Turing, and Dennett is interpretation. In each case, this stems partly from the particular methodologies employed by each thinker. Freud and Dennett both develop on this through the use of literary metaphors for consciousness. In *C*, McCarthy responds to Freud by using a different set of technological metaphors, most prominently that of radio transmission. While this metaphor responds to a particular technology, it is similar to the literary model in partly determining what Serge sees. What Serge sees then acts as the basis for an adapted spatial metaphor for the mind and its relation to its environment.

In the metaphors chapter I discussed *C*’s description of static as the sound of thought in relation to the computational and conduit metaphors. The conduit metaphor

relies on adapting and imposing a pre-existing spatial metaphor for thought onto a technological medium and associated field of study which inherently contradicts that metaphor. In cybernetics and information theory, transmission is a physical process incorporating two entities, causing the creation of messages. In the conduit metaphor, messages (conceptualised as discrete objects) are transferred between containers. The sequence in *C* describing the young Serge's use of RX radio emphasises this inconsistency through its depiction of visual perception, memory and imagination.

Serge builds 'a silence box around the desk to isolate his little RX station from the sleeping household – or, as it becomes more obvious to him with every session, to maintain the little household's fantasy of isolation from the vast sea of transmission roaring around it.'⁶³¹ This 'fantasy of isolation' from a vast sea of transmission fits the conduit metaphor. As in *The Child in Time*, the prose style seems to resist articulation by delaying it:

The first stretches are angry, plaintive, sad – and always mute. It's not until, hunched over the potentiometer among fraying cords and soldered wires, his controlled breathing an extension of the frequency of the air he's riding on, he gets the first quiet clicks that words start forming: first he jots down the signals as straight graphite lines, long ones and short ones, then, below these, he begins to transcribe curling letters, dim and grainy in the arc light of his desktop...⁶³²

The description stretches out, stopping short of articulating the actual transmission in favour of conveying impressions and the sense of a connection between Serge and material technology. The prose's conspicuous rejection of the message is signalled by the ellipsis which ends the passage.

Pieter Vermeulen reads the use of ellipses in *Remainder* as a representation of the trances that the narrator falls into, as absences in the text similar to the gaps in memory described by Stephen in *The Child in Time*. Vermeulen claims that ‘it is possible to read these ellipses as mimesis of an intermittently unconscious mind’⁶³³, implying that ‘the routines of psychological realism are harder to shake off than McCarthy’s programmatic statements seem to promise’⁶³⁴. A discussion of psychology hints at this point. Samuels, a former armed robber hired by Naz to advise on a re-enactment, has studied psychology in prison. He describes reading psychology textbooks as ‘like suddenly being given the key to my own past. Understanding it. If you don’t want to repeat things, you have to understand them’⁶³⁵. There is an implicit reference here to the narrator’s post-traumatic state, and the model of the mind at work in his rehabilitation: ‘No Doing without Understanding: the accident bequeathed me that for ever, an eternal detour’⁶³⁶. For both Samuels and the narrator, trauma is overcome through the imposition of a linear spatial structure. The reference is developed when Samuels describes his method for robbing a bank as using shock – ‘Psychology again, see?’ – to create a ‘bridge’, ‘suspension’, ‘enclave’ or ‘defile’ – a detour – within a ‘strict action reaction-reaction pattern’⁶³⁷. The narrator compares unanticipated factors within these patterns to the carrot used in his rehabilitation⁶³⁸. Trauma, or the relation to the environment, alters the spatial structuring of the mind, introducing defiles or detours. It is also the basis for this spatial structuring.

One sequence in *Remainder* establishes this distinction between pre-programmed psychological patterns and detours within them by adopting a prose style similar to parts of *The Child in Time*, split between visual impressions and an interrogative mode. The chapter depicting the narrator’s re-enactment of a shooting opens by reflecting on the surfaces of the road where it takes place. In contrast to the

diagrams used in planning, the actual surfaces contains ‘so much to analyse, so many layers, just so much *matter*⁶³⁹ that ‘your study of it would branch out and become endless until, finally, you threw your hands up in despair and announced to whatever authority it was you were reporting too: *There’s just too much here, too much to process, just too much*⁶⁴⁰. As the narrator, playing the part of the shooting victim, falls to the ground, ‘a whole tumult of images’ comes to him: ‘some sky, a lamppost, tarmac and the coloured patterns floating on the puddle’s surface’⁶⁴¹. The images are both representations and markers of his failure to process his experience. The patterns become more abstract, taking the form of ‘Greek or Russian letters’⁶⁴². The same tumult of images and letters recurs when the re-enactment is repeated⁶⁴³. The narrator then decides to repeat the sequence ‘at half speed’, ‘like in an action replay on TV’⁶⁴⁴. This reference to television hints at the narrator’s motivations. He notes the victim ‘would have edited most of’ the surfaces around him out, ‘dismissed them as mundane, irrelevant’⁶⁴⁵. Perhaps, he speculates, ‘if he’d looked more carefully’ at seemingly irrelevant details he may have been open to signals being sent⁶⁴⁶. Something similar to McEwan’s interrogative mode is developed when the narrator speculates on the signals being sent by the environment: ‘His mind would have asked this space to take him in, to shelter him – and been told: *No, you can’t get there without being shot; it’s just not possible*. It would have asked the same question of Movement Cars’ window, and been told: *No.*’⁶⁴⁷ Despite his attempts at a purely visual mode of consciousness, modelled on television, the narrator’s response to this form of consciousness takes the form of interpretation, and a form of the conduit metaphor, according to which his environment is sending signals to him. Visual images inevitably turn into phrases, messages. The rest of the chapter is split between the depiction of visual details and an interrogative mode speculating on the victim’s thought-processes⁶⁴⁸. At times such

as this, the narrator of *Remainder* wants to reject interpretation and understanding in favour of a sensual immersion within the material. His use of technological metaphors to conceptualise his visual relation to the world around him, however, leads him to understand this relation in terms of transmission. Therefore, he ends up deploying the same interpretative mode of thought as Stephen. As Fernyhough argues, the camera metaphor is both a visual and a spatial metaphor, in that it refers to a material technology. Immersion in the visual holds out the promise of a disruption of the spatial structures of the mind, but the mind's response is the re-imposition of the camera's spatial structuring.

C develops this point in depicting visual images as constructions, based on the narrator's relation to technology, but not representative of any actual objects in the environment. The RX sequence depicts visual impressions arising from radio transmissions which hint at new interpretations. A burst of messages, headlines from the press, break down and combine:

“Madero and Suarez shot in Mexico While Trying to Escape” ... “Trade Pact Between” “Entretien de” ... “Shocking Domestic Tragedy in Bow” ... “Il Fundamentore” ... “Husband Unable to Prevent” ... The stories blur together: Serge sees a man clutching a kitchen knife chasing a politician across parched earth, past cacti and armadillos, while ambassadors wave papers around fugitive and pursuer, negotiating terms.⁶⁴⁹

The visual impressions Serge ‘sees’ here are not the result of a transmission understood in terms of the conduit metaphor. They result instead from his integration within a broader technological circuit which includes material technology (the radio) and language. Serge assumes an interpretative stance appropriate to the medium he is

engaged with. This first allows him to draw out physical details and sense impressions, both in the form of what he ‘pictures’ and in the text’s depiction of his own engagement with technology. Taking off his headphones, the objects around him ‘solid, tangible’ are ‘somehow made more present by the tinny sound still spilling from the headphones’, itself ‘present too, material: Serge sees its ripples snaking through the sky’⁶⁵⁰. He is diminished in the interpretations he draws, and in the reductiveness of the stance. McCarthy signals this through a moment of self-parody: Serge ‘lets a fart slip from his buttocks, and waits for its vapour to reach his nostrils: it, too carries signals, odour-messages from distant, unseen bowels’⁶⁵¹. Like the protagonists of *Remainder*, *Saturday* and *The Child in Time*, Serge’s psychology is defined by the act of interpretation. All forms of sensual experience – audio, olfactory – become images, and then become words.

The final signal Serge receives is death. Picking up on a distress call, Serge hears, or thinks he hears, ‘the sound of people treading cold, black water, their hands beating small disturbances into waves that had come to bury them.’⁶⁵² Serge is partly based on the ‘Wolf Man’, Sergei Pankejeff, one of Freud’s patient’s, whose life story McCarthy summarises in *Tintin and the Secret of Literature* (2006)⁶⁵³. What Freud does to this story, according to McCarthy, is to ‘decode’⁶⁵⁴. McCarthy goes on to discuss Nicholas Abraham and Maria Torok’s reading of the case study in *The Wolf Man’s Magic Word: A Cryptonymy* (1976) using a ‘barrage of architectural metaphors to describe Sergei’s mind’⁶⁵⁵. On this reading, Sergei’s failure to mourn has opened up a ‘space within him which is not his own’⁶⁵⁶. Moreover, this space speaks: ‘The Wolf Man’s mind [...] is conducting a complex conversation with itself’⁶⁵⁷. Reading the sequence from *C* through reference to the conduit metaphor offers another way of understanding this complex of metaphors. Serge’s integration with material

technological networks and with language causes him to ‘see’ hallucinatory transmissions from a space beyond the material. He interprets these as transmissions according to the conduit metaphor. McCarthy goes further than Abraham and Torok in arguing that the spatial structure is also a creation of Serge’s mind, based on the interactions of various technological networks and of the limitations of interpretation. As in *Satin Island*, this structure follows on from the limitations of articulation as opposed to embodied integration. There is no one transmitting messages to Serge: not another RX user, not his unconscious.

In undermining this model of transmission, McCarthy is developing a critique of Freud’s model. Freud acknowledges the limitations of his ‘decoding’ approach in ‘The Wolf-Man’ (1918) when he admits that the work of analysis ‘finds its natural limit at the point where it becomes a question of capturing a multidimensional structure in the two-dimensionality of description’, and that he ‘must therefore content [him]self with offering individual limbs which the reader can join together into a living whole.’⁶⁵⁸ The radio sequence from *C* makes the same point. Catherine Malabou reads Freud’s metaphor of the mind as a city in *Civilization and its Discontents* as an argument that all metaphors are inadequate in representing the mind⁶⁵⁹. Nonetheless, as I’ve discussed, Freud use of metaphor there and elsewhere was central to his model of the mind. *C* implicitly argues that such uses of metaphor alter the mind in describing, while hinting that the use of metaphor may have been one cause of his anthropomorphic treatment of the unconscious.

Rather Like a Colour

As I discussed in the previous chapter, McEwan's positioning of 'thinking' as secondary to 'thought' reflects his engagement with different third culture texts. His use of this distinction also corresponds to the distinction between language and vision in his earlier work. While in *Saturday* this distinction partially reflects the influence of Pinker's adaptation of the representationalist model, McEwan's use of visual elements implies that 'thought' is extended.

At one point in *Saturday*, Perowne recognises a street-sweeper he encountered earlier in the day⁶⁶⁰. The first encounter acts as a moment of connection: describing the 'egg-yellow shading to red' of the sweeper's eyes, Perowne 'feels himself bound to the other man, as though on a seesaw with him, pinned to an axis that could tip them into each other's life.'⁶⁶¹ This leads him to a meditation on his social position relative to the other man, and on broader questions of social inequality and the ways in which it has been overlooked. Perowne's relation to Baxter is expressed most clearly in a passage which repeats the early encounter in a moment of connection through eye-contact. As Baxter falls down the stairs, 'Henry thinks he sees in the wide eyes a sorrowful expression of betrayal'⁶⁶². Eye-contact establishes a connection and disrupts Perowne's distance from others.

Teresa Winterhalter notes that Henry 'literally *and* metaphorically runs into numerous situations where he must revise what he thinks to be true'⁶⁶³. The opening scene of the novel acts as a 'lesson in reading', an explicit and detailed example of the dynamic characterising Perowne as 'a man of limited scope – a man capable of only glimpsed understandings beyond the frameworks of his everyday world'⁶⁶⁴. His gradual recognition of the burning object he sees from his window proceeds in discrete

stages, in which he ‘sees’ it as one thing, before ‘chang[ing] his mind’⁶⁶⁵. As he does so, his perception of the object changes too: he approaches the truth in increments, through a series of discrete images. The novel’s depiction of his thought-processes are continuous, connecting up these changes. Several sequences in the novel build short narratives around a close attention to the visual. Perowne’s memory of meeting Rosalind, his wife, is grounded in visual perception: the two meet when Rosalind has to have an operation to save her sight, and the prose pays particular attention to what Perowne can see at various points, and to his speculation as to what Rosalind sees⁶⁶⁶. This split between language and vision becomes prominent during the home invasion. When Rosalind enters, followed by Baxter and Nigel, her eyes are ‘wide and dark, desperate to communicate what her lips, parting and closing once, are unable to tell them’⁶⁶⁷. Descriptions of eye contact, and of where certain characters are looking are also used in relation to theory of mind: Perowne tries to ‘see’ the house and his family through Baxter’s eyes⁶⁶⁸; Baxter ‘lets him know with a look that he too has seen’ his move⁶⁶⁹. Perowne’s sense of his own helplessness is articulated by the phrase ‘suddenly sees’⁶⁷⁰, while Baxter ‘seems to be waiting to see what he himself will do next’⁶⁷¹. Baxter’s threats: ‘you better shut up or watch my hand’⁶⁷²; ‘I want you to watch my hand [...] You watch my hand and listen’⁶⁷³; ‘You’ll do it [...] Or you’ll watch my hand’⁶⁷⁴. The poem’s effects on Perowne are shown through impressionistic descriptions of what he ‘sees’ when listening to it⁶⁷⁵.

At one point, Perowne turns towards his sleeping wife, imagining ‘the green eyes seeking out his own’ while reflecting on the ‘communicative warmth’ of the human form, and the ‘commonplace cycle of falling asleep and waking, in darkness, under private cover, with another creature, a pale soft tender mammal, putting faces together in a ritual of affection.’⁶⁷⁶ The visual impression of Rosalind’s green eyes is

situated within one of Perowne's habitual reflections on the biological basis of his experience, as well as referring back to the 'iridescent greens' on his retina. Perowne deploys this attention to colour in describing mental processes beyond language. As I discussed in the last chapter, Perowne 'sees' mentalese as 'rather like a colour'⁶⁷⁷. The sequence in which this description appears goes on to refer back to the moment prompting his memories of Rosalind, describing 'a flash of red' streaking in across his peripheral vision 'like a shape on his retina in a bout of insomnia'⁶⁷⁸. The flash of red is a car about to crash into his, but he experiences it as having 'the quality of an idea, a new idea, unexpected and dangerous, but entirely his, and not of the world beyond himself'⁶⁷⁹. Nora Pleske's reading of the scene notes the perspectival restrictions in place: due to 'the intrinsic dynamism' of the 'perspective of the moving car', the 'sensual perceptions are cinematic in kind'⁶⁸⁰. The car that crashes into Perowne has the quality of an idea because of its similarity to a representation, deriving partly from McEwan's adaptation of Pinker's model, and partly from the similarities the novel establishes elsewhere between consciousness and the experience of watching a screen.

McEwan grounds his references to mentalese in visual description, implying a continuity between the brain and the world, as well as heightening the sense of the self as split. This technique is also evident in *Enduring Love*. Joe is in a library and sees 'a flash of a white shoe and something red'⁶⁸¹. This is a reference to Jed Parry, Joe's stalker, described earlier as wearing 'box-fresh trainers tied with red laces'⁶⁸². Joe does not immediately make the connection, but becomes aware of a 'mental-visceral state' he 'had yet to understand': 'I couldn't find the word for what I felt. Unclean, contaminated, crazy, physical but somehow moral. It is clearly not true that without language there is no thought. I possessed a thought, a feeling, a sensation, and I was looking for its word.'⁶⁸³ Once he settles on 'apprehension', he runs out looking for a

‘pair of white shoes, trainers with red laces’, still without articulating why⁶⁸⁴. The part of Joe that feels and that sees is separate in this sequence from the part that understands, that articulates.

This sequence reflects the influence of Damasio’s *Descartes’ Error* (1994), another text McEwan mentions in the acknowledgements⁶⁸⁵. Damasio argues that ‘certain aspects of the process of emotion and feeling are indispensable for rationality’ and that ‘the body, as represented in the brain, may constitute the indispensable frame of reference for the neural processes that we experience as the mind’⁶⁸⁶. The sequence demonstrates these related points: Joe’s realisation that he is being stalked by Jed is an interpretation of his ‘mental-visceral state’. Furthermore, his relation to the outside world is mediated by his body. Jed’s appearance interrupts Joe’s research into ‘the death of anecdote and narrative in science’⁶⁸⁷. He is reading a letter to *Nature* from 1904 contributing to a debate on consciousness in animals, in which the author relays an anecdote about a dog, concluding that ‘the dog must have had a plan, a sense of the future which it attempted to shape’⁶⁸⁸. Joe takes this as evidence of ‘how the power and attractions of narrative had clouded judgement’ in the author of the letter’s use of ‘a laughable anthropomorphism’⁶⁸⁹. In the sequence that follows, however, he is in the same position as the writer of the letter, interpreting his body’s reaction to its environment through narrative.

As I discussed in the introduction, Damasio argues that core consciousness originates in the disruption of homeostasis by objects in the external environment. Homeostasis is restored through extended consciousness. McEwan approximates this process in *Enduring Love*, based partly on his reading of Damasio. At the same time, he is building on formal aspects of his work originating in his earlier fiction: a split between vision and interpretation, each of which seems to represent a separate aspect

of the self. The distinction at work loosely corresponds to Freud's distinction between the unconscious and the conscious self: the former is a separate agency which precedes and determines the latter, undermining its sense of agency. With *The Child in Time*, McEwan resituates this distinction at the level of consciousness through his distinction between vision and language.

Erased, Then Written Out

In *Saturday* and *Enduring Love* visual impressions provide the medium through which the environment interacts with and alters the conscious self. As I've discussed above, these visual impressions are themselves partly determined by interpretation and language, as well as material technologies such as the camera or the car. What Serge 'sees' throughout *C* is malleable, a function of interpretation and transmission. Despite the structuring of this dynamic according to the conduit metaphor, it also reflects the conscious self's integration with the environment, and technological networks in particular.

The depiction of what Serge 'sees' as a result of his integration within extended networks complements the sense of continuity between Serge and technology seen during the RX sequence. Serge watches a jazz band⁶⁹⁰ that 'look like machine parts too, extensions of their instruments', their bodies and those of the dancers 'twitch and quiver with electric agitation'⁶⁹¹. One dancer, lets out 'a shriek of joy that manages to carry on its underside a note of anxiety, a distress signal. The music carries signals too: Serge's eyes glaze over as he tunes into them.'⁶⁹² As Serge 'closes his eyes, the signals become images: words and shapes being written out in light against a black void, then erased, then written out again, worlds being made and unmade...'⁶⁹³ This

sequence follows the same structure as the RX sequence. Serge engages with a particular technological medium, leading into a long description of the material basis of that medium, with an emphasis on the continuity of technology and the body. This description is then followed by a representation of that continuity in the form of mental images. As these images become more abstract, Serge takes them to be signals, transmissions to be interpreted.

This structuring of visual impressions is developed in *Remainder* during a sequence split between visual impressions and an interpretative mode. Elsewhere, *Remainder* relies on a more straightforward structuring of visual impressions modelled on visual technology. *Satin Island* uses the internet as a model for its own structuring of visual impressions and interpretation. Milly Weaver's reading of the novel argues that it 'expresses a desire to do away with literary expression in its traditional form'⁶⁹⁴. The novel's use of a visual mode is based in a contemporary environment, described early on: 'Around me and my screen, more screens: of other laptops, mobiles, televisions.'⁶⁹⁵ U watches 'images for hour after hour, my head rotating with them as they moved from screen to screen'.⁶⁹⁶ This description of watching screens 'for a long time' or 'over and over' recurs throughout⁶⁹⁷. The Great Report referred to throughout is understood by U in terms of his 'mental picture' of it⁶⁹⁸. Weaver notes the novel's concern 'with de-mediation, with achieving a complete coherence between object and mode of expression. The Great Report, on these terms, would look like, and constitute, a real material trace of what it represents.'⁶⁹⁹ Weaver also notes a recurring description of U 'picturing' various things working in the same way as C. She reads *Satin Island*'s focus on physicality in its description of mental images' as mapping onto 'its wider thematic interest in representational forms that want to bear a more direct material relation to their referent', or that want to do away with mediation altogether',

expressed through McCarthy's 'placement of his narrator's mind as a kind of photographic plate or film – a receptor and relater of direct physical images'⁷⁰⁰. As I discussed in chapter one, the metaphor of the mind as a photographic plate expresses not the unmediated mode of understand sought by McCarthy's protagonists, but rather the determination of visual perception by extended material processes. In 'Writing Machines' McCarthy quotes the narrator of Alexander Trocchi's *Cain's Book* (1960), who feels like 'a piece of photographic paper, waiting passively to feel the shock of impression [...] a kind of sponge in which the business of being excited was going on, run through by a series of external stimuli'⁷⁰¹. Consciousness is on this view a form of 'photosynthesis', according to which external stimuli leave traces on the 'writing machine' of the mind⁷⁰². Visual images in the mind derive from a connection between the individual and their environment, a material trace of what they represent, but not the straightforward connection implied by the representationalist model.

Unfolding, Broadening, Blossoming

While McEwan's depiction of vision in his later fiction can be taken to imply that language is secondary, this does not signify a broad acceptance of the ideas he has taken from Pinker. His depiction of a split between nature and culture emphasises that both play a role within consciousness. His use of this split is evident in *The Child in Time*. As Stephen immerses himself in nature and its modes of thought, he is eventually led to a strange new interpretation of his own experiences.

Damasio's argument in *Descartes' Error* contradicts Pinker in *The Language Instinct* on one important point. Pinker argues that language and culture can be understood as functions of human nature, following the logic of evolutionary

psychology. Damasio points out that ‘although culture and civilization arise from the behaviour of biological individuals, the behaviour was generated in collectives of individuals interacting in specific environments’⁷⁰³. Cultures and civilizations ‘could not have arisen from single individuals and thus cannot be reduced to biological mechanisms and, even less, can they be reduced to a subset of genetic specifications.’⁷⁰⁴ Towards the end of *Enduring Love*, Joe seems to side with Damasio. In conversation with an acquaintance, Joe acknowledges that at ‘another time [he] might have been drawn to elaborate the evolutionary perspective, drawn from game theory’, but now just feels sick⁷⁰⁵. Walking through a forest, he finds that he ‘could not believe in the primary significance of these grand cycles’:

Just beyond the oxygen-exhaling trees stood my poison-exuding vehicle, inside which was my gun, and thirty-five miles down teeming roads was the enormous city [...] What, in this description, was necessary to the carbon cycle, or the fixing of nitrogen? We were no longer in the great chain.⁷⁰⁶

The distinction between nature and culture explored here is also made in *The Child in Time*, and linked to its distinction between two kinds of consciousness. During sequences in which Stephen’s immersion in nature is depicted through a visual, impressionistic prose style, the novel emphasises the impossibility of fully distinguishing between linguistic and visual thought.

David James identifies recurring shifts from ‘perception’ to ‘description’ in *The Child in Time*⁷⁰⁷. The effect is similar to the delayed shifts between ‘diegesis’ and ‘mimesis’ identified by Hayes and Groes in McEwan’s screenplays⁷⁰⁸. One such pronounced shift occurs when Stephen first mistakes his adult friend Charles for a child. Their encounter is situated within visual description of the forest he goes out to

find him in, and the memories it prompts. As James points out, Stephen finds Charles ‘by chance – by a snapshot, a scan in the successiveness of impressions, arresting and modulating McEwan’s free-indirect-discourse from perception to description’⁷⁰⁹. James argues that a ‘continual slide from logical and realistic action to the impressionistic ‘urgency of contracting time’ complements McEwan’s refusal to allow the reader recourse to any sort of distanced, metadiegetic voice’⁷¹⁰. The narration follows on from recognition in shifting immediately from ‘the boy’ to ‘Charles’⁷¹¹ once the latter identifies himself in dialogue.

The space in which Stephen encounters Charles – a ‘chaos of vegetation’ in which Stephen’s ‘ignorance of the names of trees and plants heightened his impression of their profusion’⁷¹² – prompts the impressionistic mode through which Stephen first sees Charles as boy, as well as representing a mode of thought separate from language and from authority: ‘The last time he had walked in these woods, when Charles was still a government minister, everything had been skeletal and pure’⁷¹³. Earlier on, Stephen travels through ‘planted rows of conifers’, a ‘geometrical forest uncomplicated by undergrowth or birdsong’, finding that ‘its single-mindedness pleased him’⁷¹⁴. A field of wheat ‘cut neatly in two by an access track’ is described as ‘an obsessive landscape – it thought only about wheat’⁷¹⁵. The ‘single-mindedness’ of these landscapes is reflected in the more descriptive mode of this section. When Stephen then moves into ‘new surroundings’, in which the ‘trees around him were unfolding, broadening, blossoming’⁷¹⁶, the style shifts to one that develops on his earlier daydreaming, split between impressionistic visual description and interrogation, as he tries to understand the place’s familiarity: ‘He had never been here before, not as a child, not as an adult. But this certainty was confused by the knowledge that he had imagined it just like this. And he had no memory of imagining it at all.’⁷¹⁷

As in the earlier sequence, the interrogative tone seems to correspond to Stephen analysing his memory of the event. The shift is signalled in a passage again emphasising the role of memory, and marking the sequence as narrated from a point in the future: ‘Afterwards, Stephen tried to recall what was on his mind [...] But it was to remain inaccessible, a time of mental white noise’⁷¹⁸. Stephen – as present subject and as implied narrator – is both experiencing this for the first time and remembering it. McEwan references Freud in his account of experiencing something like this mode of consciousness in ‘An Only Childhood’ (1982), when pretending to be describing his present experience as a child to an imagined judge: ‘I saw my present self from the future and made it into a past. If I was walking into a street I would hear the judge say ‘And what did you do when you reached the corner?’⁷¹⁹ Present experience becomes memory to be questioned: ‘This became a means for me of self-observation and exploration [...] If this was a protean super-ego, I took it on board without discomfort.’⁷²⁰

Seeking ‘a connection which might begin a process of explanation and allay his fear’, Stephen attempts ‘to connect the place and its day with a memory, a dream, a film’⁷²¹. Stephen feels that a ‘sudden movement could dispel this delicate reconstruction of another time [...] If he shook his head hard, he would be back among the orderly pines.’⁷²² Stephen ‘sees’ something that he knows not to be there, becoming ‘a dreamer who knows his dream for what it is and, though fearful, lets it unfold out of curiosity’⁷²³. This mode of perception does represent a mirroring of environment in consciousness, in the sense that it corresponds to the ‘tumbling chaos’⁷²⁴ around him. Watching a couple through a window in the building, he is ‘immobile with the tension of inarticulated recognition’⁷²⁵. This tension can be read as a delaying of the shift identified by James from perception to description. When

this shift occurs, description's basis within perception leads to a counter-intuitive moment of recognition: 'There was no response from the young woman who he knew, beyond question, was his mother'⁷²⁶.

The sequence ends in the same way as the opening chapter. Firstly, by emphasising the subjective nature of memory: 'Perhaps he was crying as he backed away from the window, perhaps he was wailing like a baby waking in the night; to an observer he may have appeared silent and resigned. [...] He did not see himself walk back along the road.'⁷²⁷ As in the earlier sequence, Stephen defines objective knowledge in terms of 'seeing'. In contrast to the earlier sequence, gaps in memory and perception do not suggest failure but different possibilities. Secondly, the sequence also becomes fantasy: 'He fell back down, dropped helplessly through a void [...] hurled through dank muscular sluices. His eyes grew large and round and lidless with desperate, protesting innocence.'⁷²⁸ While his perception of the environment seems to emerge from the same interplay of vision and narration as his memories in the earlier chapter, the narrative has clearly been altered by a sustained delaying of articulation, building to an image of rebirth. This is not to say that the interpretation at which Stephen arrives at is fully reflective of experience beyond language. The shift to the description of the woman as his mother is all the more obvious for its strangeness, and the scene repeatedly signals that Stephen's experience is determined by his own understanding, and that the narration of the scene may take place after a conversation with his mother later on, in which she recalls a similar experience.

Damasio argues that in human societies there are 'social conventions and ethical rules over and above those that biology already provides. These additional layers of control shape instinctual behaviour so that it can be adapted flexibly to a complex and rapidly changing environment.'⁷²⁹ As he acknowledges, this point was

made by Freud in *Civilization and its Discontents* in his description of the ‘creation of a superego which would accommodate instincts to social dictates’⁷³⁰. Human nature and culture interact within consciousness. Both are extended. Their oscillation produces strange results: counter-intuitive interpretations of conscious experience, fantasies prompted by those interpretations, further interpretations of those fantasies.

The Sheer Insistence of Machinery

In contrast to McEwan, McCarthy pointedly rejects any division between nature and culture. Instead, he draws on Freud’s influence to characterise natural and cultural processes as machinic. Both are conceptualised according to the figure of the prosthetic. What Serge sees and how he interprets it are both determined by the actions of various prostheses.

From its first page, *C* depicts nature and technology as fundamentally the same. The first paragraph describes trees which ‘rise straight and inert as columns’ and birds which ‘whirr silently beneath a concave vault of sky’⁷³¹. On the next few pages, the novel depicts the ‘buzzing’ of a telegraph and of beehives, and mingles ‘copper wire’ with vines⁷³². The sequence in which Serge’s mind integrates with a projector, which I discussed in the metaphors chapter, complements this dynamic. Nature, technology, the human body, and the mind are all continuous.

In an article on the work of David Lynch published before *C* in 2010, McCarthy describes ‘a whole prosthetic order, a world of which prosthesis is not just a feature, but a fundamental term, an ontological condition’⁷³³. His use of the term ‘prosthetic’ here derives directly from *Civilization and its Discontents*⁷³⁴. He points out that prosthesis can also be understood as ‘a form of puppetry’, an interpretation

which Lynch dramatises through his depiction of ‘networks of control’⁷³⁵. Serge’s work in Egypt for the Ministry of Communications draws on these ideas while questioning their premise. The way in which Macauley, Serge’s superior, describes his work recalls McCarthy’s reading of Lynch’s films:

With the other parties all spying on us, if we appear to take something seriously, well, they take it seriously too. We call it ‘feedback’ – no, hang on a second ... ‘bleedback’: that’s it. Lots of those sequences you saw being written out across the blackboards in the other room get bled back too, mutated but still recognizable, in telegrams, transmissions, new acrostics ... Make sure they’re as confused as we are, eh? Plus, who knows? We might actually hit some nerve, activate something...⁷³⁶

Macauley aims at replicating one of Lynch’s ‘problems’ films, which, ‘lacking a stable reality field, are fraught with ontological discrepancies’, as does his near-namesake author⁷³⁷. This characterisation of his work also acts as an admission that no-one is in control of this situation; all that the ostensible puppet-masters can do is hope that they might hit a nerve. In a series of hallucinations, Serge locates the source of control elsewhere. At his radio, he has ‘vague impressions of bodies hovering just beyond the threshold of the visible, and corresponding signals not quite separable from the noise around them – important ones, their recalcitrance all the more frustrating for that reason. He sees these things’.⁷³⁸ Later, he ‘closes his eyes for a moment, and sees, behind the static, an operator: a female one, sitting at some kind of switchboard shaped like an outlandish loom’⁷³⁹. This ties the novel back to Freud’s work in hinting at a reading wherein Serge’s psychology is determined by his unconscious relation to his dead sister, Sophie, transmitting messages from beyond the grave. McCarthy implicitly critiques this reading. What Serge ‘sees’ is determined by his integration

within extended technological networks. This includes his unconscious relation to Sophie. Freud's analysis of the Wolf-Man can be read on those terms as well. We come up against the limitations of the interpretative mode here in tracing the implications of Freud's work, and his reflections on the prosthetic in particular.

A later section develops this point. Sitting an exam, Serge reads a question on railway tracks. He angles his arms on his desk, running an imaginary train across it before '[d]ismantling train and track to hold his paper down'⁷⁴⁰. He sets up the 'track' again to answer the second part of the question but is unable to prevent an imagined derailment, the catastrophe 'hatched within the network, from among its nodes and relays, in its miles and miles of track, splitting and expanding as they run on beyond the scope of any one controlling vision'⁷⁴¹. The exam hall fades 'for a while, and Serge finds himself carried on the buffer of his mind into a storm of steel rods, axels, crankshafts and combustion chambers, all impacting [...] the sheer insistence of machinery breaking its bonds as it comes into its own...'⁷⁴² As in the RX-sequence, McCarthy emphasises the overall structure at work through self-parody. When Serge engages with technology in any way, the effect is always of an integration of his body and mind with machinery, leading to mental images expressing his place within complex networks, eventually interpreted as a transmission whose message is death. Here, the technology is both the imagined train and the exam papers. Those taking the exams are described at the start as turning the pages of the paper like 'so many extensions of spring, fuse and escapement'⁷⁴³. The sequence as a whole depicts what should be the most straightforward instance of cognition in the novel. Serge reads an exam paper and solves several problems. This act of cognition, however, takes place within a broader structure recurring throughout: Serge's broader integration within technological networks determines what he thinks, expressed through visual images.

These images exert their own effect on his mind. This is similar to *Remainder*'s narrator's visualisations. Where in *Remainder* the images supported the narrator's project, in *C* these images are interpreted as transmissions from a space beyond the material, forming the basis of a spatial structure determined by the conduit metaphor.

This dynamic raises the question of the relation of consciousness to cognition. What Serge imagines here is a product of the mode of extended cognition he employs in trying to solve the exam problem, combined with his characteristic interpretative mode, but it ends up literally derailing this train of thought. This can be understood through reference to Lacan. Theo Tait points out that Tom McCarthy studied English at Oxford in the late 80's, a time at which 'works of French post-structuralists such as Jacques Derrida, Michel Foucault and Jacques Lacan filtered into the humanities departments of British universities, with often alarming results'⁷⁴⁴. *The Seminar of Jacques Lacan Book II: The Ego in Freud's Theory and in the Technique of Psychoanalysis 1954-1995*, which applies cybernetic concepts to *Beyond the Pleasure Principle*, first appeared in English translation in 1988. McCarthy's references to Lacan suggest a certain familiarity with this particular text; the renewed engagement with psychoanalysis and media theory in the lead up to the writing of *C* and *Satin Island* may have prompted a re-reading. In conversation with the artist Margarita Gluzberg in 2012, McCarthy describes Lacanian psychoanalysis as 'all about circuits and loops'⁷⁴⁵. Lacan's model of perception in *The Ego in Freud's Theory* fits McCarthy's depiction of consciousness in *C*.

Lacan describes 'pure perception', without ego, through a 'myth of consciousness' defining it as 'the reflection of the mountain in a lake'⁷⁴⁶. The subject 'would be strictly identical to this perception if there weren't this *ego* which, if one may put it, makes it emerge from out of its very perception in a relationship of

tension'⁷⁴⁷. The phrasing here expresses the model of causality at work: the ego and the image are each determined by the other. Pure perception of this kind is 'essentially a phenomenon of consciousness, which won't have been perceived by any ego, which won't have been reflected upon in an ego-like experience'⁷⁴⁸. Lacan's 'materialist' definition of consciousness is of something occurring each time 'there's surface such that it can produce what is called *an image* [...] the effects of energy starting from a given point of the real'⁷⁴⁹. This 'image', within the context of the 'intersubjective relation', is the grounds for an assumed unity of the subject's disparate sensations, that is, the ego. The ego is what separates the human from the 'animal machine', 'strictly riveted to the conditions of the external environment'⁷⁵⁰. The human 'has a special relation with his own image – a relation of gap, of alienating tension. This is where the possibility of the order of presence and absence, that is of the symbolic order, comes in'⁷⁵¹. The human being is, in Lacan's work, both a 'writing machine' *and* a camera. Extended cognition produces an image, which forms the basis of the subject's assumed unity. This assumed unity then acts on the extended cognition. This explains how the images that Serge 'sees' play a role in his relation to his environment.

Another sequence relates this point directly to Freud's 'prosthetic god'. As Serge flies for the first time, the landscape below him 'flattens, voids itself of depth'⁷⁵². Features of the landscape 'turn into marks across a map', becoming 'artificial and provisional', re-aligning themselves 'like parts of a machine [...] cogs and arms swivelling around an axis at whose centre Serge's own head sits'⁷⁵³. Everything around him becomes 'static' as though 'no independent movement were permitted of the landscape anymore: all displacement and acceleration *must* proceed from the machine'⁷⁵⁴. The sequence follows the same pattern as the other moments of integration. The landscape 'prints itself across Serge's mind'⁷⁵⁵. As it develops, the

sequence introduces the same blurring of distinct senses. Serge ‘gets into the habit of firing in certain rhythms, ones that carry with them first words, then whole phrases [...] words fly from his gun’⁷⁵⁶. In translating sensation into words, the sequence allows for intertextual reference; one such rhythm reminds Serge of ‘a line that’s struck in his head’ from childhood⁷⁵⁷. The machinery is anthropomorphised. A plane drags for a while ‘as though still connected psychologically if not physically to the ground’⁷⁵⁸. When his plane briefly flies alongside a shell, the latter ‘seems so placid, so companionable’ that ‘it and they are both just bodies in space, harmless blocks of matter [...] it seems to Serge that the shell and the plane are interchangeable – and that the shell and *he* are interchangeable’⁷⁵⁹. This reversal accompanies a sense of everything being connected: ‘disparate locations twitch and burst into activity like limbs reacting to impulses sent from elsewhere in the body, booms and jibs obeying levers at the far end of a complex set of ropes and cogs and relays’⁷⁶⁰. The sense of total connection established through these techniques builds towards a level of abstraction that provides its own detached perspective: ‘Within the reaches of this space become pure geometry, the shell’s a pencil drawing a perfect arc across a sheet of graph paper; he’s the clamp that holds the pencil to the compass, moving as one with the lead; he *is* the lead’⁷⁶¹. This perspective is ‘godlike’; Serge feels ‘elevated by machinery and signal code to a higher post within the overall structure of things, a vantage point from which the vectors and control lines linking earth and heaven, the hermetic language of its invocation, its very letterings and script, have become visible, tangible even’⁷⁶². The sense of being at the centre of the world positions Serge as ‘the gate, bulb, aperture and general projection point that’s brought it about’⁷⁶³. Serge’s sense of god-like agency here is a function of his becoming a camera, and of the world around him abstracting into text. What he sees is determined by technology in the

sense that he is in a plane. Through describing the landscape in terms of a text, McCarthy links this technological perspective with that of language. What Serge sees is further determined by his status as a writing machine. While flying, he is completely integrated with technology. The altered form of perception this leads to however provides the basis for a sense of detachment, and an illusory feeling of power and omniscience.

In defining all aspects of the individual's relation to the world, whether visual or linguistic, as functions of machinic prostheses, McCarthy arrives at a model similar to that used by McEwan. Both vision and interpretation are extended. They also constitute each other. McCarthy uses the distinction between vision and interpretation to emphasise the role of multiple prostheses in constituting both aspects of this relation. The image is a condensation of various extended processes rather than a discrete representation of objects in the world. As an image, however, it forms the basis of the ego. To put it in my terms, as a discrete object, the image serves as a reference point for the spatial structures of the mind, whether computational or grounded in the conduit metaphor. These structures partly determine the image, but they are also altered by that image. The individual agency of the ego, as opposed to the animal machine, is grounded in a feedback loop.

McCarthy's collaborator Critchley defines trauma as 'something that comes from outside the self, the irruption of a heteronomous fact'⁷⁶⁴. He goes on to describe Lacan's thesis that ethics 'is articulated in relation to the order of the real', that 'the moral law [...] insofar as it is structured by the symbolic, is that through which the real is actualized'⁷⁶⁵. The real is embodied in the Thing, 'the excluded interior to my interiority is exterior to me'⁷⁶⁶. As I discussed in the last chapter, in *Remainder* McCarthy depicts nouns and visual impressions as Things in this sense: discrete

objects formed through the actions of extended processes. In *C*, the visual impression, or transmission is formed in the same way and provides the basis of the ego as a defined structure.

Truth That is Not Otherwise Available

While McEwan establishes a dichotomy of nature and culture, he does not privilege one over the other. Stephen's recovery from trauma relies not only on responding to the multiplicity of the natural, as conveyed through vision, but on identifying and accepting a corresponding multiplicity within interpretation and culture. This adaptation of a Freudian process of mourning draws on McEwan's reading of Bohm, who, like McCarthy, argues that all aspects of thought derive from the same material basis.

Through a sustained engagement with the visual aspects of his experience, Stephen arrives at a new interpretation, that he has somehow witnessed a conversation between his two parents prior to his own birth, and affected the outcome by his presence. Emily Horton's reading of the novel situates this interpretation within the novel's references to quantum physics⁷⁶⁷. Drawing on other readings of the novel defining Stephen's engagement with quantum physics as delusion⁷⁶⁸, she notes that the sequence in which Stephen mistakes another girl for Kate suggests a 'fantastic displacement', invoking a Freudian 'critical reading of science as a psychological response to traumatic experience'⁷⁶⁹. Countering this reading, Horton argues that Stephen's 'unexpected encounters with a subjective time-world challenge his initially traumatised conception, replacing this with a more conciliatory model of physical wholeness', situating science as 'a vehicle for psychological rehabilitation, expanding

Stephen's repressed emotional vision.⁷⁷⁰ The influence of Bohm's work on McEwan is felt in his use of visual impressions. Stephen reflects that 'he never really thought about his situation at all, for thought implied active and controlled; instead images and arguments paraded in front of him, a mocking, malicious, paranoid, contradictory, self-pitying crowd.'⁷⁷¹ The passage reflects the influence of Bohm, whose *Wholeness and the Implicate Order* (1980) McEwan mentions being 'indebted' to⁷⁷² in the acknowledgements, and who Thelma mentions as one of her colleagues⁷⁷³. Bohm introduces the book with a discussion of thought:

Whenever one *thinks* of anything, it seems to be apprehended either as static, or as a series of static images. Yet, in the actual experience of movement, one *senses* an unbroken, undivided process of flow, to which the series of static images in thought is related as a series of 'still' photographs might be related to the actuality of a speeding car.⁷⁷⁴

The individual's perception of reality in the form of a series of static images is related to 'the notion that the one who thinks (the Ego) is at least in principle completely separate from and independent of the reality that he thinks about', which is 'firmly embedded in our entire tradition'⁷⁷⁵, along with 'a function of thought tending to divide things into separate entities, such entities being conceived of as essentially fixed and static in their natures'⁷⁷⁶. From an entirely different perspective, Bohm formulates a model close to that of Lacan, according to which the fixity and separation from the material of the ego determines the use of discrete image in perception. The grounding of Bohm's model in the discoveries of quantum physics introduces a similar level of complexity to the model of causality at work: both the ego and the image are aspects of an indissoluble whole, effectively creating each as discrete entities.

In the introduction to ‘or Shall We Die?’ McEwan characterises the Newtonian world-view and that of the new physics as ‘representing a male and female principle’⁷⁷⁷, an argument echoed by Thelma in *The Child in Time* when discussing Stephen’s vision⁷⁷⁸. Stephen himself phrases the distinction between masculine and feminine in terms relevant to McEwan’s use of language and visual impression. Remembering a conversation with Thelma, he reflects that while men ‘froze into place, they tended to believe that they were somehow at one with their fates’, that they ‘were who they thought they were’, women ‘upheld some other principle of selfhood in which being surpassed doing’, and could not ‘believe that you were entirely the thing you did’⁷⁷⁹. The distinction is embodied by Stephen’s parents, Douglas and Claire. A conversation with his father is preceded by a description of ‘the orderliness of cleaned, sharpened garden tools stowed in their proper place [...] details which had oppressed him as an adolescent now cleared the mind and left it uncluttered for more essential things’⁷⁸⁰. This description of the mind recalls both the ‘single-minded’ countryside, altered by technology, and Stephen’s obsessive, traumatised consciousness during the first daydreaming sequence, searching for relevant details. Again, there is an irony to those details: ‘The mind was freed to talk about the weather’⁷⁸¹. Stephen has come to discuss his vision, but his father will not allow him to pursue the subject. Later on, his mother addresses this when the two meet alone: ‘Your father has his own reasons for wanting to forget about those.[...] It’s the Air Force training. If it’s untidy or it doesn’t fit, throw it out.’⁷⁸² Though he meets with his mother in the same ordered space, there is an allusion to his vision, as his mother apologises ‘for the chaos there visible only to herself.’⁷⁸³ Claire describes seeing a child while arguing with Douglas. At this point, both have decided to abort Stephen, without having put it into words. The vision changes her mind:

Thinking about it over the years, I realise it was probably the landlord's body, or some kid off one of the local farms. But as far as I was concerned then, I was convinced, I just *knew* that I was looking at my own child" [...] How extraordinary that she could think of destroying this child simply because she felt piqued by her fiancé. The baby, her baby, was suddenly flesh [...] it was not an abstraction, not a bargaining point.⁷⁸⁴

It is this realisation, rather than rational argument, that allows her to resolve the conflict with her husband, in considering the roots of his 'devious speech': 'It was not duplicity or cowardice she was witnessing here. This was a man summoning all his manly powers of reason and logic, all his considerable knowledge of current affairs because he was in a deep panic.'⁷⁸⁵ The shift from her subjective account of the vision in dialogue to the its interpretation in third-person narration seen above corresponds to the shifts from mimesis to diegesis seen throughout the novel, as well as accompanying Claire's articulation of her feelings in her conversation with Douglas. It also reflects the implications of this conversation for Stephen, who is able to interpret his own subjective vision through his engagement with Claire's.

Lynn Wells's reading of the scene situates it within Stephen's ongoing engagement with the points of view of others, arguing that the 'shift in focalization throughout [Claire's] narrative away from Stephen's perspective for the first and only time in the text underscores the increasing importance of imagining different points of view'⁷⁸⁶. Wells points out that despite the 'coincidence between the two stories', the 'two versions are not identical' - as Claire suggests⁷⁸⁷ - noting that the 'partiality of her vision in this scene'⁷⁸⁸ is signalled by Claire's loss of sight due to illness⁷⁸⁹. Serpell and Laura Marcus's readings of the first section of *Atonement* (2001) shows how the aligning of perceptual restrictions and the shaping of thought by language has persisted

in McEwan's later fiction⁷⁹⁰. As James points out, the depiction of a speeding car in *The Child in Time*, leading up to a crash, similarly emphasises 'perceptual restrictions, conveying spectacular events by accreting successive details' rather than narrative intervention⁷⁹¹. In its depiction of a speeding car in this way, the scene links McEwan's use of such restriction to Bohm's model of visual impressions and the ego, as well as presaging the cinematic perspective described by Pleske. Wells goes on to establish how Stephen's 'growing ability to recognize others as individuals beyond the scope of his desire is also couched in visual terms'⁷⁹². Claire's visual impression here is central in allowing her to alter the conversation between her and her husband, as well as altering gender roles, and in understanding how her husband's subjective experience determines his speech. It expresses what cannot be acknowledged by the terms of the preceding conversation in the form of a discrete image. It clearly emerges from this conversation, in embodying what it cannot acknowledge, but in this embodiment alters the terms of the conversation. Similarly, Stephen's vision of his mother occupies a similar role within his self-narrative, embodying the trauma of his recent experience as well as allowing for the possibility of change. Claire's vision allows her to recognise that Douglas's own experience does not correspond to what he is saying, allowing her to alter the conversation, and reconcile their points of view. Stephen's acceptance of his mother's subjective vision allows for a narrative structure appropriate to both, modelled on Bohm's ideas about time. Whether or not this narrative corresponds to reality – that is, whether or not Stephen has somehow travelled back in time to prevent his own abortion – is beside the point. In its reconciliation of two intensely personal experiences, it allows for a more positive narrative, leading towards Stephen's eventual reconciliation with his wife.

Bohm defines thought as ‘the active response of memory in every phase of life [...] to each actual situation, which response in turn leads to a further contribution to memory, thus conditioning the next thought’⁷⁹³. There is ‘in this mechanical process no inherent reason why the thoughts that arise should be relevant or fitting to the actual situation that evokes them’⁷⁹⁴. The perception of ‘whether or not any particular thoughts are relevant or fitting requires the operation of an energy that is not mechanical, an energy that we shall call *intelligence*’⁷⁹⁵. This consists of ‘*perception through the mind* of abstract orders and relationships such as identity and difference, separation and connection, necessity and contingency, cause and effect, etc.’⁷⁹⁶. Thoughts are presented to the conscious subject in the form of visual images, static representations of the flow of thought. The subject must then structure these images, or identify the correct structure to apply to them. Bohm directly challenges the Freudian model of an ego characterised by fixed structures of response to experience. This critique can be extended to the computational model. However, the process that Bohm calls *intelligence* can also be understood as mechanical. McCarthy and McEwan both characterise structures of interpretation as adapted from a broader cultural space, rather than as arising spontaneously within the individual mind. Serge adopts a variation of the conduit metaphor to structure his experiences, leading him to believe that he is receiving transmissions from the dead. Stephen, on the other hand, develops a structure in collaboration with his mother, based on a recognition of the subjectivity of their visual images. In mediating between two extended processes, individual consciousness is able to exert a shaping effect on those processes. The way in which Serge’s consciousness does so acts as a cautionary example, entrenching a mistaken structure of interpretation. This structure feeds into an obsession with his dead sister. Because he mistakes the conduit metaphor for reality, Serge interprets what his

experience as a transmission. Stephen, on the other hand, is able to mourn by recognising their extended nature of his thought.

Chapter Four - Other Selves: Intentionality in *The Book of Dave* and *The Accidental*

Then he could hear It – the still, small, powdery voice of SmithKline Beecham... *There is no god but you Dave, It whispered, and you can be your own prophet [...] Peepul, they gotta be kept in line ... there hasta be orforitë ... It stands to reason, dunnit ... There hasta be a Book of Rules ... A set of instructions you can follow to the letter ... Like the Knowledge ...*

- Will Self, *The Book of Dave* (2006)

Is that it? Amber said. Is that the highpoint, the true-blue, the secret can't be told everything-must-go ultimate all-singing all-dancing story-of-you? [...] Jesus fucking wept, all these endless endless fucking endless selfish fucking histories, she was saying.

- Ali Smith, *The Accidental* (2005)

In the last chapter, I showed that two contemporary writers have built on Freud's distinction between consciousness and unconsciousness, developing it into a loose framework for distinguishing between aspects of consciousness. Consciousness is aligned with interpretation and language, while the unconscious is aligned with visual aspects of experience. Both aspects partially determine the other, and both are integrated with prosthetics that extend beyond the individual body. What the individual sees is determined by the actions of various extended material processes.

In the introduction I noted a link between Dennett and Freud: the 'intentional object'. This is the object as it exists in the mind, distinct from but partially determined

by the actual object. If, as both Dennett and Freud argue, the intentional object emerges from the interactions of the actual object and a manifold of beliefs, it follows that the actual object can alter the mind through its effect on those beliefs, which relate not only to the intentional object in question but to various other objects. There are potentially as many prosthetics determining individual consciousness as there are objects in the world available to perception. The same applies to language. The individual's interpretation of their experience breaks down into individual words and phrases, and their combinations, each of which can be applied to various objects. Dennett calls these intentional states. As one of several theoretical supports for his adaptation of theory of mind, the intentional stance, memes form the basis of his validation of folk psychology. However, taken on their own terms, they can also be used to argue against it.

Susan Blackmore reads Dennett as arguing that '[i]n our normal state of consciousness the whole experience is dominated by the selfplex which uses words and other useful memetic constructs to weave a very fine tale', setting 'everything in the context of a self who is doing things.'⁷⁹⁷ She diverges from Dennett in her claim that when, for example 'gazing in awe at the view from a mountain top, or engrossed in a creative task, the selfplex does not dominate and other states of consciousness are possible. Then there can be consciousness without self-consciousness.'⁷⁹⁸ In this chapter, I argue that a formal technique employed by Smith and Self – the use of italicised phrases set within ordinary text to represent discrete words or phrases within consciousness – can be read as following on from the broad cultural influence of Dennett's formulation of memes, and therefore as a representation of memes within the novel. Both writers use this technique, along with a close attention to the subjectivity of visual perception, to depict intentional objects determined by these

memes, but also to depict the action of actual objects on the selfplex. Both depict the narrative self as a locus of external control, hinting at other possible forms of subjectivity through the representation of other forms of consciousness. I begin by looking at the use of italics by both writers to depict memes. I then show how both writers use a different instance of mistaken interpretation to question the distinction between the inside and outside, and the subject and object, and a linear model of causality. Finally, I show how both have developed a critique of narrativity in their short stories, which they build on to situate their depiction of memes in opposition to the intentional stance.

I've Said My Piece

Dennett claims that one ‘can discover multiple selves in a person’ when the most appropriate story to be told about them ‘doesn’t cohere around one self, one imaginary point, but coheres (and coheres much better, in any case) around two different imaginary points’⁷⁹⁹. He reiterates that we ‘sometimes encounter psychological disorders, or surgically created disunities, where the only way to interpret them or make sense of them is to posit in effect two centers of gravity, two selves’⁸⁰⁰. This is the case in *The Book of Dave*. Discussing the breakdown which has caused Dave to write the titular ‘revelatory text’, his doctors make a distinction between Dave ‘the patient’ and Dave ‘the god’, the latter of whom has ‘revealed this text’ to the former⁸⁰¹. This distinction is represented formally through an adaptation of indirect free style, incorporating third-person and italicised first-person prose, established from the start of the first chapter:

Hunched low over the wheel, foglamps piercing the miasma, Dave Rudman powered his cab through the chicane at the bottom of Park Lane. The cabbie's furious thoughts shot through the wind-screen and ricocheted off the unfeeling world. Achilles was up on his plinth *with his tiny bronze cock*, his black shield fending off the hair-styling wand of the Hilton, *where all my heartaches began*. Solid clouds hung overhead *lunging up fresh blood*.⁸⁰²

The italicised portions of the text are marked as Dave's subjective perception of what he sees, his 'furious thoughts'. Self introduces this split between third-person narration and italicised first-person in *The Book of Dave*, and has made use of it throughout his fiction since. In his copy editing rules for *Umbrella* Self formalises the technique, marking italics as used for "ejaculatory" thought – that is, thought that seems to pop out from the ordinary, either because of its figurative qualities, or because of its heightened emotional qualities, or both⁸⁰³. *The Book of Dave* reveals the subjective perspective represented in italics to be an expression of psychosis. These thoughts establish themselves first as tied to the perspective of a stereotypically misanthropic and prejudiced cabbie casting his eye on 'Tatty coaches full of carrot-crunchers up for the Xmas wallet-fuck [...] boogaloo bruvvers in Seven Series BMWs, throw-cushion specialists in skateboard-sized Smart cars, Conan-the-fucking Barbarian motorcycle couriers' and so on⁸⁰⁴. Self has described the mixed text in this novel as representing a deliberate mixing of neutral and demotic registers, used to express a contemporary loosening of class divisions⁸⁰⁵. The lower-middle-class Dave, son of a teacher and a small business owner, has become a cab-driver and adopted a working-class accent and lifestyle. The split between third-person and first-person narration can be read in terms of a split between aspects of Dave himself, rather than between character and narrator. This is emphasised as the italicised thoughts move on from such prejudiced

observations to a related stream of self-justification and self-aggrandisement. This builds to a veiled reference to the titular book: *'I've done it now, I've said my piece, an' I'll tell you what the real knowledge is fer nuffing!'*⁸⁰⁶ The text then shifts back to the third-person narration, as Dave distances himself from the author of the book through a passage which dwells on what he 'sees':

In a rare moment of clarity – an oblique glance through the quarterlight of his mind – Dave Rudman remembered the long shifts in his Gospel Oak flat. The tapping and the transcribing, the laying down of His Law. Then his eyes tracked back to the misty windscreen, and the figure hunched over the keyboard hadn't been him at all – only some other monk or monkey.⁸⁰⁷

Dave dissociates himself from the italicised voice. The chapter begins by implying that this split in the text represents Dave's perspective within an objective third-person mode, then situates this split within Dave's consciousness, and, finally, posits two separate selves. Dave's last fare, Jane Bernal, a psychiatric consultant, confirms Dave's pathology, as the text shifts to her perspective to reveal that Dave's italicised ramblings are being muttered out loud to himself⁸⁰⁸. In shifting to her perspective, however, the text maintains a split between italicised first-person and free indirect style third-person.

The technique Self introduces here employs first-person narration as an embodiment of another self, an alien presence within the psyche. Dave as subject, speaking through the italicised voice, is contrasted with Dave as object, depicted in third-person narration. Self's interest in this contrast goes back to his first novella, *Cock and Bull* (1992). M. Hunter Hayes notes that 'Cock', the first of its sections, 'contains a double-tier perspective in which the supposed third-person narrative that

forms the majority of the novella appears in roman type and the first-person narrative by an unnamed male speaker appears in italics⁸⁰⁹. It transpires by the end that the italicised narrator is the protagonist of the third-person narrative, having shifted from woman to man: ‘She/he appears dissociated from his/her previous identity as Carol, justifying the use of a third-person masculine point of view and its covertly biased perspective’⁸¹⁰. This idea is developed in *My Idea of Fun* (1993). The novel is split into two sections, ‘The First Person’ and ‘The Third Person’, each narrated accordingly, separated by a short intermission. Over the course of this intermission, the protagonist Ian Wharton’s monologue is gradually taken over by another self. The shift is represented as a loss of innocence, or its recognition: ‘I’ve gone looking for the child inside myself [...] I’ve pursued him down the disappearing paths of my own psyche [...] I’m looking deep into my own eyes. Ian, is that you, my significant other? I can see you now for what you are, Ian Wharton.’⁸¹¹ The intermission ends with the narrative voice disassociating itself from Ian as object: ‘And now, Ian Wharton, now that you are no longer the subject of this cautionary tale, merely itself, now that you are just another unproductive atom staring out from the windows of a branded object, now that I’ve got you where I want you.’⁸¹² Like Smith, Self argues that adult consciousness is inherently narrational.

The epilogue to *Dorian: An Imitation* (2002) can be read as a bridge between *My Idea of Fun* and *The Book of Dave*. It reveals the preceding novella to have been authored by one of its characters, Henry Wotton, shifting focus to a version of Dorian distinct from that depicted by Wotton. As Dorian reflects on what he sees as Wotton’s distorted and self-serving interpretation of events, another voice starts to emerge within his own consciousness. As the narrative voice closes in on Dorian, he begins to articulate a measured sympathy for Wotton and his work: ‘Dorian ambled along the

pavement deep in thought [...] Certainly, despite his poetic licence Henry had displayed a powerful turn of phrase in his writing. It would be amusing to show Fergus Rokeby his portrayal'⁸¹³. There is then a shift back to a more removed mode, and a shift back to Dorian's initial response: 'No – Dorian pulled himself up – on second thoughts, he wouldn't be showing the Ferret or anyone else this travesty'⁸¹⁴. At a planning dinner for an exhibition, Wotton's influence makes itself felt as an 'internal voice [...] so close to [Dorian's] inner ear he felt the breath tickling him from within', sneering in the first-person⁸¹⁵. The 'Voice', as it is then marked, distorts Dorian's perspective: 'everyone around the table began to look different, and all they were saying to sound different'⁸¹⁶. Dorian and the Voice begin to talk to each other, the former recognising the latter as 'Henry's narrative voice in that stupid book of his'⁸¹⁷. The enduring presence of the typescript, which Dorian decides to destroy before changing his mind, influenced by the Voice⁸¹⁸, allows Wotton to take over the first-person depiction of Dorian's consciousness, altering his perception and shifting the third-person narration back to Wotton's interpretation.

In an essay on Oscar Wilde, published in 1998, Self asks if it is 'fanciful to observe of' the author, 'whose epigrams, tropes, witticisms and apophthegms are still retold every minute throughout the great metropolis, that in a way we do hallucinate him, imagine his orotund tones in our mind's ear?'⁸¹⁹ This seems to be what happens to Self's version of Wilde's character. This line of thought is drawn from Julian Jaynes's *The Origin of Consciousness in the Breakdown of the Bicameral Mind* (1976). Self compares his idea to Jaynes's suggestion that the Natufian people heard the voice of their dead king as vocal commands within consciousness⁸²⁰. In expanding and developing the technique employed in the epilogue to *Dorian*, *The Book of Dave* also implicitly refers to Jaynes's overall argument that full self-consciousness was

preceded by periods in which people interpreted internal voices as commands from their gods. In the passage Self describes, Jaynes depicts these hallucinated commands in terms of a feedback loop between language and an individual's relation to their society. The Natufians were not conscious, in the sense that they were instead 'signal-bound, that is, responding each minute to cues in a stimulus-response manner, and controlled by those cues'⁸²¹. The auditory hallucinations Jaynes describes 'may have evolved as a side effect of language and operated to keep individuals persisting at the longer tasks of tribal life. Such hallucinations began in the individual's hearing a command from himself or from his chief.'⁸²² These commands, once implanted within the psyche, 'could with time improvise and 'say' things that the king himself had never said' as responses to social cues⁸²³. The Voice in *The Book of Dave* can also be understood in this way. The Voice originates in Dave's identification with his professional role, and with his learning of the Knowledge. The runs and points of the Knowledge appear in italics as Dave's response to his place within the environment:

*Bear left Meadway Crescent. Bear left Meadway. Right Hampstead Way ... Driving by the Heath extension, looking over the mock meadows, Dave remembered childhood forays up there with his brother, Noel [...] Right Wildwood Road. Left North End Way. Comply Jack Straws Castle ... Comply ... comply with your fucking restraining order, you dickhead! If you do it again and they catch you, you'll be in a fucking sweat box! Dave's headlights washed over a gaggle of seven-year olds who were tumbling out of the new-old coaching inn.*⁸²⁴

The non-italicised third-person narration shows Dave thinking of children, prompted by his surroundings, a line of thought which might lead him back to thinking of his son. The Voice, in italics, imposes its own mapping of these surroundings – the

Knowledge, which Dave has memorised – before shifting to a vocalisation of a more generalised authority. In writing the book, the Voice assumes an agency beyond its origins in seeking to apply the reductive dynamic of the Knowledge to all of experience and all social relations.

Do You Believe Me?

The first chapter of *The Accidental* focused on Eve uses a similar technique. Eve asks herself questions, in italics, followed by answers. The form is based on the ‘autobiotruficinterview’ books that Eve writes⁸²⁵. The chapter follows the same pattern as the chapter from *The Book of Dave* discussed above, widening the gap between two aspects of Eve’s mind before hinting at the extended basis of the italicised voice. The chapter opens by considering the concept of the beginning; Eve prefers ‘the edit, the end, where the work in the dark was over and you could cut and cut until you saw the true shape of things emerge.’⁸²⁶ The questions attempt to interpret Amber’s actions, which resist understanding: ‘*Why had she shaken Eve like that?* For no reason at all. For no reason Eve could think. Eve had absolutely no idea.’⁸²⁷ This indeterminacy introduces a split between the questioning and answering Eve. Eve assumes that Amber is one of her husband Michael’s students, leading to questions related to Michael’s affairs, which the answering Eve deflects, leading to a repetition of ‘Eve chose not to answer that question’⁸²⁸. The questioning voice responds by asserting a separate agency of its own, suggesting actions refused by the answers: ‘*Why didn’t Eve just go for a run [...] Don’t be ridiculous. Eve never ‘went for a run’, anywhere, at any time [...] Why didn’t she try it, go for a run, right now, in the dark, in the middle of nowhere, where no-one would have seen her?*’⁸²⁹ Following more

refusals from the answering Eve, the questioning voice returns to the subject of Amber. The chapter ends with Eve going out to talk to her. In the last line of the chapter, Amber's question to Eve is rendered in italics: 'Well?' she said. *Do you believe me?*⁸³⁰ Eve's questioning voice incorporates the words of other people.

Stephen M. Levin characterises Smith's fiction in terms of a 'pervasive sense that our lives do not entirely belong to us. Subjects are lost in webs of intersubjectivity and caught in invisible links to an array of social determinants.'⁸³¹ The questions Eve asks of herself about her experience are altered by Amber; in the last line, a question spoken by Amber is incorporated within Eve's consciousness. If the edit, the questioning and interpretation of experience, defines the self and its truth, then this incorporation indicates that dialogue with others has the potential to alter the self. As with Self's technique in *The Book of Dave*, Smith's use of an italicised voice to represent one aspect of the subject builds on concerns established in her early work. 'Free Love', the opening short story in Smith's *Free Love and Other Stories* (1995), is structured around a series of moments in which two or more characters see something, before one of the characters articulates their own perspective, altering that of another⁸³². By the end of the story, the narrator has achieved a degree of independence from the interpretations of others by acknowledging the relativity of perspective⁸³³. Interpretation alters consciousness. The narrator prefaces observations with 'I think' or 'I thought' throughout and describes having 'a story ready in my head in case I wanted to get away'⁸³⁴ at one point. In *Hotel World* (2001), Smith develops a formal technique that shows how this dynamic functions through a split between subject and object within the conscious self. The first chapter, 'Past', is narrated in the first person by a ghost, represented as a disembodied consciousness. The narrator goes down into her grave to slip 'our old shape', but 'she was broken and rotting, so I lay

half-in, half-out of her'⁸³⁵. The narrator questions her body, who agrees to provide a story 'since you're so desperate for one'⁸³⁶. The story concerns her attraction to another girl, told with the same emphasis on theory of mind and social pressures as in 'Free Love'⁸³⁷. Later on in the novel, the distinction between subject and object is rendered in a style similar to Eve's first chapter in *The Accidental*. A later chapter, focused on Lise, is structured around her responses to the questions used on an 'Incapacity for Work' form, in italics, beginning with '*Tell us about yourself*'⁸³⁸. Italics are also used for Lise's mother's poetry and questions from her doctor, forms of language used to define her internalised as voices within consciousness: '*write down the things you can remember for me*, the poet-mother was saying. *Write down your symptoms*, the lady doctor was saying. *Fill me in*, the government form in her hand demanded.'⁸³⁹ The consciousness of Penny, a journalist, is represented through a question and answer format at one point, as she refines her account of her experience to fit the format of her planned article, prompted by a questioning voice representing an imagined audience⁸⁴⁰.

Eve's first chapter in *The Accidental* uses a distinction between an italicised questioning voice and an answering voice. While first depicted as representing two aspects of the conscious self, these voices are then revealed as representing an internalisation of external voices. The form developed is similar to the interrogative mode used in *The Child in Time*, influenced by Freud, and Dennett's model of the conscious self as a result of the subject assuming the intentional stance in relation to their own experience. Smith's style in *The Accidental* builds on her early interest in how verbal interpretations of visual experience can transfer from one person to another, altering the latter's interpretation. As Dennett puts it as language users humans 'can be plunked down at a desk and given lengthy questionnaires to answer';

this ‘seriously distorts our profiles as intentional systems, by producing illusions of much more definition in our operative systems of mental representation than we actually have’⁸⁴¹. ‘Word-presentations’, and the questions the subject asks themselves, are not bound to individual minds; they can transfer between different subjects.

Consciousness emerges from the interrelation of language and the individual’s awareness of their relation to society within the mind. Self and Smith use italics to signal the incorporation of external words and phrases within the mind, and to show how this alters conscious experience as a whole. Self depicts the influence of language in terms of a controlling entity within the mind. Smith acknowledges this, but also shows how dialogue with others allows for the possibility of other selves emerging from the incorporation of alternative perspectives.

No Plain Cloth Word-Map

Bakhtin argues that language, ‘for the individual consciousness, lies on the borderline between oneself and the other. The word in language is half someone else’s.’⁸⁴² It becomes “‘one’s own” only when the speaker populates it with his own intention, his own accent, when he appropriates the word, adapting it to his own semantic and expressive intention.’⁸⁴³ Both Dave and Eve begin to do so, but in doing so repress its origins outside them, identifying with an agency which is still partly someone else’s. Understanding the self as localised within the individual brain or body, distinct from others, depends on the operation of a particular set of cultural memes. *The Book of Dave* and *The Accidental* explore this idea. Both build on the idea of particular words and phrases as markers of the influence of external forces or entities within consciousness by hinting at a form of extended mind. Furthermore, they question the

interpretation of the mind as localised within the body of the individual through a significant act of mistaken interpretation by their characters.

The blurring of the distinction between the mind, its environment and its prostheses complements the fact that, as Self references in the novel, learning the Knowledge has a physical effect on the brains of cab drivers, an enlargement of the hippocampus⁸⁴⁴. Self describes this research finding as the ‘phenomenal, astonishing thing’ that initially attracted him to the subject matter of the novel⁸⁴⁵. Hugo Spiers, who has run related experiments on spatial knowledge and the brain, points out that in the years since *The Book of Dave* was published ‘research has shown that it is not driving the streets of London per se, or the learning of large volumes of knowledge’ that lies behind this change, but that it ‘appears to be the acquisition and daily usage of the spatial knowledge’ that is responsible⁸⁴⁶. As Spiers also points out, when Jane Bernal cites this research to support her interpretation that the book Dave talks about is ‘buried’ within his brain, she is wrong⁸⁴⁷. The book is in fact a physical one, literally buried in the garden of his wife’s house, as Dave eventually remembers⁸⁴⁸. Dave’s other doctors make the same mistake: Busner describes Dave as ‘someone who could do with a great deal more looking into himself’, while Bohm wants to ‘somehow dig [the book] up from’ his subconscious⁸⁴⁹. All three characters draw on spatial metaphors for the mind. In telling them that he has buried the book, Dave is telling them the literal truth. His psychiatrists are misled by metaphor. While the discovery of the enlargement of cabbies’ hippocampi can be interpreted in terms of a contemporary tendency to understand cognition in terms of brain function, it can also be understood in terms of a feedback loop between the brain and the urban environment. The latter interpretation is supported by the further research cited by Spiers, which emphasises the role of an active and continuous engagement with the

environment in changing the brain. The psychologist Richard Bentall discusses these findings alongside other studies showing a reduction in the hippocampus in people who have experienced post-traumatic stress following war or sexual assault. As he points out, ‘these findings do not imply that post-traumatic stress can be adequately understood as a disorder in the brain’; rather, it is ‘better thought of as a psychological reaction to adverse events that manifests itself, at the biological level, as changes in brain structure’⁸⁵⁰.

One response to this, implicitly supported in the metaphors that run through the novel, is to treat the city as a form of extended mind, continuous with the brain, and with an equal role in the determination of consciousness. Technology also plays a role here. Self’s ‘Walking is Political’ (2012) opens with a ‘lightly poeticised account of the mental state of an average young woman negotiating her way through the urban environment’; Self claims that, ‘like a sufferer from psychosis, our young woman’s conception of reality radically diverges from her environment’ due to her dependence ‘on systems external to her own mind that, for all their technical efficacy, are as opaque to her as the magical rituals of a shaman’⁸⁵¹. Self refers here, consciously or not, to Jaynes’s characterisation of such rituals as exopsychic forms of thought, while characterising their effect on consciousness in terms of a pathological distortion of the individual’s relation to their environment. In a review of a book on GPS navigation by Greg Milner, published in 2016, Self claims that this technology ‘seems to leech us of all the “thick data” of being in place – our sensory apprehensions, including visual, sonic and haptic cues – even as it gifts us such phenomenally accurate directions’⁸⁵². The combined effect of these aspects is to provide, in Milner’s terms, ‘the possibility of omniscience’; Self’s response is that no ‘wonder some of us develop the delusion that we are gods’⁸⁵³. As I discussed in the metaphor chapter, the novel’s use of screen

as a metaphor relates to the way in which the mediation of Dave's relation to his environment through the car feeds into this delusion. The use of 'screen' here also links this to Serge's feelings of omniscience while flying: the car and the airplane both determine a particular mode of perception characterised by a simultaneous integration with technology and a feeling of detachment. As the examples above show, the Voice responds to what Dave 'sees', another set of discontinuous visual images.

The Book of Dave links these various strands of Self's thought: urban consciousness, consciousness as narrative and Jaynes's ideas about consciousness. It does so through a technique in which aspects of consciousness are depicted as external, controlling agents within the psyche, and through a blurring of the mind, the environment and material objects accomplished through metaphor. A third significant technique complements these two, in depicting the shaping influence of memes on the material. The novel repeats various words and phrases throughout, applying them to the experience of different characters in separate time-periods⁸⁵⁴. When Carl sees Dave outside his house he slips into terms shared by the present and future, spoken by his own Voice – 'Carl saw some *chav or fucking pikey*' – before using a term so far only used in the future sections: 'Dad! Dad! There's a beastly man in the back garden!' Even as he taunted one man and conferred a title on the other, he thought, *Beastly – beastly? Where the fuck does that come from?*⁸⁵⁵ In mistaking Dave for an unknown 'beastly man', Carl is presaging the revelation that the 'Beastlyman' is the father of Carl in the future. The passage however also implies a causal role and agency for language. Carl's words alter his relationship to Dave and Cal, the stepfather he calls 'Dad' here for the first time, without him being able to ground this shift in any thought process. 'Beastly' seems to have been the cause of this shift, emerging across time from the future.

In another sequence, Dave dreams of flying above London with a ‘human bird’, who comes ‘flapping out of the greenish aviary’ of St Pancras, ‘his white beard and black robe giving him a vulturine appearance’⁸⁵⁶. The fare speaks in ‘the broadest of cockney’, rendered in the phonetic Mokni of the future sections⁸⁵⁷. This voice, and the physical description, identify the fare as the Driver of Ham, who dreams of flying with Dave above London⁸⁵⁸. Again, this introduces an ambiguity within the temporal and causal structure of the novel, as the past and future interact. At the same time, this ambiguity is used to assert the agency of language and metaphor. The description of the Driver as a bird originates in a fowling ritual undertaken by the Hamsters, in which they risk being attacked by ‘blackwings’ (gannets)⁸⁵⁹. When Carl returns from climbing the stack, he is confronted by ‘the hooked beak and mad yellow eyes of the Driver’, the ‘old crow’⁸⁶⁰. The story Carl tells of climbing the stack is ‘a vital addition to the story the community told of itself, one of humans spitting in the indifferent face of Nature’⁸⁶¹. The bird metaphor links individual humans to the impersonal forces of power and language of which the Driver is the representative on Ham. Dave’s dream links this anthropomorphisation to the Voice, an embodiment of those forces within consciousness.

The writing of Dave’s book is described in terms recalling Self’s model of the individual understanding the city through narrative. Dave begins with the points and runs of the Knowledge, but in ‘transcribing’ it he also ‘embroiders; it: ‘This was no plain cloth word-map, but a rich brocade of parable, chiasmus and homily [...] the map, the territory and the prophecy became as one’⁸⁶². The Knowledge begins as an interpretation, but assumes its own agency in becoming a narrative, defining not only the space being interpreted through a distortion of perception, but acting as a plan for a future London. In becoming a narrative, it becomes a defined entity within Dave’s

psyche. Language as an entity is spread out over the text through repeated words or phrases which can be understood as memes.

There is correspondence between Self's model of consciousness here and Dennett's work. Memes are discussed at several points in Self's non-fiction prior to his essay on London and *The Book of Dave* in terms which imply an influence on his fiction⁸⁶³. *The Book of Dave* can be read as developing a form which complements Dennett's model of consciousness while emphasising its extended aspects in two ways: by grounding consciousness in an extended mind incorporating both brain and urban environment, and by defining language as an active agent spread out between minds, embodied in recurring memes. Language and narrative are a form of mapping, but their structure creates connections not present in the environment, granting language its own agency.

Id Est

The use of recurring phrases and the idea of language as a feature of the extended mind is emphasised in a passage toward the end of the novel: '*The past has become our future and in the future lie all our yesterdays ... Was it a stale aphorism freshly baked, or an ancient pop song dimly recalled? Dave could not have said.*'⁸⁶⁴ Fragments of pop songs recurring in consciousness, or earworms, are useful examples of memes, as forms of language tied to forms of action and perception which embed themselves within the mind, and prompt repetition in consciousness⁸⁶⁵. Self's short story, 'Leberknödel' from *Liver* (2008), is in many ways a reprise and further refinement of the techniques and themes of *The Book of Dave*; it develops on the novel through an

emphasis on musical phrases spoken by the italicised voice⁸⁶⁶. This emphasis is also used to structure the narrative of *Umbrella*⁸⁶⁷.

Smith also picks up on earworms as a way of talking about causality and the relationship between mind and environment. One chapter in *The Accidental* ends with a list of questions: ‘*What is it you could possibly want to know about yourself? Dream or reality? War es nun schon alles? Are you really Eve? How’s the new Genuine? What child? What accident?*’⁸⁶⁸ The questions are drawn from throughout the preceding chapter; one is first spoke by Eve, one is a line from a song, while others are spoken by other characters. Where the first chapter ended by hinting at the extended basic of the italicised, questioning voice, the second returns to the style, having established that the ‘self’ embodied in this voice is, as Magnus puts it in his second chapter, describing his family, ‘broken [...] in broken pieces which won’t go together, pieces which are nothing to do with each other, like they all come from different jigsaws, all muddled together into the one box’⁸⁶⁹. Magnus describes Amber as ‘several pieces of blue sky still joined up. Maybe she is a whole surviving connected sky.’⁸⁷⁰ The last two questions in the quote above come from Amber’s response to Eve when she brings up the story Amber tells at the end of Eve’s first chapter⁸⁷¹. In refusing to be defined by narrative, and by Eve’s questions, Amber posits indeterminacy as the only truth available outside of narrative. Peter Boxall describes Amber as ‘a composite character made [...] out of snippets of film and scraps of cultural debris’⁸⁷². After Eve’s first chapter, she narrates a section in which she seems to be made up of the fragments of the plots of films, including snatches of song lyrics⁸⁷³. After Eve’s second chapter, she narrates a section in which the speaking ‘I’ is cinema as a medium, as she describes its technological development and its shifting place within culture and society⁸⁷⁴. For Boxall, Amber links these two ideas in marking ‘the absence of

historical material from the spectacular, mediatized narratives of the twenty-first century⁸⁷⁵. However, the intermissions she narrates subtly hint at her existence beyond media narratives and technological mediation in pointing out one of the ways in which the Smart family have imposed their own interpretations on her. She identifies herself not only with cinema as a cultural force but with a particular cinema, the one after which she was named: the Alhambra.

Amber/Alhambra introduces herself as the latter in the opening section of the novel⁸⁷⁶. Katrina, the Smarts' cleaner, is the only character to refer to her by her actual name. When Eve asks her where Amber is, she says something that Eve 'couldn't quite make out': 'What she'd said had sounded like: *her name's a hammer*. [...] It meant nothing recognizable.'⁸⁷⁷ The novel's depiction of each character's perception of Amber/Alhambra puts forward a model of what it means for something to be 'recognizable'. Each character's first impression of her is defined by some prior experience⁸⁷⁸. Michael is the first to call her Amber. His chapter narrates their first meeting retrospectively, with her introduction appearing as dialogue: 'Sorry I'm late. I'm Amber. Car broke down.'⁸⁷⁹ Michael is talking on the phone to a student when she says this, and later on we learn that the cleaner has been vacuuming upstairs for parts of the preceding conversation⁸⁸⁰. 'Sorry I'm late' relates to his belief that Amber is expected in the house by Eve; it is left open as to whether she actually said this, or whether he has misheard her, or that he is misremembering. The name Amber also fits his initial perception of her – 'a bit raddled, maybe thirty, maybe older, tanned like a hitchhiker, dressed like a road protester, one of those older women still determinedly being a girl' - and the assumption that she is there to see Eve, which fixes her as a type which fits the name: 'all those eighties feminist still-political women were terribly interested in what Eve did. Hippie name. Amber. Ridiculous name.'⁸⁸¹ This line of

thought fits into his conversation on the phone with his student Philippa, and associated memories: ‘As he’d answered the door he’d been wondering what to call her, Pippa, Pip maybe [...] the full name was also more meaningful, more full; these other names were child names; pity.’⁸⁸² He supposedly thinks this before Amber introduces herself, although, again, it is narrated in retrospect: his preoccupation with his seduction of Philippa may have prompted his mishearing of Amber/Alhambra’s name, or his assumptions about the kind of women interested in his wife’s work may have influenced his recollection of his thoughts about Phillipa’s name. Another layer of memory also acts on his perception. Michael hears ‘an accent that sounded foreign. Scandinavian.’⁸⁸³ This relates to a memory of ‘two Swedish girls’ which he recalls at length while slicing a pear⁸⁸⁴. He notes that he ‘hadn’t thought of it for years’, echoing an earlier thought, that he hadn’t heard the words used by Amber/Alhambra, ‘hunky-dory’, for years⁸⁸⁵. Again, there is no clear causal chain here. While the perception and the memory complement each other, there is no way of determining which has caused the other. As in *The Book of Dave*, memes complicate linear models of causality.

The name Michael gives to Alhambra, ‘Amber’, occupies the centre of a complex set of streams of thought. It can, however, be detached from this context and incorporated into another, altering it. Eve asks Michael, ‘Who is she? What’s her name again?’, to which he responds ‘Amber something, isn’t it?’⁸⁸⁶ While Michael assumes she is there to see Eve, Eve assumes she is one of Michael’s students. Michael’s identification of her is based partly on his mistaken presumption of her relation to Eve. Eve fits the name within her own set of assumptions. She starts by referring to her as ‘the girl’, a name related to the assumption that she is one of the students Michael has seduced. When Michael makes it clear that he assumed she is here to be interviewed by Eve, there is a mental digression on the subject of her books that takes up eight

pages, before returning to the subject of Amber/Alhambra⁸⁸⁷. The questioning voice seems to be responding to Michael's previous statement, weighing up the 'proof' of whether or not she is one of Michael's students. At this point, there is a shift. The answering voice interrupts a description of Amber/Alhambra as 'the girl', pointing out that she is 'only about ten years younger than Eve for God's sake', and that she is 'older-looking', 'rougher-looking' and 'certainly more shabby' than Michael's usual conquest, adding that she 'didn't look like a student'⁸⁸⁸. She looks 'vaguely familiar, like someone you recognize but can't remember where from, maybe someone who's served you at Dixons or at the chemist, who you see in the street afterwards'⁸⁸⁹. Eve has begun to acknowledge that she is not one of Michael's students, but is prevented from articulating the implications of this realisations by another set of preconceptions. The reference to 'someone who's served you at Dixons' relates to her perception of Amber as 'rough', lower-class, but also relates to her memories of meeting Adam, Astrid and Magnus's father, who worked at Curry's⁸⁹⁰. After this, Eve shifts from 'the girl' to 'Amber MacDonald'⁸⁹¹. Eve takes her accent to be Scottish, although Amber/Alhambra doesn't directly answer the question of where she is from⁸⁹². This assumption is related to Eve's memories of her Scottish mother, and of her childhood⁸⁹³. 'Amber MacDonald' is an amalgam of Michael's initial assumptions about Amber/Alhambra, which is passed on in verbal form to Eve, who incorporates it within her own set of assumptions, again determined largely by prior experience. 'Amber' carries it with the assumption that the woman has some relation to one member of the family, and therefore a reason for being in their house. This assumption endures, free from its original context, even when Eve realises that she is not one of Michael's students, and attempts to move beyond her initial preconceptions: '*what if, all night, ever since that hello, and possibly because she had been feeling momentarily*

*betrayed about something else, something completely unrelated [...] because of all this, Eve had concocted a scenario of which the girl was totally innocent?*⁸⁹⁴ She attempts to address the question ‘*if she wasn’t Michael’s, what would that make the girl?* [...] What it made the girl was truthful.’⁸⁹⁵

Magnus echoes this description later in the novel: ‘As concerns himself, Amber = true [...] Amber = everything he didn’t even know he imagined possible for himself.’⁸⁹⁶ Magnus uses this kind of sentence (‘something = something’) throughout the novel⁸⁹⁷. Astrid uses a similar formulation: ‘i.e’, or ‘*id est*’⁸⁹⁸. These terms are part of what Currie calls Astrid’s ‘general mind style’, including ‘the language that she overuses, ‘the repetition of her ideas’, and a ‘set of modern conditions’⁸⁹⁹. In both cases, the typical memes fix interpretation. Magnus and Astrid are all at what Smith calls the ‘teenage point where things begin to codify’, moving towards ‘adulthood, where things begin to narrativize’⁹⁰⁰. This happens partly through the repetition of memes. In his first chapter, Magnus also internalises an interpretation. A phrase - They took her head. They fixed it on the other body. Then they sent it round everybody’s email. Then she killed herself’ - asserting his responsibility for the death of a girl at school shortens as it repeated, culminating in his suicide attempt at the end of his first chapter⁹⁰¹. As memes, these interpretations are repeated and incorporated with an overall mind style, fixing a character’s perception of an actual object.

Julia Breitbach notes the attention in Smith’s work to ‘how language is a constitutive force, rather than a transparent medium, in the building and shaping of contemporary realities and identities’⁹⁰². In ‘Being Quick’, from *The Whole Story and Other Stories* (2003), the second narrator watches a TV program on consciousness: ‘A glowing brain and a voiceover saying, I think there really is no inner conscious self. All we are is a machine built by genes. An idea can affect your mind like a germ, a

parasite. We are the creation of our minds and our memes.⁹⁰³ The narrator begins to go through the channels again, describing it as ‘like watching thrown-away rubbish come bobbing in towards me on a tide, stuff that has floated in from all over the world made of substances that will never decompose’⁹⁰⁴. The image recalls one used by Dennett to sum up the consequences of understanding the mind in terms of memes of the brain as ‘a sort of dungheap in which the larvae of other people’s ideas renew themselves, before sending out copies of themselves in an informational diaspora’⁹⁰⁵. However, the metaphor describes how Smith has represented language as a constitutive force throughout her work⁹⁰⁶. Her use of earworms as a motif throughout her fiction also expresses the way in which phrases, as ‘information packets’ shaping experience, integrate themselves within the mind, altering it⁹⁰⁷. Triggering memories associated with music, these earworms also evoke the self which experienced those memories.

A sequence in which Eve thinks of various songs emphasises the shaping of the self by cultural narratives, while also showing how memory can undermine those narratives. Sitting in a church, Eve finds thinks of various songs about ageing. While the lyrics of the songs imply that she is ‘past it’, in bringing to mind the context in which they were heard they emphasise a dialogue within her mind: ‘Abandon hope, all ye who enter here. Eve (15) looked up from her desk in the German class at Eve (42) all those desert years later, and winked.’⁹⁰⁸ Earlier, Amber’s presumed Scottishness leads Eve to remember looking through her mother’s Scottish LP’S. Her fifteen-year old self, like Amber, resists questioning: ‘As if anyone’s childhood was an excuse for anything. [...] She took the transistor radio off the table, held it up by the handle and smashed it hard on the floor [...] Grow up, for fuck’s sake, Eve (15) snorted at Eve (42).’⁹⁰⁹ Here, her memory interrupts and alters the questions being

asked of it. Eve first asks ‘*When in her life had Eve snorted like that?*’, prompting more memories associated with this distinct fifteen year old self. When she then responds to the question, ‘*what was Eve*’ with ‘Eve was a house and garden and a four-square family and a fascinating writer in her own right’, the memory allows her to tentatively assert a different self: ‘Eve tried it again, now, across the room from the sleeping Michael (she tried it quite quietly) and yes, she could still snort, and exactly like that girl in the garden had earlier tonight’⁹¹⁰. The question of whether there is a genuine similarity between Eve (15) and Amber/Alhambra, whether the former snorting has altered Eve’s perception of the latter, or whether the latter snorting has altered her memory of the former, is left unresolved.

Magnus reflects later that a ‘typical human being contains about one hundred billion neurones. A human being = a cell which divides into two then four etc.’⁹¹¹ In the last chapter, Eve sees her children ‘on separate roads, on separate maps [...] Hundreds of these junctions and all their possible connections to other junctions stretched away ahead of them both like a web of lit synapses.’⁹¹² As they ‘came to the next clear junction and made the decision about which way to turn, whole huge areas of the maps under their feet snapped into darkness’⁹¹³. Other people in the world are part of the mind in being defined by perception and memory. The characters are intentional objects for each other. The memes which shape cognition are similarly extended, transferring between minds in the form of words and phrases. While this can lead to a state of solipsism, in which the self sees others entirely as intentional objects defined by reductive cultural narratives, it can also lead to change. The intentional object is both a representation and a real person, and the actions of the latter can alter the mind as a whole. Several readings of the novel have posited Amber in Freudian terms, as both an embodiment of each Smart’s unconscious fantasies, and of

a trauma beyond narrativisation⁹¹⁴. The apparent contradiction here can be resolved by a reading of Freud in terms of the intentional stance functioning through extended processes. The word-presentations or intentional states which define the intentional objects are memes, which transfer between characters. The intentional object, Amber, is also a meme, transferring between psyches, imposing new forms of interpretation while drawing on existing ones. Alhambra, as a real person, provides the mental content to be interpreted, altering the psyche through her relation to the intentional object ‘Amber’ and its connections to a complex of other intentional states and objects which make up the self-understanding of each Smart.

Other Voices

Smith and Self’s use of memes differs from Dennett’s in rejecting the intentional stance. Both writers have developed a critique of anthropomorphism in their short stories which is reflected in *The Book of Dave* and *The Accidental*. As in the novels I’ve looked at in previous chapter, this critique relies partly on a distinction between interpretation and vision within consciousness. Like Blackmore, Smith and Self use visual consciousness to question the notion that consciousness as a whole is narrational.

‘Between the Conceits’, from *Grey Area*, is narrated by one the self-proclaimed ‘only eight people in London’, who control all other inhabitants of the capital⁹¹⁵. The narrator immediately defends himself against the possible charge of snobbery, before undermining this with a discussion of the relative social standing of the eight ‘real’ people. The narrator interprets all interactions with other people in terms of his supposed relation to these seven others. He can ‘feel in the very limits of

my seething collectivity of consciousness the peculiar inlets and isolated promontories' of their interaction⁹¹⁶. The eight people, most of whom have names and are able to be judged in terms of 'refinement' by the narrator, also includes 'The Recorder'. The narrator mentions having tried to 'court' him, 'to no avail', meeting with no meaningful response beside receiving more junk mail and a guess: 'I know the recorder thinks well of me, viz the 'Good mornings'⁹¹⁷. The narrator, describing his motivation as attempting to 'make sure that there is a kind of organic unity in London, that people have their right position and estate [...] I deplore snobbery and it constitutes no part of my motivation. I simply believe that there is a natural order of people just as there is of things.'⁹¹⁸ Along with these others, the narrator's ability to control all other people in London has the sole purpose of changing such social standing. Organic unity is accomplished through a form of the intentional stance structured by class⁹¹⁹. There are two related, implicit points being made here. Firstly, that the Recorder doesn't exist; they are an intentional object, created through the application of a form of the intentional stance. This point emphasizes the subjectivity of that intentional stance, its structuring by class rather than by the organic unity of what it is applied to.

Hayes notes that 'Self's depiction of class in his early fiction is one of his methods for indicating a primary concern: the individual's relationship to his or her surroundings'⁹²⁰. *The Book of Dave* depicts this process in terms of a series of intentional states within consciousness. In the first chapter centred on Dave, the Voice is concerned with what Dave's various fares think, and the class relation between the two: 'He came puffing up to the driver-side window. 'Sir, sir, excuse me, sir...' *Sir, sir?! Is he fucking insane [...] He's going to ask me if I know which theatre the King and I is playing at. Stupid cunt.*'⁹²¹ The Voice responds to the fare's words and actions

with such judgements or guesses at what he is thinking, inflected by class: *‘My range, what does he think I am, some fucking wild boar?’*; *‘He doesn’t expect to hear this word out of my lower-class lips, lips he sees flapping in the rearview. He’s putting together a photofit of me from lips, chin and the back of my head [...] put him still more at his ease, this cunt could be an earner.’*⁹²² The mirror mediates between the two men, acting as another ‘screen’ which defines the relation between subject and object in terms of discrete images. These images form the basis of Dave’s interpretation, in combination with his class consciousness. When Dave does break up the definition of the conversation between the two men in terms of class and money by describing Watling Street as ‘a time tunnel, connecting the past with the present’, the Voice corrects him, steering their interaction back to a more reductive framework: *‘The fare was uncomfortable with Dave’s extravagant image, but thass alright, he’s paying to feel superior as well as be driven. Superior in knowledge, superior in wealth, he don’t need some hack to tell him he’s neither.’*⁹²³ Their interaction ends through a reassertion of this definition, as Dave is tipped, expressed as a visualisation defined partly by an earworm: *“Thank you very much, sir, much obliged to you!” Consider yerself at home! [...]* In the jaundiced eye of his own self-contempt Dave saw himself leaping from the cab to hoe down in the dirty puddles [...] tugging the peak of his cap in lieu of a forelock.⁹²⁴ Song lyrics related to Dave’s word interject themselves to make him aware of his class position. This dynamic also applies to others. When Jane Bernal gets into the car, her internal voice is rendered in italics, depicting her initial response to London and her professional relation to Dave⁹²⁵. For both characters, the internal voice represents a form of the intentional stance, responding to the complexity of their experience, primarily through reference to money and class. As in ‘Between the Conceits’, this form of interpretation has an

active, shaping role for the central character. In *The Book of Dave*, interpretation alters perception, and social frameworks literally determine what is seen.

In Smith's 'Trachtenbauer' (2004), the narrator is confronted by the titular 'schoolboy', a 'free government initiative' who turns up at her doorstep⁹²⁶. This anthropomorphisation of cultural narratives and government policy is, as the narrator points out, an unsatisfactory response to current times. The narrator guesses the reader's response - 'You may at this still quite early stage be feeling cheated and amazed, if you, like me, like your short stories to be about real things in the real world' - offering as a brief alternative some 'contemporary verisimilitude': 'A woman is standing blindfolded in a communal cell in Abu Grahib and her dead brother's body is brought in and dumped at her feet'⁹²⁷. Later on, they point out the failure of any narrative in this context: 'don't go thinking that what I've been telling you is going to transform this uneasy hybrid of fantasy and reality into something resolved in the end' by 'autobiographical material. Because it won't. These are Trachtenbauer times we live in.'⁹²⁸ At the end of the story this failure of narrative is linked to the times again, when the narrator mentions detention without trial: 'I lived in the kind of country where, just like short stories were short stories and behaved appropriately, the law was the law and was there to protect people from this kind of thing'⁹²⁹. At the end of the story, Trachtenbauer grows, so that the whole country becomes 'the plaything of a giant schoolboy'⁹³⁰. Again, social relations are understood in terms of the intentional stance, and the actions of an individual entity. Smith emphasises throughout the way in which this approach is inadequate. At the end of *The Accidental*, Eve attempts the sort of engagement with the reality of contemporary life and media narratives as referenced by 'Trachtenbauer's' narrator, in reflecting on photos of abuse from Abu Grahib, she comes to a similar conclusion: 'There was no answer to it. It was itself the

answer. She was living in a time when historically it was permissible to smile like that above the face of someone who had died a violent death.⁹³¹ The response is not narrative interpretation, but a rejection of narrative, and narrative closure in particular. The image is a result of technological media as well as the broader social structures that led to the existence of Abu Grahib, but it defies interpretation. Eve ends the novel by assuming Amber's role in another household. Looking across the Grand Canyon, Eve sees 'all the selves she could have been [...] as if at any point in a life you could simply had changed your mind and chosen another self.'⁹³² Visual experience undermines singular interpretation, even the kind that forms the basis of the individual self.

In the short story 'The Ex-Wife' from *Public Library and Other Stories* (2015), the narrator holds a conversation with a Katherine Mansfield whose dialogue is made up of italicised quotes from the author's work⁹³³. The story follows the way in which the narrator's relation to their own ex, a Mansfield obsessive, is altered through these conversations. It does so partly through an attention to the relation between what is seen and how it is interpreted. One of Mansfield's descriptions of nature alters the way in which the narrator sees what is around them⁹³⁴. The story ends with the narrator visiting Mansfield's house in London, thinking about the relation of her words to the place in which she wrote them, and taking a photograph – a 'close-up of the brick of the whitewashed wall of it, where ivy or some plant with tiny splayed-out roots has grown over the place and someone has repeatedly stripped it back' – to send to their ex, 'without saying where it was of, or telling you anything about it'⁹³⁵. The narrator's ex is an academic, and Smith seems to be sending up her own preoccupations in the names of a paper the narrator comes up with to tease them: 'The Memory Meme and Materiology In Katherine Mansfield's Metaphorical Landscape' – a 'grandiose name'

for 'looking at old bits of rubbish left behind by a dead person'⁹³⁶. Writing and memory are memes, which take on a form of agency within consciousness, but they are always framed against a material environment to which the individual's relation is primarily visual. Like the Recorder, or the Voice, 'Katherine Mansfield' is another intentional object, but its relation to the material, mediated through vision, furthers a dialogue between real people.

Smith and Self's adaptation of the meme links it inextricably with visual perception. In the process, they both undermine the claim that the actions of a complex of memes add up to a selfplex, a singular narrational self which computers information in a linear way. To the extent that this self does emerge, it is as an intrusion, an illusory ghost or god within the mind. Thus, other forms of consciousness are possible. Faced with this complexity, the intentional stance is inadequate.

Chapter Five - The Environment Within: Consciousness and Homeostasis in *How to Be Both* and *Umbrella*

What if history, instead, *was* that shout, that upward spring, that staircase-ladder thing, and everybody was just used to calling something quite different the word history? What if received notions of history were deceptive? [...] Maybe anything that forced or pushed such a spring back down or blocked the upward shout of it was opposed to the making of what history really was.

- Ali Smith, *How to Be Both* (2014)

To incontinently recall these, the lyrical leftovers and junked jingles of past decades, would be an affliction ... *timeitus*, he smirks ... had Busner not come to appreciate, since his retreat here to the first-floor flat on Fortress Road, that within the patterns made by their effervescing in the pool of his consciousness are encoded wider meanings – he balks at truths – ones not surveyed or even guessed at by the mental mapmakers with whom he has spent his working life notwithstanding the elegance of their modelling – theoretical, neurological – or the crassness of their professionalism.

- Will Self, *Umbrella* (2012)

In the last chapter, I read Smith and Self's work as proposing an alternative model of consciousness structured around the role of memes to that formulated by Dennett. Smith and Self break up the individual into a complex of selves, defined through the interaction of memes and visual experience. Given the use of the novel as a reference point in conceptualising narrationism, it could be argued that the form is inherently tied to this model of the mind, and that the depiction of alternative forms of

consciousness and subjectivity requires a radically new form. In their most recent work, both Smith and Self have developed distinctive formal innovations that surpass those in their earlier work in their inventiveness. In this chapter, I make two related arguments. Firstly, that the forms used by these writers in *How to Be Both* and *Umbrella* represent refinements of the formal innovations developed in their earlier works, partially in response to the influence of Dennett. Secondly, that the model of subjectivity they depict occupy the same relation to those of cognitive science as these novels do to their authors' earlier work: a refinement, building on established influences, that acts as an alternative.

Both writers engage with ways of understanding the mind's relation to technology that have been eclipsed by cognitive science: cybernetics and modernism. Both fields fed into the development of narrationism but are very different from it. A reconnection with their influence allows for a further shift. This dynamic is reflected in the selves these novels depict: rather than the mind altering its narrative moment-by-moment, here the mind is altered by the past inside the present. I begin by describing the formal innovations introduced by both writers, showing how these build on aspects of their earlier work relating to the interplay of vision and interpretation, relating this to Rowlands's model of consciousness. I then discuss how each writer situates their character in relation to their environment. Finally, I build on Damasio's work to show how both writers implicitly make the case for a form of non-narrative consciousness, based on the interplay of various extended selves within the mind.

Seen and Understood

In *The New Science of the Mind* (2010), Mark Rowlands argues for EMT by reconciling Clark's formulation of it with the experience of consciousness. His argument begins with the premise that 'cognitive activity and coping activity are, at least in one sense, fundamentally the same kind of activity that is implemented in different ways'⁹³⁷. Coping activity refers to something like the homeostatic response to the environment I discussed in the introduction. For coping and cognitive activity to be the same kind of activity, 'there must be a more general characterization of these activities: a sortal concept under which coping and cognition can be subsumed'; he therefore defines both as 'forms of revealing or disclosing activity'⁹³⁸. While the experience of being conscious of a particular object may represent that object's momentary disruption of the mind's homeostasis, the form that experience takes is determined by a 'coping' response that strictly defines the individual's relation to that object, thus restoring homeostasis. Formal innovations introduced in *How to Be Both* and *Umbrella* advance the idea of coping and disclosing as two sides of the same coin.

Smith's innovation in *How to Be Both* is using passages of second-person prose within free indirect style. This technique is a synthesis of two aspects of Smith's earlier work, the use of a dialogic form in earlier novels and short stories, and her use of italics to depict the incorporation of memes⁹³⁹. In the sequence I read in the introduction, George's correction of the novel's grammar is partly a distinction between her own mind and the influence of her mother. Using second-person prose partly collapses this distinction, defining consciousness as a dialogue. The first instance comes during a memory narrated in present-tense. George asks her mother why she keeps a jar of pencil shavings. The next paragraph answers this question through a description of the jar: 'Through the glass you can see the different woods of the different pencils her

mother has been using. [...] You can see the paint lines, the tiny zigzags of colours made in to the shapes like the edges of those scallop shells made by the twist of pencil in the sharpener.’⁹⁴⁰ The speaker here is not George’s mother, but she does something similar in pointing out different interpretations of the words used by George: ‘What’s the point? [George] says [...] Point. Ha ha! Her mother says’; ‘Bit pathetic, George says. [...] Well, yes, I suppose it is, her mother says. Literally.’⁹⁴¹ This prompts George to look up the word ‘pathetic’ in the dictionary; the ensuing recognition that words have multiple meanings allows her to understand the pun made by her mother⁹⁴². Second-person prose expresses the same kind of multiplicity within consciousness in fulfilling several functions at once. Firstly, it can be understood as an incorporation of her mother’s implied response to her question within George’s consciousness; she is not speaking, but the passage acts as a response to the question George puts to her. Secondly, it can be understood as expressing the way in which consciousness is disclosing, determined by the object of perception. The detailed attention to the object in itself allows her to change her interpretation of it and to understand why her mother keeps it. Thirdly, it expresses the mutability of the self, its openness to alteration by the object and by others’ perception of the object.

In a later use of second-person prose, George visits an art gallery. The passage is preceded by references to the two conversations between George and her mother discussed above⁹⁴³. The description of the painting she looks at dwells at first on its difficulty, its resistance to a comprehensive understanding; it is ‘impossible to see it all at once’⁹⁴⁴. The narration lists several details, before fixating on one: ‘it is impossible, though, not to keep looking then looking back again at the blue-coloured stripe which runs like a frieze round the room [...] The blue calls your eyes every time.’⁹⁴⁵ This passage emphasises the ambiguity in the use of second-person prose.

The self, 'you', is defined here by which part of the painting it focuses on. The self determines the categories through which the painting will be understood, but is altered by the painting. This is developed in subsequent uses of the second-person, gradually emphasising the absorption of the self into the picture while acknowledging the possibility of different interpretations⁹⁴⁶. A later passage, in which the painter Francesco describes 'the thing that happens when the life of the picture steps beyond the frame', develops this ambiguity:

it does 2 opposing things at once.

The one is, it lets the world be seen and understood.

The other is, it unchains the eyes and the lives of those who see it and gives them a moment of freedom, from its world and from their world both.⁹⁴⁷

This passage draws on a reading of Rainer Maria Rilke's 'Archaic Torso of Apollo' in *Artful*. Rilke's poem describes the experience of looking at the titular sculpture in the second-person. In *Artful's* reading, the 'first thing the imagining eye does is supply what's not there, giving the statue not just a head but a legendary one; its missing eyes are both seen [...] and at the same time never seeable.'⁹⁴⁸ This head, then, allows to statue itself to gaze, which leads to a 'magical shifting of the position of observer and observed', through which the 'you' of the poem becomes not just the seen thing instead of the art, but something seen so utterly, so wholly, that 'there is no place that does not see you'⁹⁴⁹. The contrast between the object as constructed by the subject and the object in itself further allows this gaze to be turned onto the perceiving subject, resulting in the poem in a 'pure urgency for transformation: 'you must change your life.'⁹⁵⁰ The object's effect on the interpreting subject is experienced as a demand.

In *Artful* and *How to be Both* a formal relation to vision is articulated through reference to Calvino's *Six Memos for the Next Millennium*⁹⁵¹. Over the course of this work, Calvino develops an argument for a form of literature grounded in visual images, distinct from interpretation⁹⁵². A significant reference point for this argument is Hofstadter's *Gödel, Escher, Bach: An Eternal Golden Braid* (1979), from which Calvino takes the idea that human cognition is grounded in mental images, distinct from language, as well as several of its implications for our understanding of the mind and the self⁹⁵³. Hofstadter uses a discussion of art to describe the limitations of consciousness in responding to this multiplicity; the art work cannot be apprehended as it is, but is always framed in some way⁹⁵⁴. He proposes that consciousness, free will and meaning are the product of a 'strange loop': 'an interaction between levels in which the top level reaches back down towards the bottom level and influences it, while at the same time being itself determined by the bottom level'⁹⁵⁵. Smith has developed these ideas, combining Calvino's reading of them with her own longstanding themes and techniques, arriving at a style partly embodying the actions of this loop.

To See Her Properly

In a piece on style versus content, published the same year as *Artful*, Smith describes style as 'an aesthetic means of containing something for us and allowing us both distance from and proximity to it'⁹⁵⁶. Distance and proximity; coping and disclosing, each determining the other in a strange loop. The same process is depicted in *Umbrella*. Busner's initial response to seeing Audrey is a form of associative thought which seems to impose a literal, spatial distance between the two: 'At once, he thinks

of twitchers he has seen on his chronic ward, screwing their heads into the angle between the headrest and the back of their allotted armchair [...] She is at once a long way off and close enough for him to manhandle.’⁹⁵⁷ Busner’s diagnosis is also rendered using an interrelated set of visual and spatial terms in this sequence: ‘To see her, to *see her* properly, Busner has to wade through a Brown Windsor of assumptions about the elderly insane’⁹⁵⁸. This leads Busner into a memory of one of his lecturers, ‘the worn-out pile of whose fustian mind would be bared – as he wandered from lectern to steam radiator and back – by his inadvertent references to [...] obsolete terms that meant far less than the vernacular’⁹⁵⁹. The rendering of thought in spatial terms through metaphor complements the effect of Busner’s own train of thought, which distances him from Audrey and his present location in time and space. The ‘assumptions about the elderly insane’ are also embodied in the physical structuring of the hospital, and in the forms of treatment at work. When Audrey is ‘*swept away on the brown tide*’ after this encounter, the reference is both to the ‘Brown Windsor’ of assumptions and to the medication Busner assumes her to be taking: ‘it is unthinkable that she shouldn’t be dosed with some form of chlorpromazine – everyone is.’⁹⁶⁰ Busner observes the ‘*chloreography*’ of the patients – the effects of the drug and of its dispensing determining their movement through space – and becomes aware of a ‘steady background pulse of involuntary movement [...] They are possessed, he thinks, by ancient subpersonalities, the neural building-blocks of the psyche...’⁹⁶¹ Busner’s consciousness occupies the intersection of another strange loop, through which the mind and its environment affect each other, each taking on the other’s properties.

Umbrella depicts this loop as ongoing through the use of the present-tense. Italicised thoughts respond directly to present experience, establishing a distance

between the subject and object by determining how the object is to be understood. For Busner, medical diagnosis is an involuntary response, not only to his patients, but to himself and those he sees around him, occurring throughout and taking the form of italicised medical terms interjecting themselves into the prose. The first element of Busner's emerging diagnosis of Audrey, '*festination*', 'pops into his mind', an 'uncalled for Latinism'⁹⁶². As he reflects later on, watching Audrey, this is a form of coping:

Busner senses the *acid churn* in her engorged spleen, he envisions *ulceration*. To counteract these stark facts *I have jargon* – for he has been doing his reading. It is far easier to look upon her *Unknown Pauper Lunatic face* if he puts it in these terms: *profound facial masking*. It is far less uncanny to describe these half-shuttered and unseeing eyes as exhibiting *lid clonus*.⁹⁶³

Busner seeks to counteract the affect prompted by Audrey that he 'senses' or 'envisions'. In doing so he must become more like the statue he describes, his eyes 'half-shuttered', 'unseeing'. His diagnosis acts as an involuntary form of coping, through which elements of a particular discourse attach themselves to visual elements of conscious experience. On a general formal level, the link between particular forms of language and characters in the novel differentiates between individuals.

Busner's treatment of post-encephalitic patients with L-Dopa is based partly on Oliver Sacks's account of his own experience in *Awakenings* (1973). The style Self develops in *Umbrella* can also be read as influenced by Self's engagement with Sacks's ideas. The role of the environment is central to Sacks's reflections on his experience with the post-encephalitics in *Awakenings*. He notes that in accounts of patients in the 1930s it seemed 'as if the *'quality'* of the individual – his 'strengths'

and ‘weaknesses’, resistances and pliancies, motives and experiences, etc. – played a large part in determining the severity, course and form of his illness⁹⁶⁴. Thus ‘at a time of almost exclusive emphasis on specific mechanisms in physiology and pathology, the strange evolutions of illness in these post-encephalitic patients recalled Claude Bernard’s concept of the *terrain* and the *milieu interne*’⁹⁶⁵. Equally clear were ‘the effects of the external environment, the circumstances of each patient’s life’; the illness could be understood as, ‘like neurosis or psychosis, a coming-to-terms of the sensitized individual with his total environment’⁹⁶⁶. This total environment includes the hospital; in making this point, Sacks implies something like an extended mind: ‘We have seen that Parkinsonism and neurosis are innately coercive, and share a similar *coercive structure*. Rigorous institutions are also coercive, being, in effect, *external neuroses*.’⁹⁶⁷ The influence of this idea can be seen in the passage from *Umbrella* discussed above, combined with Self’s established use of memes.

How to Be Both and *Umbrella* each situate the origins of the narrative model of identity in the individual’s response to conscious experience. The individual incorporates particular linguistic and cultural prostheses so as to achieve individual homeostasis. While the individual may look back at these responses and subsume them within an overall narrative, again in the hopes of using narrative as a prosthesis to achieve homeostasis, Smith and Self both use present-tense narration to imply that this is not how the process works moment by moment. The individual’s response to their environment is not that of a pre-determined self, but a series of defensive and largely involuntary reactions to the encroachment of that environment within consciousness. In his tribute to Sacks, Self mentions an essay by Sacks on consciousness which had struck him ‘as pointing a very straight path towards cracking its ineffable mysteries’⁹⁶⁸. In the essay, ‘In the River of Consciousness’ (2004), Sacks discusses

the idea of consciousness as a series of discrete moments, a view originating in David Hume's work⁹⁶⁹. In the same essay mentioning this article, Self remembers discussing exactly this Humean view at his first meeting with Sacks in the 70s⁹⁷⁰. Sacks notes that instead 'of seeing the brain as rigid, fixed in mode, programmed like a computer, there is now a much more biological and powerful notion of "experiential selection," of experience literally shaping the connectivity and function of the brain', a point which Self brings up, and which was central to *The Book of Dave*⁹⁷¹. At the same time, we 'deceive ourselves if we imagine that we can ever be passive, impartial observers. Every perception, every scene, is shaped by us, whether we intend it, know it, or not. We are the directors of the film we are making—but we are, equally, its subjects too.'⁹⁷²

City of Trees

George corrects herself again when describing the damp on the wall of her bedroom:

Over the weeks since it's been happening the posters have started to peel off it because the Blu-tack won't hold to some of the wall. Under them a light brown set of stains, like the map of a tree-root network, or a thousand-times magnified mould, or the veins that get visible in the whites of your eyes when you're tired – no, not like any of these things, because thinking these things is just a stupid game. Damp is coming in and staining the wall and that's all there is to it.⁹⁷³

The passage refers back to the use of natural imagery in Smith's earlier fiction. Descriptions of natural objects, such as trees, directly or as metaphor, recur in connection to moments of heightened engagement by Smith's characters with the world outside themselves, often prompted by love or desire⁹⁷⁴. We learn that George

is hiding the mould in the hopes that it will rot the roofbeam and that the ceiling will fall in: ‘She will have the pleasure of watching it happen [...] She will lie in bed with all the covers thrown off and the stars will be directly above her, nothing between her and their long-ago burnt out eyes.’⁹⁷⁵ She repeats this hope two pages later, when an advert prompts her to think of her mother:

How can that advert exist and her mother not exist in the world?

She didn’t say it out loud, though, because there wasn’t a point.

It isn’t about saying.

It is about the hole which will form in the roof through which the cold will intensify and after which the structure of the house will begin to shift, like it ought, and through which George will be able to lie every night in bed watching the black sky⁹⁷⁶.

In the next paragraph, ‘[i]t is last August. Her mother is at the dining-room table reading out loud off the internet.’⁹⁷⁷ The metaphor of the sky seen without obstructions corresponds to memory unmediated by tense and narration.

Hofstadter defines cognition as ‘recognition’; for ““seeing *as*” as the essential cognitive act: you see some lines as “an A,” you see a hunk of wood as a “table,” you see a meeting as “an emperor-has-no-clothes situation” [...] That’s what it means to understand.’⁹⁷⁸ The example of art’s inherent ‘framing’ in *Gödel, Escher, Bach* also makes this point. The particular framing of a work of art emerges from an interaction of the properties of the art work in itself, and the cultural meanings attached to it. Smith references Hofstadter’s argument, via Calvino, in *Artful*⁹⁷⁹. After George sees one of Francesco’s paintings, the narration notes that the gallery ‘knows more about the man in the picture than it does about the painter who painted it. *About*.’⁹⁸⁰ The

repetition of ‘*about*’ calls attention to the way in which gallery is being anthropomorphised in this description. The gallery’s relation to the paintings is granted intentionality, or ‘aboutness’. In Rowlands’s model, ‘perceptual experiences’ are ‘intentional because they are a revealing or disclosing of the world’; they are conscious ‘because they are a revealing or disclosing of the world to someone – their subjects’⁹⁸¹. There are, in this model, ‘many ways of causally disclosing the world’, that is ‘many vehicles through which the world may be causally disclosed to subjects’⁹⁸². The core of Rowlands’s argument for EMT is that ‘the vehicles of causal disclosure do not stop at the boundaries of the brain, but extend out into the activity we perform in the world, activity that is both bodily and incorporates wider environmental performances’⁹⁸³. The gallery forms part of the self in the sense that it acts as a vehicle of causal disclosure in relation to the paintings it contains. The paintings themselves can also be understood as parts of the self as revealed in core consciousness. The self in a gallery, seeing a painting, is extended in two opposing ways, each characterised according to the metaphor of architecture or nature. Smith’s use of this metaphorical register expresses how this opposition functions within consciousness.

Where nature initially stands for this unmediated mode of perception, architecture is associated with language and articulation. Houses and other buildings stand for mediation in general, for anything, in Rowland’s terms, through which the object is disclosed to the subject. George variously uses metaphors in which she describes parts of herself in terms of architecture, and feels that parts of actual buildings are parts of her. Again, this is something that Smith has developed in her earlier fiction, particularly in *Hotel World*⁹⁸⁴. This complements references throughout which link nature to visual perception. There are also references to a mingling of the

two, to plants taking root within buildings. In one passage, in which George describes walking through a town in Italy with her mother, architecture is gradually altered as the narration dwells on visual experience:

It is a place of walls [...] But things change in a moment here, light to dark, dark to light, and although it is so stony it is also bright green and red and yellow too; all the walls and buildings go red-golden in the sun. [...] There are the long straight avenues of really beautiful trees, as if it's not a city of walls at all, it's a city of trees. In fact, all the buildings and walls have bits of tree and bush and grass sprouting out of them at the tops and up the sides of their bright walls.⁹⁸⁵

George's mother adds that '[i]t's as if that map they gave us is nothing to do with the actual experience of being here'⁹⁸⁶. Emily Horton identifies a similar process at work in the depiction of urban spaces in Smith's short stories. Horton argues that 'against the 'supermodern' idea of space as necessarily restrictive and disempowering [...] Smith instead calls up the hidden psychic and affective possibilities latent within urban spaces'⁹⁸⁷. Horton identifies several moments in the short stories in which affect shifts a character's relation to and perception of the urban spaces around them. In one short story, 'The Definite Article', from *The First Person and Other Stories* (2008) affect is embodied both in an insect which literally flies into the narrator's eye, 'prompting a change of thought and subject matter', and in the word 'ow', which 'disrupts the sentence itself, reframing its focus'⁹⁸⁸. Throughout *How to Be Both*, George seems to think in terms of an opposition between perception and interpretation, or between vision and language, tied metaphorically to nature and architecture. She alternates between correcting perception by reference to language, and hoping that nature will lead to a total collapse of architecture, allowing for unmediated perception. As

George's half of the novel unfolds, the opposition is broken down, the two sides revealed as mutually constitutive of themselves and of George's experience.

Several critics have pointed out that Smith's work consistently rejects such oppositions, particularly those related to nature and culture⁹⁸⁹. *Artful* reconciles the opposition between nature and architecture with a metaphor borrowed from Keats's 'Ode to Psyche': 'the wreathed trellis of a working brain'⁹⁹⁰. Elsewhere, Smith takes another such description of thought from Cézanne, via John Berger: 'The landscape thinks itself in me, and I am its consciousness'⁹⁹¹. In the same essay, Smith claims that 'she could say that everything [she's] ever written or aspired to write has been in one way or another an appreciation of the work of John Berger'⁹⁹². While Smith's depiction of thought in *How to Be Both* is influenced by her reading of Calvino and Hofstadter in *Artful*, it also draws on aspects of her earlier fiction that may have been influenced by Berger⁹⁹³. Berger's *Ways of Seeing* (1972) sets out a model of visual thought:

Seeing comes before words. The child looks and recognizes before it can speak.

But there is also another sense in which seeing comes before words. It is seeing which establishes our place in the surrounding world; we explain that world with words, but words can never undo the fact that we are surrounded by it.⁹⁹⁴

He adds that we 'never look at just one thing; we are always looking at the relation between things and ourselves'⁹⁹⁵. Our relation to what we see is determined partly by culture, as Berger argues by reference to the art work: 'when an image is presented as a work of art, the way people look at it is affected by a whole series of learnt assumptions about art'⁹⁹⁶. In *Bento's Sketchbook* (2011), Berger reflects on drawing,

which he experiences as ‘something like a visceral function, such as digestion or sweating, a function that is independent of the conscious will’, something that ‘touches, or is touched by, something prototypical or anterior to logical reasoning’⁹⁹⁷. He quotes Damasio: ‘The entire fabric of a conscious mind is created from the same cloth – images generated by the brain’s map-making abilities [...] conscious minds arise from establishing a relationship between the organism and an object-to-be-known.’⁹⁹⁸ Berger’s writing on seeing complements Damasio’s model of consciousness, as well as putting forward a concise expression of the way in which extended material and cultural structures interact with the object being seen. Smith’s work responds to his influence through a metaphorical register which expresses this interaction.

Plasterwork of Her Skull

The point about the opposition between architecture and nature in Smith’s work is that it can be reconciled. Self’s focus on technology rather than nature indicates a different understanding of the extent to which extended structures determine the subject’s relation to the object. *Umbrella* develops on his previous work’s concern with the ways in which technology and the urban environment determine individual consciousness and perception. Self’s short story ‘Architectural Salvage’ (2015) exemplifies the metaphorical register in his recent work. The title phrase is used as a metaphor for ageing bodies, first by the protagonist, Jane Molloy, and then within the delusion of a young woman who comes to warn her of machines which link brains through the internet into a ‘worldwide bio-cybernetic server farm’, keeping the humans, now ‘surplus to requirements’, as decoration, ‘one of the Earth’s original

features'⁹⁹⁹. The protagonist's italicised descriptions of her body and those around her complement the depiction of her consciousness as determined by her engagement with technology: she is shown 'clicking through a carousel of images as she struggle[s] to sleep', powers-down and up in the evening and morning, and finds her morning routine acquiring 'the quality of an algorithm: a set of instructions commanding her to shower, dress, eat and defecate, all without bothering about ...*the whys and wherefores.*'¹⁰⁰⁰ The opposition here reinforces that sense of passivity. The contents of consciousness, as mediated by technology, cannot alter and renew the architecture of the self. In *Umbrella*, Self depicts a form of core consciousness, determined by technology, which fundamentally alters the dynamic relationship between the subject and object.

The breakdown of the boundary between mind, body and environment is formulated as a vision of imprisonment in a dream of Audrey's:

In the depths of her sopor she had dreamed this: the hospital growing out of her mortal shell, its whitewashed and bare walls *stretching ... creasing ... folding into nacre*. Always she remained *on the inside ... trapped*, the heavy girders arched within her bent back, their rivets *my vertebrae* ... Cut through the dimpled plasterwork of her skull, dirty skylight illuminated ... *nothing.*¹⁰⁰¹

The end of this passage refers back to an earlier one in which another patient recalls his experience 'thinking of nothing', an 'iteration of identity, its fact, nothing more, two-equals-two, I-am'¹⁰⁰². He goes on to describe himself before his treatment and partial recovery as 'a sort of picture frame [...] the framing of nothing'¹⁰⁰³. In *How to Be Both*, the metaphorical linking of self and building is used mostly to illustrate the potential for change and mutability implicit in a variation of EMT: the object of perception alters extended structures of mediation and interpretation through their

interplay within consciousness. *Umbrella* follows the same logic: when those structures are fixed, and the individual cannot alter their relation to them, their relation to experience becomes passive. This links the literal disability of the post-encephalitic patients with the coercive effects of their environment, with technological screens, and with computational representations.

The novel also links Audrey's condition to the experience of watching television. In 1971, Audrey watches a gameshow on TV, seeing a procession of objects going past, accompanied by the 'disembodied voice – sweetly covetous – naming these things as they are shuffled before her'¹⁰⁰⁴. Television is further linked to transportation through the preceding sequence, set around 1918:

Her hands are back in her lap and they tap-tap-tap with the clack of wheel on wheel, but Audrey remains detached [...] her head clamped in the *eyepiece* of the window, she is compelled to see through her own diaphanous self to the electrified fsssch-chk-fssschk-chk as the platform pulls away again, this time its display more various.¹⁰⁰⁵

The objects seen in display gradually shift from those on the platform in 1918 to those on the TV in 1971. The subject's sense of detachment is what links the two technologies. This detachment is reflected in shifts in the prose. Audrey cannot situate herself in time or in space and cannot respond to what she sees. Audrey's pathology is depicted as a mode of consciousness corresponding to the experience of watching TV or riding in a train. The subject is presented with a set of discontinuous images and cannot alter their relation to them. The idea is developed at length when Busner takes a bus in 2010. Busner sets off aimlessly and finds that the bus's route determines his thought processes and memories. He 'fervently wills the bus' not to go in a particular

direction; the ‘last thing he wishes the bus to do is revisit any of these secret compartments in which the insane *slosh about*’; he ‘prays that the bus won’t go up Highgate Hill’¹⁰⁰⁶. An awareness of his ultimate destination, the site of the former hospital, comes on like a realisation rather than a decision:

He had set off from Kentish Town with no plan or preconceived route, yet at each point where the way divided, memory, that ever-present helpmeet, had showed him the right one. *Truth to tell* no matter how random his transit, Busner’s *conscience could’ve reeled me in – my spore, my coprolites, my coiled mess, is scattered that widely.*¹⁰⁰⁷

The decision to revisit the site seems to issue from what might be understood the unconscious. This unconscious blurs memory and conscience with the bus he is on and the city itself. Accordingly, this sequence revisits the metaphorical blurring of car and human seen in *The Book of Dave*, depicting the birth of a new hybrid of the two¹⁰⁰⁸. As Busner reflects on this, he becomes aware that he too is passive in the face of objects and processes beyond himself:

He feels the talismanic shape of his Freedom Pass through the soft stuff of his tracksuit bottoms – *Freedom in what sense?* Only a monetary one, for, far from allowing him to do *whatever the hell I want, its sharp corner spurs me on ...* to train, to tube or bus, where he must sit: conscious but completely powerless to influence the route taken by the vehicle – *as powerless as ... its driver.*¹⁰⁰⁹

A reference during this sequence to the mind ‘that believes *without any evidence* that it’s inside a head’ is telling¹⁰¹⁰. These sequences align a particular form of framed perception with a determination of the individual’s position in space by technology, culture, pathology, or an ambiguous combination of all three. They build on a similar

sequence in *Walking to Hollywood* (2010). During the middle section of the novel, the narrator (a fictionalised version of Self) mentions a reverie concerning ‘Extended Mind Theory as it related to video games and the driving of cars – cars, which are the true superheroes of the modern era, powerful demiurges that canter across cities on their rubbery pseudo-pods [...] the servant has become our master’¹⁰¹¹. A long sequence shortly after this passage depicts an altered form of consciousness in which Self relates to his environment as if in a video game¹⁰¹². The novel includes various references to EMT, as well as variations on the idea that contemporary consciousness sees the world as if through screen¹⁰¹³. *Umbrella* develops a link between the post-encephalitic condition and contemporary consciousness based on the pessimistic reading of EMT made explicit in *Walking to Hollywood*.

In *Walking to Hollywood* the narrator claims that his life ‘has had no narrative – which implies a linear arrangement of events – but only spiralled either out of control, or into a vicious centrifuge of repetition and coincidence’¹⁰¹⁴. In the context of that novel, this mode of being follows on from the intensification of the extended mind through technology and the urban environment. *Walking to Hollywood* and *Umbrella* depict pathologies in which technology determines the individual’s relation to their environment and to the object of perception in such a way that these moments of consciousness cannot be reconciled in narrative form. This can be understood using Damasio’s model. In Andrew Gaedtke’s reading of *Umbrella*, the sense of existing purely as frame around nothing, a simple restatement of the fact of being a self, is a depiction of a state in which individuals can only experience ‘core consciousness’, rather than the ‘extended consciousness’ Damasio takes to be the basis of self¹⁰¹⁵. This is not because of their inability to formulate a coherent narrative, but rather with the

way in which their environment determines both their position in space and what they see.

A Kind of New

There are several points of contrast between Smith and Self's understanding of core consciousness, but it is significant that neither propose narrative as a solution to the problems faced by their characters. While George reconciles her immediate conscious experience with form, she does so by overcoming her dependence on perfect tense and the linear structuring of existence.

One of the consequences of incorporating structures external to the body within the core self is that the core self may be remade in radically different forms from moment to moment. As Self argues, the effect of technology may also be such as to prevent the individual from orienting themselves within space, further breaking up a possible foundation of continuity in extended consciousness. Smith and Self propose an alternative model of extended consciousness, through which the subject's awareness of a disjunction between the selves at each moment of core consciousness acts as the foundation of agency and understanding.

The opposition between nature and the self in Smith's work acts as one basis for a reading of her novels and short stories in terms of cyclical rather than linear models of time and memory. Celina Sánchez García reads *The Whole Story and Other* (2003) in terms of 'a nostalgic retrieval of natural rhythms as a unifying force which escapes any possibility linguistic reduction' and describes the use of 'a subtle cyclic structure' in certain stories which acts as 'a reflection of the endless process of reading and interpreting a story'¹⁰¹⁶. Currie's reading of *The Accidental* picks up on its

suggestion that Amber (or Alhambra) ‘is in some way external to time’, a point which takes on a ‘graphic dimension’ in the placing of Amber’s word before the ‘beginning’ section of the book¹⁰¹⁷. Patrick O’Donnell points out that the Alhambra building, as described by Amber in one of her sections, ‘stands as the symbol of a transient cultural temporality’¹⁰¹⁸. This contrasts with the timeless Amber, who ‘implies that she has been escaping this event [running over a child] and the ‘self’ associated with it ever since, as she roams without direction from place to place, a nomadic entity born of accident, her life a skein of contingent relations with strangers’¹⁰¹⁹. *The Accidental* depicts the various selves that Amber assumes within the perception of the individual Smarts. It also shows how Amber’s status as a reference point outside of time splits Eve into two selves at various points. As I discussed in the last chapter, Smith has depicted the action of the outside world within consciousness and memory in terms of a splitting of the self into several selves. This is further complemented by her use of memes. In *Hotel World*, italicised phrases drawn from conversations and reading are depicted as ghosts. In her work since *The Accidental*, Smith has linked these two techniques, depicting consciousness in terms of a conversation between many selves, some of which are made up of memories of other people.

At the start of *How to Be Both*, George seems to be attempting to transition from what Smith understands to be a child’s form of consciousness, grounded in the present tense and with an implicit lack of distinction between self and other, and an adult form, based in narrative and grammar. Her memories of her mother complicate this shift. George’s grief over her mother’s death has caused her to partly abandon her grammar pedantry, even as she attempts to impose a narrative through tense. Conflicting impulses in her response to a website are depicted through a split in the self, a brief, literal dialogue between the ‘George from before her mother died’ and

the ‘George from after’¹⁰²⁰. These conflicting impulses are also at work in George’s relation to her therapist, Mrs Rock, and the psychiatric model of mourning as a linear working through of stages: ‘that before and after thing is about mourning, is what people keep saying. They keep talking about how grief has stages.’¹⁰²¹ In the first conversation with Mrs Rock, George describes feeling ‘at a distance’, like ‘always having the sound of someone drilling a hole in a wall, not your wall, but a wall like very close to you [...] you feel it in your own house, though it’s actually happening several houses away’¹⁰²². Asked to be more precise, she says that it’s ‘at a distance *and* it’s like the drilling thing’, and that she doesn’t ‘care any more about syntax’¹⁰²³. Her inability to articulate leads her back to her hope that the hole in her wall will shift the structure of the house¹⁰²⁴. This rejection of interpretation and narrative then leads to a memory of her mother, in present tense¹⁰²⁵. When George again corrects her own grammar, there is a description of her mother’s obituary, written in italics¹⁰²⁶. The early parts of George’s half of the novel are structured around this kind of oscillation between immediate embodied experience, in memory and in perception, and its narration through established cultural models and written texts. Technology, in this context, is as much an aspect of the self as anything else mediating between the subject and object, whether grammar or time. When George describes a piece of Super 8 footage of her mother dancing, which she has transferred to her laptop and phone, it is in present tense¹⁰²⁷. After this, George describes listening to ‘one of the records that her mother loved when she was small’ as like ‘being able to experience past like you have literally entered it and it is a whole other place, completely new to you, where people really did sing songs like this, a past so alien that it is a kind of shock’¹⁰²⁸. These two experiences of immediate, present tense experience, mediated by technology, overpower George’s attempt to re-impose tense:

Shock of the new and the old both at once, her mother says.

Said.

One afternoon George's father brings home the new turntable [...] A boy called Tommy loves a girl called Laura. He wants to give her 'everything' (this is funny in itself, apparently, from the way her parents fall about, though this is back when George is too young to understand why.)¹⁰²⁹

The use of the present tense persists in the narration, even as it acknowledges that it is set in the past. This complements rather than contradicts the way in which this experience is altered by the older George's different understanding. The implied disruption of causality is developed:

Why did you even keep this record? George asks her mother. It's so bad.

I didn't know till today but obviously I was keeping it precisely so that you, me and your father would all end up listening today, her mother says and they all fall about laughing again.

Thinking about that today back then in this new today right now, and in whichever stages of mourning she's in, doesn't make George feel sad or feel anything in particular.¹⁰³⁰

This memory has apparently caused her to move past the stage of mourning she describes earlier: 'Stage nine (or twenty three or a hundred and twenty three or ad infinitum, because nothing will ever not be like this again): in this stage you will no longer be bothered with whether songwords mean anything. In fact, you will hate almost all songs.'¹⁰³¹ She has not done so by re-imposing tense, but by ignoring it, experiencing memory as immediate perception.

Francesco's half of the novel uses a similar dynamic. At the beginning, Francesco can 'hardly remember [his] own name, can hardly remember anyth [sic]', and starts to regain a sense of identity by listing visual memories¹⁰³². They regain memories when seeing their own paintings, again applying the interpretative mode, supplemented by italicised memes:

But what about the old Christ at the top of it?

Old

Christ?

like he made it after all to old man when everyone knows Christ's never to be anything other than *unwrinkled eyes shining hair the colour of ripe nut from the hazel tree* [...] old man Christ, why would I paint an old (blaspheming)?¹⁰³³

Francesco begins to remember by focusing on another detail of the painting: 'Wait – cause – think I remember : something : yes, I put some hands 2 hands below his (I mean His) feet : something you'd only see if you really looked.'¹⁰³⁴ Like George, Francesco corrects themselves here to fit the orthodoxy of their own time – '(I mean His)' - as embodied in language. The hands in the painting look like 'they're corroded with gold, gold all over them like sores turned into gold, a velvet soup of gold lentils [...] as if blisters of the body can become precious metals'¹⁰³⁵. Towards the end of this half of the novel, Francesco remembers encountering a dying man in a bush, seeing first 'hands in the air as if attached to no body : they were covered in pustules like coated in a deep soup paste made of lentils but lentils attached to no body'¹⁰³⁶. Francesco questions the man as to who he is; he cannot remember, or doesn't know. This sequence hints at the disease from which Francesco dies, as well as referring back to the earlier scene, in which Francesco questions the painting that will turn out to

have been based on this man. Just before this point at the end, the memory answers the question of why Christ is old in the painting: the model for this figure is Francesco's father¹⁰³⁷.

The second-person tense in George's half of the novel can be read, in Damasio's terms, as a depiction of core consciousness. The object and the immediate circumstances of the subject determine the core self in the act of seeing. Because these selves determine how the object is perceived, they remain attached to the memory of each perception. Remembering allows for an awareness of a contrast between the remembering self and the self at the moment of original perception. Smith depicts this through moments of heightened perception, which lead to vivid memories and a splitting of the self. Significant visual experiences in consciousness alter the perceiver, and grant them an awareness that they were literally a different self at different points in the past. For George, memory allows her to begin to move past her grief. The autobiographical self is made up of such cultural narratives, as Smith has emphasised through her characters' gradual incorporation of particular ways of understanding experience. George's engagement with visual experience, art, and memory alters her understanding of herself as a whole. This is expressed partly through the gradual shift in the spatial metaphors used in the novel. Where at first there is a straightforward opposition between the self (architecture) and perception (nature), by the end they become intertwined. Francesco's half of the novel depicts a similar process. At the beginning, Francesco is the same kind of ghost as the one depicted at the start of *Hotel World*: disembodied, made up of intentional states, full of questions. The dominant elements of Francesco's autobiographical self are the established rules and techniques of painting, which include religious orthodoxy. These are not enough to understand their own paintings, which contain other, contradictory elements. The paintings

themselves are revealed by the end to have been shaped by a tension between pre-determined rules of painting and Francesco's own experiences. The way in which these two forms of seeing interact is extended to the viewers of this painting. This tension changes how the viewers interact with the space in which the painting is kept¹⁰³⁸.

Smith's exploration of visual consciousness, and the interaction of different selves, draws on her reading of Walter Benjamin. Smith takes a quote from Hannah Arendt's introduction to *Illuminations* (1968), an edited collection of essays by Benjamin, as an epigraph. Arendt describes a mode of thought developed by Benjamin, through which the thinker works with 'thought fragments', separated from their original context in the past and brought back, 'not in order to resuscitate it the way it was and to contribute to the renewal of extinct ages', but to develop new ideas through the contrast between then and now it makes possible¹⁰³⁹. *How to Be Both* intersperses implicit references to the essays in *Illuminations* throughout¹⁰⁴⁰. Among these are references to 'Theses on the Philosophy of History' (1940), in which Benjamin distinguishes between 'historicism' and 'historical materialism'¹⁰⁴¹. The former 'gives the "eternal" image of the past', while the latter 'supplies a unique experience with the past'¹⁰⁴². Historical materialism consists of a recognition of the mutually constitutive relation of the past and the present, in opposition to the 'universal history' in which historicism culminates. Benjamin describes this recognition as an arrest in the flow of thought, in which thinking stops 'in a configuration pregnant with tensions', and 'gives that configuration a shock, by which it crystallizes into a monad'¹⁰⁴³. By responding to this essay and others, Smith develops Benjamin's proposed understanding of time and history as they operate within thought.

In the metaphors chapter, I discussed George's response to a text from H. George goes on to sense 'like something blurred and moving glimpsed through a partition whose glass is clouded, both that loving was coming for her and the nothing she could do about it.'¹⁰⁴⁴ Her response takes the form of a dialogue: 'The cloud of unknowing, her mother said in her ear [...] Meets the cloud of knowing, George thought back.'¹⁰⁴⁵ George's acceptance of the nothing she can do about her love for H complements her acceptance of her mother's presence in the present, within consciousness. Along with the voices of other selves, Smith has depicted the voices of other characters within the mind, particularly parents, throughout her fiction. As I discussed in the previous chapter, these voices are depicted as memes, floating and recurring intentional states similar to earworms. George's acceptance of her mother in the present builds on a previous dialogue between George and H. H sends her the lyrics of songs, 'the kind that play everywhere': it's like 'H is trying to find a language that will make personal sense to George's ears. [...] The newness of it has a sort of power that can make the old things [...] a kind of new.'¹⁰⁴⁶ There is an implicit link here between the recognition of her mother's voice as relevant in the present and the renewal of song lyrics. Earworms, and the voices of others, are traces left in the mind by embodied experiences. In this, they can be understood as forming parts of the self that accompanies the moment of core consciousness in the original experience. In Smith's model of consciousness, patterned after Benjamin's work on historical materialism, these previous selves are not subsumed within an autobiographical narrative, but renewed through the contrasting of them with the present self that occurs in response to heightened experiences of core consciousness linking the two. In the passage above, this moment is depicted as a literal dialogue between George and her mother. George's memory of her mother is renewed by its relevance to her response

to the immediacy of her experience. It also forms part of a dialogue between George and H. Writing her response, George notices that ‘she’d used, in its first sentence, the future tense, like there might be such a thing as a future’¹⁰⁴⁷. Currie defines the future anterior as ‘not the actual future, but an envisaged, virtual future which is part of the present, experiencing the present moment as one that will have been, as something that will have happened’¹⁰⁴⁸. George is able to redefine her understanding of the future by including the past within the present, and by foregoing the distinction between self and other. Like Stephen in *The Child in Time*, she is able to mourn.

Cultivation of Memory

In the metaphors chapter, I discussed how Benjamin’s discussion of technology complements the modernist form of consciousness identified by Duffy whereby a sense of integration with technology accompanies a detached visual perspective. Self also depicts this state of mind in his novels. He summarises this paradoxical state in *Walking to Hollywood* when the narrator asks, in the midst of his video game reverie, ‘Was I in the world anymore? Or was the world in me?’¹⁰⁴⁹ Benjamin describes ‘[r]eception in a state of distraction’, a state ‘symptomatic of profound changes in apperception’ as finding in film ‘its true means of exercise’¹⁰⁵⁰. This accompanies what Benjamin elsewhere calls the ‘decline of the aura’, the aura designating the associations which ‘tend to cluster around the object of a perception’ in involuntary memory¹⁰⁵¹. The subject is unable to relate images to other images if they have no aura, that is if the subject is unaware of the distance and relation between themselves and the object, and unaware of what mediates that relation. An awareness of this relation can however be grasped through parallax, the contrasting of multiple

perspectives on the same object. The use of multiple perspectives in *Umbrella* allows for this kind of awareness.

As I've said, one of the post-encephalitic patients in *Umbrella* defines the condition in terms similar to core consciousness. Another patient describes his experience as 'a continuous present, *an awful and unchanging Now*'¹⁰⁵². Busner responds by proposing that 'it's movement that's essential for the formation of memories – that memory is a somatic phenomenon, and so if a mind can no longer manipulate its body in space, it loses the capacity to orientate within time'¹⁰⁵³. Earlier on, Busner reflects on memory as form of structuring: 'and what was the cultivation of memory – through solitude, through reverie – if not the erection of a scaffolding in order to *facilitate the construction of current behaviours*'¹⁰⁵⁴. The inability to move beyond the unchanging now of core consciousness is not due to a failure to establish a coherent narrative, but rather to a situation in which consciousness cannot alter and modify this scaffolding, discarding and incorporating different prostheses.

Busner compares the 'behavioural aid' of memory to 'the wearing of a loudly ticking watch so as to supply a tempo by which to recalibrate the complex motor sequences needed to stand up, that should be automatic, but that needed to be *relearned ... every time*'¹⁰⁵⁵. Earlier still, when Busner first meets Audrey, his watch acts as a marker in the text, showing the relative positions of both perspectives. As he touches her for the first time, the 'fancy new quartz watch on his own plump wrist turns its shiny black face to his as her malaise resonates through him [...] he wonders: Am I blurring? Ashwushushwa, she slurs.'¹⁰⁵⁶ After the shift to the perspective of the young Audrey, a shift back to the present is signalled by a reference to the same watch: 'Samuel death holds the timepiece up by its gold-plated bracelet, its face a lozenge of jet eclipsing the present [...] red illumined figures, 08.54, each digit composed with

straight bars, bevelled at their ends.’¹⁰⁵⁷ Audrey is apparently seeing Busner’s watch in 1971. This leads to the child Audrey responding to and interpreting older self’s situation in 1971: ‘*Gaol numbers ... I’m in gaol ... in the spike – the booby-hatch, ha-ha-hoo – help me, helpme, hellelhellpme, Stan, Bert’s torturing me! Ashuway-ashuwa...*’¹⁰⁵⁸ This is similar to the dynamic used by Smith: a moment of heightened perception, to which a younger self, separate from the present self, responds, allowing the present self some understanding of what is seen. The same watch plays a part in the next shift. As Audrey walks away in 1971, Busner looks for an action to ‘fracture this reverie’, finding it in the ‘*automatism of consulting his watch [...] the digits are illuminated redly, futuristically: 08.54...*’¹⁰⁵⁹ As he does so, he ‘sees and feels himself to be a colossal white canister spinning slowly end over end and illumined against the infinity of blackness’, before awakening ‘to discover himself an old man who lies pinching the slack flesh on the back of his left wrist with the fingers of his right hand, fingers that prickle with arthritis’¹⁰⁶⁰. As in *The Book of Dave*, memes and other forms of scaffolding establish links across time and space.

As the older Busner reflects shortly after, the ‘automatism’ described here forms a connection between the patients and their doctors:

When he had stopped wearing ties that was when *I stopped fidgeting with them, obviously ... the pill-rolling tremor we called it: tremor at rest, the patient’s gaze forced upwards [...] and the shrink?* He sat there watching them, rolling the end of his tie up and down: *tremor at rest*. Nothing, Busner thinks, comes of nothing – although, LCD digits come of pinching.¹⁰⁶¹

The watch is not just a physical marker. It also implies its own structuring of action, a scaffolding which persists even without the object itself. For the older Busner, these

actions prompt the recall of memes from the time in which he did have the watch: ‘As he pinches the slack flesh on the back of his left wrist with the fingers of his right hand, it comes *in an old mannish drizzle: D- E- C- I-M-A-L-I-ZAYSHUN*, then a *gush: DECIMALIZAYSHUN! Soon it’s gonna change the money round*’¹⁰⁶². The form of scaffolding associated with the watch is distinct from that of other objects. Busner makes this point when reflecting on the umbrella:

Propped up against the boxes is a broly he has no recollection of having bought, borrowed, or taken up. But that, he thinks, is the way of it: umbrellas are never contracted for, only mysteriously acquired, to be fleetingly useful, then annoying and cumbersome before eventually being lost. And this losing is itself unrecalled, so that what usually impinges is only the umbrella-shaped hole where one used to be.¹⁰⁶³

Later on, Busner connects this to mechanical reproduction:

When ... he pauses, musing ... did the umbrella first become an article to be routinely forgotten rather than assiduously remembered? Surely, to begin with, they would’ve been expensive items, invested with strong affect and not to be casually abandoned ... as nowadays, given their cheapness and ubiquity.¹⁰⁶⁴

These passages are significant in linking the post-encephalitics’ state of core consciousness to a more general condition. The cheapness and ubiquity of the umbrella means that it supposedly leaves no lasting impression in memory beyond the fact of its presence or absence. As the example of Busner’s watch shows, however, the ‘reception in a state of distraction’ which characterises the contemporary subject’s response to such objects is accompanied by a structuring effect, as actions associated with the object become engrained in habit. Every intentional object has its scaffolding.

This scaffolding is part of what fixes the intentional object as a visual image within consciousness. Busner's realisation that he has forgotten his umbrella is expressed by his seeing the object 'with superfluous clarity'¹⁰⁶⁵. The illusory objectivity brought on by mechanisation, noted by both Benjamin and Self, extends to consciousness. In his introduction to a 2013 edition Debord's *The Society of the Spectacle*, Self describes a variation of the urban consciousness developed in his essay on London: 'From ground level, and at walking pace – which Rousseau considered the speed at which we cogitate best – the slow shuffling of hoardings, buildings and vehicles allows the camera 'I' to flatter itself with the spontaneous creation of montages'¹⁰⁶⁶. This is complemented by the 'presence of so much text', which 'insists that what is quite unreadable should nonetheless be legible'¹⁰⁶⁷. Debord calls the spectacle 'a social relation among people, mediated by images [...] a *Weltanschauung* which has become actual, materially translated'¹⁰⁶⁸. The world 'at once present and absent which the spectacle *makes visible* is the world of the commodity dominating all that is lived'¹⁰⁶⁹. The environment creates the commodity, and its equivalent in consciousness, the discrete visual image. This image is an intentional object, formed through the interaction of an extended form of scaffolding (the aura) and of an actual object. Ordinarily, this scaffolding is not available to consciousness. When the actual object is either absent, or present in an incongruous context, the scaffolding can be perceived. This scaffolding includes automatic physical reactions, memes, and even different selves.

In 'Medicating the Masses' (2015), Self argues that 'humans have a predisposition to believe things – such as facts and ideas – presented to them in ritual contexts and supported by institutions'¹⁰⁷⁰. Medical psychiatry functions through such ritual contexts, and has the further function of denying their importance through its

focus on the mind as located entirely within the brain. Busner articulates a similar critique of psychiatry, its methods and institutions at various points in the novel. His critiques are interspersed with earworms¹⁰⁷¹. At the end of the novel Busner becomes aware of a new form of significance in the ‘pop ditties that had infested his mind’, seeing them as ‘continuous reminders not only of this unfinished and abandoned travail, but of all the crimes of forgetting he had committed’¹⁰⁷². He adds that ‘simply because they were truisms, it didn’t mean they weren’t ... *true*’¹⁰⁷³. As in Smith’s fiction, such earworms can be understood as the incorporation of intentional states from outside the self. Earlier, Busner incorporates Audrey’s voice within his own mind. Looking at a pile of disparate objects that Audrey has made, the italicised text supplies information Audrey has that Busner does not: ‘The two men peer – one from the foot, the other from the side – at this *what? Shrine – or grotto*’¹⁰⁷⁴. Only gradually does Busner become aware of what has happened: ‘For quite a while Busner takes the little voice *Pliz remembah ve gro’o, onlee wunce a year for thought - a colleague?* recalled droning on in a case meeting [...] next he thinks it comes from the overtranquilised patient on the far side of the ward [...] finally he realises it is right in his ear, *but micro-phonic*’¹⁰⁷⁵. Hearing her voice during their first encounter, Busner wonders whether the two are blurring into each other. There are references throughout the novel to his blurring with other characters, occupying their perspective or reading their mind¹⁰⁷⁶. While intentional states embodied in language are linked to habit, to a form of structuring of experience, they can also be free-floating, passing between one individual and another, or persisting in memory through years, in both cases establishing a contrast between different perspectives. While Busner’s integration with technology gives him the illusion of objectivity, the incorporation of the intentional states of others within consciousness allows him to grasp the subjectivity of

perspective, allowing him some measure of agency in his dawning critique of his profession and his own actions, culminating in his apprehension of an unfulfilled responsibility at the end of the novel.

In his piece on modernism's influence on his work, published in the same year as *Umbrella*, Self alludes to Caspar David Friedrich's painting, *Wanderer Above the Sea of Fog*. Self brings up the image of a 'solitary wanderer in a sea of fog' who 'observes, horrified, as its dank clouds and sinister volutes are inexorably modelled by the souging winds into a likeness of his own anguished face'¹⁰⁷⁷. Self is drawing on Joseph Koerner's reading of the painting, which Gabriel Josipovici refers to in *What Ever Happened to Modernism?* (2010), a book Self mentions later on in the essay. The focal point of the painting is a *Rückenfigur*, 'who is and is not the painter, who is and is not the viewer, who stands at the limit of the picture, with his back to us, so that what we see is not what he sees, but *him seeing*'¹⁰⁷⁸. The figure 'reminds us that vision is always at a particular moment, from a particular place, and that though vision may be the goal it does not subsume life but is only one moment, one experience, within life'¹⁰⁷⁹. I take this discussion as a counterpoint to Smith's reflections on consciousness as an expression of the landscape within the mind. The environment and the mind alter each other through the medium of consciousness.

In his essay, 'Kafka's Wound', also published in 2012, Self quotes Arendt, describing Benjamin's basic approach as 'not to investigate the utilitarian or communicative functions of linguistic creations, but to understand them in their crystallised and thus ultimately fragmentary form as intentionless and noncommunicative utterances of a "world essence"'¹⁰⁸⁰. He cites this as a counter-example, contrasting Benjamin's approach with that of literary academics, who zip their 'off-the-peg' symbolic orders into Kafka's¹⁰⁸¹. I'll conclude by briefly

questioning my own symbolic order. I have read my primary texts in terms of the influence of cognitive science via third culture texts, and of an adaptation of various aspects of contemporary cognitive science. *Umbrella* and *How to Be Both* each provide evidence of this influence. However, these novels also show how these influences are bound up with others. They draw on the influence of cognitive science, but also of Arendt, Benjamin, Berger, Debord and Kafka. All of these writers responded to the relation between humans and technology. The project of reading the depiction of thought in the contemporary novel must model itself on the mode of consciousness depicted by them and by *Smith and Self*. In responding to the world essence, they must recognise the subjectivity of their interpretative frameworks, and acknowledge the whole range of influences at work. Consciousness, thought and the mind are determined by extended processes, and so are the terms and concepts through which we understand them. The simple narrative whereby the representation of consciousness in the novel can be traced back to a handful of scientific texts breaks down into a multiplicity of streams of influences, a dialogue. As Bakhtin argues, the novel as a form is ideally suited to exploring the operations of this broader context. In the conclusion, I will be addressing this point, while summarising my findings and establishing a tentative model of consciousness in my primary texts.

Conclusion

Our present sense of self is thus only a shrunken residue of a far more comprehensive, indeed all-embracing feeling, which corresponded to a more intimate bond between the ego and the world around it. If we assume that this primary sense of self has survived, to a greater or lesser extent, in the mental life of many people, it would coexist, as a kind of counterpart, with the narrower, more sharply defined sense of self belonging to the years of maturity, and the ideational content appropriate to it would be precisely those notions of limitlessness and oneness with the universe – the very notions used by my friend to elucidate the ‘oceanic’ feeling. But have we any right to assume that what was originally present has survived beside what later evolved from it?

- Sigmund Freud, *Civilization and its Discontents* (1930)

[A]ll languages of heteroglossia, whatever the principle underlying them and making each unique, are specific points of view on the world, forms for conceptualizing the world in words, specific world views, each characterized by its own objects, meanings and values. As such they all may be juxtaposed to one another, mutually supplement one another, contradict one another and be interrelated dialogically. As such they encounter one another and co-exist in the consciousness of real people – first and foremost, in the creative consciousness of people who write novels.

- M.M. Bakhtin, ‘Discourse in the Novel’ (1935)

Limitless, Unbounded

In the introduction, I surveyed ways in which Freud's work has provided means through which contemporary writers have begun to articulate a new model of the relation between technology and the human mind. These assemblages stabilize by resituating cognition at the level of the individual. The computational model of the mind works by first establishing a fundamental continuity between the human mind and material technologies, before positing a level at which the boundaries it has erased can be redrawn. Early work in cognitive science used the computer as a model for the mind, but the operations of the 'computational paradox' have made this untenable. Dennett, the philosopher who has done the most to develop a comprehensive model of human subjectivity tying together cognitive science, neuroscience, philosophy of the mind, and neo-Darwinian evolutionary theory, has responded by arguing that the mind is a narrative. Thinkers such as Clark and Damasio, who have built on the basic premises of cognitive science in developing models with more radical implications for the boundaries of subjectivity, have to some extent accepted Dennett's formulation of 'narrationism'. Each assumes that while cognition might be embodied and extended, the limitations of consciousness prevent us from becoming aware of it on those terms. Instead, we create a narrative through which cognition can be understood in reference to an individual self. This position simultaneously defines the conscious self as a 'fiction', unreflective of the true operations of cognition, and validates a conventional model of subjectivity by

defining the function of consciousness in the cognitive model as producing this ‘fiction’.

The success of this model depends on a particular understanding of consciousness. Consciousness is defined as distinct from and secondary to the unconscious, or nonconscious. It is further defined according to the psychological and ethical narrativity theses. This understanding of consciousness characterizes Freud’s model. This is only one possible way of understanding consciousness among many. Freud begins *Civilization and its Discontents* by considering one such alternative to his own view relayed to him by his friend Romain Rolland. Rolland had become aware of ‘a particular feeling of which he himself was never free, which he found confirmed by many others and which he assumed was shared by millions, a feeling that he was inclined to call a sense of ‘eternity’, a feeling of something limitless, unbounded – as it were ‘oceanic’’¹⁰⁸². This is a feeling of ‘being indissolubly bound up with and belonging to the world outside oneself’¹⁰⁸³. Freud notes that he can discover no trace of the feeling in himself, but that this does not entitle him to ‘dispute its actual occurrence in others’¹⁰⁸⁴. He goes on to say that the idea ‘sounds so bizarre, and fits so badly into the fabric of our psychology, that we are justified in looking for a psychanalytic – that is to say a genetic – derivation of such a feeling’¹⁰⁸⁵. Freud acknowledges the possibility of becoming consciously aware of oneself as connected to the world outside oneself. Engaging with aspects of consciousness which we might have overlooked, or might not have experienced ourselves, alters our model of the mind.

As Hayles argues, the distinction between consciousness and the unconscious is determined by attention:

On the level of conscious thought, attention comes into play as a focusing action that codetermines what we call materiality. That is, attention selects from the vast (essentially infinite) repertoire of physical attributes some characteristics for notice, and they in turn constitute an object's materiality. Materiality, like the object itself, is not a pre-given entity but rather a dynamic process that changes as the focus of attention shifts. Perceptions exist unconsciously as well as consciously, and research emerging from contemporary neuroscience, psychology and other fields about the "new unconscious" (or "adaptive unconscious") plays a critical role in understanding this phenomenon. In these views, the unconscious does not exist primarily as repressed or suppressed material but rather as a perceptive capacity that catches the abundant overflow too varied, rich, and deep to make it through the bottleneck of attention.¹⁰⁸⁶

I have argued, following Rowlands, that the mechanisms of perception are extended, in that they include anything through which the object is revealed to the subject. Materiality and the extended machinery of attention are linked in feedback loop intersecting within individual consciousness. This process is the basis of the technological assemblage. It also provides a grounding for narrationism. The contemporary technological environment and the present formulations of the psychological and narrativity theses have shaped each other to the extent that the contemporary subject experiences their life as a form of narrative. No perfect balance is possible, however. The system is characterized by what Damasio calls an

oscillation. The machinery of attention and materiality do not determine each other to such an extent that all conscious experience fits into a coherent narrative, or that no other aspects of the material are available to attention. The boundary between what is conscious and unconscious is also mutable and dynamic.

In the introduction, I surveyed the extent to which the work of the authors I have chosen as my subjects for this thesis has been guided by a dissatisfaction with narrative in general and with the narratological model of the self in particular. The subject of my enquiry has been the extent to which this dissatisfaction, and the means through which it has been articulated, follows on from the influence of contemporary technology and of cognitive science, particularly as disseminated in third culture texts. I have also addressed the question of whether the formal techniques and innovations developed by these authors as a result of this influence can provide the basis for discussing human thought, understanding and behaviour in a way which avoids the flaws of narrationism. Rejecting narrationism as relying on too narrow a conceptualization of consciousness and the mind, the authors I have looked at have attended to particular aspects of the contemporary technological environment. They have developed these into formal innovations which alter how attention operates within their novels. This alteration is not a passive response to changes in our understanding of the mind. As I discussed in the introduction, cultural models of the mind are constituted by feedback loops incorporating individual theory of mind and literary texts. The meaning of saying that the mind is a form of narrative is determined by actual examples of narrative. Altering such examples is an intervention within a broader cultural dialogue. In this conclusion, I will be arguing that the work of the writers I have looked at should be understood as such. I will review my findings, and sketch out the basis for a model of the mind shared by these

writers, centred on the active role of consciousness in shaping materiality. I will then consider the implications of my work for further dialogue between cognitive science and literary studies.

Metaphors

In the first chapter I identified three interrelated but distinct sets of metaphors for the mind in my primary texts. These sets of metaphors act as common thread between works with different themes, settings, and forms. I also found that these works shared an approach to the use of these metaphors, the effect of which was to imply that contemporary technological assemblages could form the basis of a critique of a more fundamental understanding of the mind as limited to the individual.

Technologies alter metaphors for the mind. For example, descriptions of thought and memory in terms of the operations of a camera or projector draw on and extend the metaphor of the 'mind's eye'. The prevalence of screens and cameras in the contemporary technological environment alter the experiential basis of this metaphor by altering the experience of seeing. The idea that objective knowledge is, metaphorically, seeing through a lens correlates with the increasing role of filmed images in lived experience. These linked shifts prompted by technology alter our understanding of the mind. In altering both our experience and those aspects of our experience which we attend to, they also alter the mind itself.

My primary texts share an approach through which these metaphors are used to question the assumptions they embody. They do this in two ways. Firstly, through a focus on what these metaphors leave out. In refining metaphors, the technologies also narrow it, for example in the shift from 'thoughts as discrete impressions' to

‘thoughts as computational representations’. This narrowing prompts an increasing awareness that the metaphor is inadequate in fully representing the mind. This calls into question not only the technological variation of that metaphor but also the fundamental metaphor itself. For example, McCarthy’s repetitive use of a deliberately limited set of computational metaphors on the part of the narrator in *Remainder* acts as an implicit critique of the computational model of the mind, and as a way of highlighting the limitations of understanding thought and behaviour purely in terms of a decontextualized individual. Self’s use of ‘screen’ metaphors for perception, memory and abstract thought in *The Book of Dave* expresses the way in which Dave’s way of thinking has been determined by his occupation and environment as well as questioning the possibility of objective perception. Secondly, these novels also suggest in places that the metaphors at work can be taken literally. Describing an aspect of the mind through reference to a technology can be used to imply that the technology in question is an aspect of the mind. *The Book of Dave* and *Umbrella*, for example, mix descriptions of the mind in terms of particular spaces with descriptions of those same spaces using mental terms. *How to Be Both* develops an extensive metaphorical register playing on the tension between nature and architecture to depict perception as based on a continuity of the subject with its environment and with the object of perception. The actual examples of nature and architecture which George sees are literally part of her mind, in that they determine the metaphors through which she thinks.

The overall argument in these authors’ uses of metaphor is that the mind extends beyond the individual body. Contemporary technology heightens an awareness of this point, partly due to its influence on metaphor, and partly due to its effect on the experiential basis of metaphor. That these two effects are linked

suggests that Lakoff and Johnson's model of embodied metaphorical thought can be revised to include extended metaphorical thought. The use of metaphors in these novels, then, allows for the depiction of extended cognition, while also providing evidence for it.

The Narrational Paradox

As I mentioned at the end of the first chapter, narrative can be understood as a form of spatial metaphor for the structuring of experience, supported by such technologies as language and the novel. The positioning of narrative in the novels I have looked at follows a similar pattern to the use of metaphor. Narrationism represents a narrowing of a more fundamental metaphor, supported by various technologies. These novels depict different forms of narrationism, emphasising that which is excluded by the narratives their characters construct. In showing that their characters' narratives do not adequately explain all forms of cognition at work, they situate thought within a broader environment.

In the second chapter, 'Thinking and Thought', I showed how the definitions of the most basic terms for describing the mind have been altered by the influence of technology. In *Saturday* and *Remainder* 'thinking' and 'thought' are consistently associated with a computational model of cognition. This complements an emphasis on the ways in which technology and the broader environment shapes the thought processes of the protagonists. McEwan and McCarthy use repetition to create an awareness of the restrictions imposed by these definitions, and by the computational model. What the protagonists understand as 'thinking' is so narrow, particularly given the complexity of their experience, that we are forced to look beyond it.

This dynamic builds on a basic distinction between consciousness and the unconscious, and in the third chapter, I built on this point by looking at how McEwan and McCarthy have engaged with the ongoing influence of Freud. Despite McEwan's deliberate rejection of Freud, beginning with *The Child in Time*, I found that he has maintained a distinction between language and vision shaped by the influence of Freud on his early work. McCarthy, on the other hand, based *C* on one Freud's case-studies. However, the resulting novel is similar to *The Child in Time* in its depiction of consciousness in relation to the prosthetics of language and technology. In both novels, language takes the place of consciousness as defined by Freud, while vision takes the place of the unconscious. As I've shown, this fits Freud's association of consciousness with language in his later work, which presages contemporary narrationism. This narrowing of the definition of consciousness undermines the distinction between consciousness and the unconscious by excluding non-linguistic aspects of conscious experience.

In the fourth chapter, 'Other Selves', I read *The Book of Dave* and *The Accidental* in relation to Dennett's work. I found that Smith and Self both used of italicized text within free indirect style prose to represent the intrusion of memes within consciousness. This technique complements the revision of the distinction between consciousness and the unconscious identified above in marking certain aspects of consciousness *as* aspects. Both writers also split the individual self into several selves in a way that develops the implications of the intentional stance. Dennett acknowledges that in some pathological cases it is valid to posit the existence of several agencies operating with the psyche of one individual. *The Book of Dave* and *The Accidental* depict characters made up of multiple selves without defining them as aberrations.

In the fifth chapter, ‘The Environment Within’, I used *Umbrella* and *How to Be Both* to reflect on the extent to which such alternatives to narrationism could be embodied in literary form. I showed how the more experimental and ‘modernist’ forms used in those novels could be seen as progressions from various aspects of their authors’ earlier work. While narrationism justifies itself using literary narrative and the novel as reference points, these works show that the novel form is not limited to the depiction of narratological forms of consciousness, and that works focused on other aspects of consciousness and on a critique of narrativity maintain a continuity with other novels. Both novels complement Damasio’s model of consciousness, which situates non-narrative forms of consciousness as primary.

As I argued in the introduction, contemporary narrationism is inherently linked with technology. The novel functions as a technology. As such, it plays the same role as the other technologies I have discussed in relation to the narrationist metaphor. The way in which the novel is conceptualized according to this metaphor is shown to be reductive in the context of an actual novel through an emphasis on flaws in characters’ narratives interpretations of their situations and through the development and use of non-narrative formal techniques.

Third Culture

Each writer’s rejection of narrativity has a different motivation and is accomplished through a different set of means, but they all complement a dynamic arising from contemporary metaphors for thought, whereby a correspondence between a technological metaphor and its experiential basis breaks down, allowing for the questioning of more fundamental assumptions about the mind. I have also noted that

the dominant contemporary framework for understanding the mind, cognitive science, can be understood in the same way. Thinking of the mind as in some sense a computer has led more recently to a focus on the ways in which the mind is not like a computer, particularly within 4E cognitive models. The use of metaphor identified above fulfils the basic premise of Gardner's 'computational paradox'.

The findings of cognitive science have been disseminated within culture as a whole through the third culture. I have found that the formal innovations through which the authors in my research corpus have articulated alternatives to narrationism have their origin at least partly in those authors' engagement with third culture texts. I have broadened the definition of third culture to include work in the humanities that reflects a direct engagement with the premises and findings of cognitive science. I also include texts which draw on Freud's work, following Dennett's positing of Freud as a forerunner of cognitive science.

In the second chapter, I showed that McEwan's use of the terms 'thinking' and 'thought' in *Saturday* has been directly influenced by his earlier reading of Turing. The way in which he depicts Henry's use of theory of mind is further influenced by Pinker. I also found that McCarthy's use of a parodic computational register, emphasized through repetition and embedded within a looping narrative structure, draws on his research into contemporary psychiatry and his reading of Freud, as well as anticipating his use of Lévi-Strauss in *Satin Island*.

In the third chapter, I showed that various formal techniques McEwan first used in *The Child in Time*, which recur in *Saturday*, derive directly from his reading of Bohm, including his depiction of a tension between vision and interpretation. These techniques also develop on his earlier use of a distinction between

consciousness and the unconscious influenced by his reading of Freud. I also showed how McCarthy's depiction of vision in *C* respond to aspects of Lacan's work, which arose through the latter's engagement with cybernetics.

In the fourth chapter, I showed how an engagement with Dennett's formulation of the meme by Smith and Self over the course of their careers has led to their development of similar formal techniques. Both writers have also used references to neuroplasticity in developing this technique. Self has also drawn on the work of Jaynes, an influence he shares with Dennett. I also looked at how Dennett's work on memes relates to the concept of 'intentionality'. Dennett has argued that current perspectives on intentionality accept Brentano's definition of the term. I discussed Brentano's influence on Freud, and the relevance of their use of intentionality to Smith's work.

In the fifth chapter, I looked at how Self's engagement with Sacks and EMT is reflected in the model of consciousness he develops in *Umbrella*. I also showed how Smith has responded to the influence of Hofstadter, a collaborator of Dennett's, via Calvino. These influences have allowed Smith and Self to develop the aspects of their work I identified in the fourth chapter.

In these cases, the writers have accepted some of the premises and findings of cognitive science, and developed formal innovations that express them, without accepting any of the overall meta-structures of narrationism or computationalism. Rather, these formal innovations complement and develop their critique of narrativity. There are several possible interpretations of these findings. On one reading, the influence of the third culture on these novels has operated along the lines of the computational paradox; the appeal of several ideas, developed further

and allowed to interact with others within the novel, has undermined the structuring framework of narrationism. On another reading, a general dissatisfaction with narrativity has led to a particular approach to third culture texts on the part of the authors, who have selected and emphasized certain aspects with a view to bolstering their existing critique. Each reading applies to various extents to each writer, and I have not found evidence that would lead me to favour one decisively. Further research into the chronology of these authors' development might favour one or the other. However, while I found various instances of direct influence from one text to another, as a whole these findings undermine any structuring according to a linear model of development. The way in which literary texts absorb the influence of other forms does not proceed straightforwardly. I see this as one of the strengths of literature, justifying its place within the kind of dialogue which the third culture seeks to bypass.

Characteristics of Consciousness in the Twenty-First Century

The way in which we define consciousness is significant, both for our understanding of the mind and for the operations of actual individual minds. The narrationist model relies on a particular understanding of consciousness. The depiction of consciousness in the novels I have looked at, as a whole, diverges from this understanding in several important respects. While the depictions of consciousness in individual novels contrast, I have identified several characteristics that apply to all the novels I have looked at.

1. Consciousness is not cognition

The term ‘cognition’ has taken on a central importance in contemporary discussion of the mind. Cognitive science began as a specialized discipline, formed out of a dialogue between practitioners in several fields, using the computer as a shared reference point. The term ‘cognitive science’ is now taken to refer simply to the study of the mind. This obscures the extent to which the origins of cognitive science continue to determine what is meant by ‘cognition’. My primary texts have responded to this point by depicting aspects of conscious thought excluded from various reductive contemporary models of cognition. This is particularly evident in McEwan’s use of ‘thinking’ and ‘thought’ to denote opposed categories, neither of which apply to all conscious experience. It is also exemplified by Smith’s use of second-person prose in *How to Be Both* to depict the self as shaped partly in response to visual experience. In distinguishing consciousness from cognition, these authors place the two on an equal footing.

2. There is no clear distinction between consciousness and the unconscious

According to Hayles, the distinction between consciousness and the unconscious or nonconscious distinction relies on attention. It follows that at least some aspects of the unconscious could be made conscious, and vice versa. The way in which this distinction is understood is still determined to a large extent by the work of Freud. In his later work, Freud defined consciousness in terms of the association of language with mental impressions. One of the most significant implications of Damasio’s model is his positing of core consciousness, comprised of what he calls ‘images’, which precedes linguistic consciousness. My primary texts demonstrate how this argument functions given the ongoing influence of Freud’s model: visual conscious experience acts as the unconscious does in Freud’s work. Smith’s depiction of seeing in *How to Be Both*, influenced by Calvino’s model of literary meaning as based on

visual images, is one example. Her work shares a dynamic with Self's whereby an interpretative response to what is seen is marked as distinct from the initial experience of seeing. Both seeing and interpreting are aspects of consciousness, but where the latter is associated with the conscious self, the former is understood in terms of a separate agency within the mind which recalls the Freudian unconscious.

3. Narrative is one aspect of consciousness, among others

In arguing that neither the mind or consciousness are structured by an overall narrative, I am not claiming that narrative plays no role in consciousness. Neither am I arguing that my primary texts have no narrative structure. Narrative and theory of mind are aspects of conscious experience, which exist alongside other forms of experience. The writers I have looked at explore the tension between narrative structuring and other forms of expression that is fundamental to the novel form. This is most evident in *C*'s use of a deliberately limited, parodic 'realist' prose style and structure as a way of emphasizing the limitations of our understanding of the relation between humans and technology. The novel places limitations on what can be understood or articulated by its characters, while making what remains unstated fairly self-evident. *The Accidental* achieves something similar through its juxtaposition of several limited perspectives on the same events. It goes further in positing a similar dynamic of multiple subjective perspectives operating within the same individual mind. Even if we accept that narrative does structure conscious experience from moment to moment, a focus on other aspects of consciousness allows us to be aware of several narratives and of inconsistencies between these narratives.

4. Consciousness begins with the other

Damasio contends that consciousness originates in the individual's mapping of their internal homeostasis and of their relation to their environment. The self that emerges in each moment of consciousness is formed in relation to the object of consciousness, and vice versa. Smith's use of second-person prose in *How to be Both* embodies this point. These passages are used sparingly throughout the novel, but their occurrence structures the plot. Similarly, *Saturday* is structured around several short but significant passages in which Henry's eyes meet with those of another, and he finds himself altered by the encounter. Consciousness is not just a function of the brain, as he posits later on, or even just of the individual mind, but of the mind's encounter with a reality beyond itself.

5. Consciousness is a coping and a disclosing mechanism

If consciousness is primarily a response to the disruption of internal homeostasis, then the particular means by which the object of consciousness is disclosed to the subject is determined by a coping impulse. This also implies that the nature of the conscious self is partly determined by the object of consciousness, and that this object therefore determines the way in which it copes. The operations of coping and disclosing within consciousness determine each other and cannot be fully distinguished. The depiction of trauma in my primary texts supports this point. *Remainder*'s plot structure is determined by a looping interaction between the narrator and his environment, each altering the other. The visions experienced by Stephen in *The Child in Time* can be read as attempts to sublimate his grief, but they have an active role in the plot.

6. Consciousness binds the subject and the self

The operations of coping and disclosing can only be distinguished, to an extent, by positing two entities present in consciousness: the subject and the self. I have adopted this distinction from Lakoff, defining the former as the locus of consciousness – the one to whom the object is disclosed – and the latter as the narrative entity reconstructed in the act of coping. In terms of Damasio’s model, the former is the episodic self emerging at each moment of core consciousness, while the latter is the autobiographical self of extended consciousness. Both are spatially extended: the subject is inseparable from the object, while the self is formed partly through the prosthetic of language according to the pressures of sociocultural homeostasis. The novels I have at looked frequently distinguish between two or more aspects of the same individual, particularly during moments of heightened conscious affect. In *The Book of Dave* the title character effectively splits into two. The formal technique through which this split is depicted is maintained and developed in *Umbrella*, in which various character draw on aspects of their environment in their attempts to cope with the affect, forming new selves. These selves are subsequently undermined by the emergence of a new subject in response to new experience. This cyclical process determines the ethical understanding of the protagonist in my primary texts, in a way that complements Critchley’s notion of the ethical individual.

7. Consciousness is intersubjective

Several of the aspects of consciousness above are spatially extended, in that they incorporate objects and processes outside of the individual body. In some cases, they also include other people, and can therefore be understood as intersubjective. This is particularly true of language, for it serves as an extended prosthesis in the minds of its speakers. Several of my primary texts end by depicting individuals revising their

previous self-narratives in collaboration with others. *The Book of Dave* ends with Dave writing a new book with his partner. *The Child in Time* allows Stephen to make sense of his vision by relating it to a complementary vision experienced by his mother. Smith in particular relates this process to the formation of the mind. *The Accidental* ends with each of its characters embracing different forms of communal experience; Eve is able to overcome the solipsism at work in her treatment of Amber as a screen for fantasy by becoming her to an extent. George's half of *How to be Both* ends with her acknowledging the enduring presence of her mother within her consciousness and simultaneously recognizing her relation to H as a breach in the boundary between herself and the world outside. Rather than continuing to seek to achieve an objective perspective through the use of technology these characters recognize the inherently partial nature of their perspective, and begin to incorporate those of others.

8. Consciousness is outside of time

Consciousness is determined by the operations of a feedback loop incorporating the object, the environment, perception, and memory. Memories alter what is being seen at the same time as what is seen alters memory. I have argued that consciousness involves the interaction of mutually determining processes incorporating the object of consciousness and the extended machinery of perception. Memory complicates this process: objects existing in the past determine the actions of perception in the present, objects in the present alter the way in which memories are disclosed and how they affect the process of coping. Memory is not wholly a fiction. *Remainder*, *The Child in Time*, *The Book of Dave*, *Umbrella* and *How to Be both* all disrupt the relation between the different time periods they depict through form and narrative structure. Each of them hints that events in the future or past relative to the main

setting might be fantasies through the use of anachronism or repetition. Rather than developing this, however, they use the resulting ambiguity to establish a continuity between those time periods within the consciousness of their protagonist.

9. Consciousness is not an epiphenomenon

The above characteristics, taken together, entail the argument that consciousness plays an active role within cognition. Aspects of human thought and behaviour can only be understood through reference to consciousness. Consciousness also provides a basis for agency. According to the computational model, thought is algorithmic, applying set routines to new experience. This is true even if we take individual, environmental and sociocultural forms of homeostasis into account. The individual is passive, shaped by human nature and their environment. Consciousness, on the other hand, splits the individual into the subject and the self, allowing each to alter the other. Memory creates an awareness of contrasts between the successive selves produced by perception, causing further alteration. Extended consciousness is in this sense characterized not by an awareness of one's life as a coherent narrative, but as a series of episodes. My primary texts posit conscious experience as the foundation of ethical understand and growth. *Umbrella* and *How to Be Both* use a contrasting of different selves to acknowledge the role of the environment in shaping the individual. In both novels, a breakdown in self-narrative makes the protagonist aware of this shaping.

10. Consciousness is the foundation of the individual

Narrationism argues that the individual is formed through theory of mind.

Interactions between the individual brain, body and environment are interpreted according to a pre-existing model of human subjectivity. The psychological and

ethical narrativity theses naturalise this model, defining it as both fundamental to the human mind and desirable. ‘Narrative’ here is an ambiguous term. It can be used to highlight the active role of ascription, the way in which it alters the system it interprets, but it can also be used to define selfhood as a fiction. While grounding itself in the innovations of cognitive science and neuroscience, narrationism perpetuates existing assumptions about the self and the mind. It has been developed partly as a response to the contemporary technological environment, but it is inadequate for addressing the mutually constitutive relation between humans and technology, and the feedback loops operating within the technological nonconscious. Consciousness, as I have defined it, is the result of these ongoing processes. It registers and resolves the ongoing breakdowns of homeostasis which characterize this environment. The influence of narrativity in the contemporary environment is so strong that any critique of narrativity raises the question of how the individual is to be understood other than through narrative. My primary texts make the case for consciousness. As the characteristics above show, an approach centred on consciousness allows us to understand the relation between humans and technology.

An Indeterminacy

I argued earlier that novels have an active role in any broader discussion which refers to narrative. Given the importance of theory of mind in cognition, this discussion needs to address the way in which the mind is conceptualised in any field or discipline. One of the premises of the third culture, that the progress of cognitive science has effectively made the humanities obsolete, at least within mainstream culture, is therefore mistaken. When writers like Dennett use the novel as a metaphor

for the mind, the meaning of their argument depends on the state of the novel in a particular context. My findings also give the lie to another assumption of the third culture, originating with Snow, that novelists have largely chosen not to engage with scientific research. The novels I have looked at all show a high degree of engagement with third culture texts. This is not a passive response; it is an active intervention which critiques these works even as it draws on them. My thesis has shown that in questioning narrationism, and in developing alternatives to it, the novel justifies its place within this broader dialogue.

I want to end by briefly arguing that literary studies also merits a place in this dialogue, on its own terms. I have argued that my primary texts undermine the latest attempt at developing a meta-structure that would incorporate the various fields relating to the human mind and its encounter with technology. Here, I want to briefly propose that literary studies could potentially aid in developing new forms of meta-structure, using the example of the work of M.M. Bakhtin.

While I disagree with narrationism as Dennett formulates it, I have relied on several aspects of his work. His concept of ‘heterophenomenology’ is useful here. Heterophenomenology consists of taking a critical perspective on an individual’s account of their conscious experience through reference to other levels of explanation. Dennett uses a literary analogy to formulate this perspective: ‘We can compare the heterophenomenologist’s task of interpreting subjects’ behaviour to the reader’s task of interpreting a work of fiction.’¹⁰⁸⁷ I see this as a legitimate approach, and one relevant to literary studies. Based on my findings, I would go further, and argue that the heterophenomenological approach works better once we abandon narrationism. As Dennett describes it, a singular ‘I’ emerges from the multiple

operations of the mind through an act of narration. As Bakhtin argues, however, first-person narration in fact splits the narrator into at least two entities:

If I relate (or write about) an event that has just happened to me, then I as the *teller* (or writer) of this event am already outside of the time and space in which the event occurred. It is just as impossible to forge an identity between myself, my own “I,” and that “I” that is the subject of my stories as it is to lift myself up by my own hair.¹⁰⁸⁸

Bakhtin’s basic point grounds what I have said about the distinction between the subject and self, the tension between the episodic and autobiographical selves in Damasio’s model, and the operations of memory in my primary texts. The novel as form always includes more than one voice. The formal structure of the novel, then, is ideally suited to embodying the operations of a non-narrational consciousness, as I have described them. By the same token, it is ideally suited to heterophenomenology as Dennett describes it, which relies on the use of all available perspectives on the individual’s self-reporting.

Bakhtin’s model can be also be used to sum up the novel’s role within a broader cultural dialogue on the mind. In ‘Proposal for a Critical Neuroscience’ (2012) Jan Slaby and Suparna Choudhury advocate ‘assembling’ the ‘collection of material from multiple sources and perspectives to enrich scientific conceptualizations as well as the broader intellectual horizon in which problems and issues are framed for empirical investigation and interpretation’¹⁰⁸⁹. Bakhtin’s account of the novel offers a model of how such assembling could work. The novel

‘parodies other genres (precisely in their role as genres); it exposes the conventionality of their forms and their language; it squeezes out some genres and incorporates others into its own peculiar structure, reformulating and re-accentuating them’¹⁰⁹⁰. The novel’s contribution to a broader dialogue lies in its effects on the languages it makes use of; these become ‘more free and flexible, their language renews itself by incorporating extraliterary heteroglossia and the “novelistic” layers of literary language, they become dialogized, permeated with laughter, irony, humor, elements of self-parody’¹⁰⁹¹. Finally, the novel ‘inserts into these other genres an indeterminacy, a certain semantic openendedness, a living contact with unfinished still evolving contemporary reality (the openended present)’¹⁰⁹². I have argued that through narrationism, cognitivists have looked to the novel to replace the computer, as a model that would provide the basis for a meta-structure. Following Bakhtin, I argue that the novel’s role should be precisely to reject any possibility of a meta-structure, of any unity. Rather than trying to reconcile the various available perspectives on consciousness and the mind, we should be looking at how an awareness of their contrasts can be productive for all of these perspectives.

Bakhtin’s work on the equivalence between consciousness and the novel offers one way of developing this model. Language, he argues, ‘for the individual consciousness, lies on the borderline between oneself and the other. The word in language is half someone else’s.’¹⁰⁹³ It becomes “one’s own” only when the speaker populates it with his own intention, his own accent, when he appropriates the word, adapting it to his own semantic and expressive intention.’¹⁰⁹⁴ This process of asserting one’s own agency is a form of dialogue:

The importance of struggling with another's discourse, its influence in the history of an individual's coming to ideological consciousness, is enormous. One's own discourse and one's own voice, although born of another or dynamically stimulated by another, will sooner or later begin to liberate themselves from the authority of the other's discourse. This process is made more complex by the fact that a variety of alien voices enter in to the struggle for influence within an individual's consciousness (just as they struggle with one another in surrounding social reality). All this creates fertile soil for experimentally objectifying another's discourse. A conversation with an internally persuasive word that one has begun to resist may continue, but it takes on another character: it is questioned, it is put in a new situation in order to expose its weak sides, to get a feel for its boundaries, to experience it physically as an object.¹⁰⁹⁵

The depiction of the mind as a struggle between a variety of alien voices recalls Dennett's description of memes. Agency is not a matter of subsuming all of these voices within one narrative, but of objectifying them, of contrasting them, and of understanding oneself as a dialogue. The novel as a form embodies this process, and as such can still be understood as a model for the mind. At the same time, it can provide the model for a true dialogue between the two cultures, and for a way of talking about the mind and its relation to technology that reflects and expresses the diversity and contrasts of all available perspectives.

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¹³⁷ Ibid.

¹³⁸ Ibid.

¹³⁹ Gardner, *The Mind's New Science*, 119.

¹⁴⁰ Douwe Draaisma, *Metaphors of Memory: A History of Ideas About the Mind*, tr. Paul Vincent (Cambridge: Cambridge University Press, 2000), 155.

¹⁴¹ Ibid, 160.

¹⁴² Dennett, *Darwin's Dangerous Idea*, 50.

¹⁴³ Slavoj Žižek, 'Cultural Studies versus the "Third Culture"', *The South Atlantic Quarterly* 101(1) (2002), 20.

¹⁴⁴ Ibid.

¹⁴⁵ Ibid.

¹⁴⁶ C.P. Snow, *The Two Cultures and a Second Look* (Cambridge: Cambridge University Press, 1969), 42.

¹⁴⁷ Stefan Collini, *Introduction to Two Cultures? The Significance of C.P. Snow* (Cambridge: Cambridge University Press, 2013), 3.

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¹⁴⁹ Evgeny Morozov, *To Save Everything, Click Here: The Folly of Technological Solutionism* (New York: Public Affairs, 2014), 343.

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- ¹⁵⁵ Ibid.
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- ¹⁶¹ Dennett, Introduction to *Mind's I*, 12.
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- ¹⁶⁵ Dennett, *The Intentional Stance*, 28.
- ¹⁶⁶ Ibid, 52.
- ¹⁶⁷ Andy Clark and David Chalmers, 'The Extended Mind', in *The Extended Mind*, ed. Richard Menary (London: MIT Press, 2010), 29.
- ¹⁶⁸ Andy Clark, *Natural-Born Cyborgs: Mind, Technologies and the Future of Human Intelligence* (Oxford, Oxford University Press, 2003), 4.

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¹⁷⁰ Sigmund Freud, *The Standard Edition of the Complete Psychological Works of Sigmund Freud: Volume XVII (1920-1922) Beyond the Pleasure Principle, Group Psychology and Other Works*, tr. James Strachey with Anna Freud, Alix Strachey and Alan Tyson, (London: Vintage, 2001), 26.

¹⁷¹ *Ibid.*, 27.

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¹⁷⁴ *Ibid.*, 230.

¹⁷⁵ *Ibid.*

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¹⁷⁷ Clark and Chalmers, 'The Extended Mind', 39.

¹⁷⁸ Andy Clark, 'Spreading the Joy? Why the Machinery of Consciousness is (Probably) Still in the Head', *Mind* 118 (472) (2009), 467.

¹⁷⁹ *Ibid.*, 987.

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¹⁸¹ Steven Marcus, 'Freud and Dora: Story, History, Case History', in *In Dora's Case: Freud, Hysteria, Feminism*, ed. Charles Bernheimer and Claire Kahane (New York: Columbia University Press, 1985): 71.

¹⁸² Jason Tougaw, *Strange Cases: The Medical Case History and the British Novel* (London: Routledge, 2006), 9.

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¹⁸⁴ Dennett, *Consciousness Explained*, 247.

¹⁸⁵ Sigmund Freud, *The Ego and the Id*, New York: Norton, 1962, 10. Dennett quotes this passage in *Consciousness Explained* (247n).

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- ¹⁹³ *Ibid*, 213.
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- ¹⁹⁶ Daniel C. Dennett, *Brainstorms: Philosophical Essays on Mind and Psychology* (London: Penguin, 1997), 235.
- ¹⁹⁷ Donald McIntosh, 'Cathexes and Their Objects in the Thought of Sigmund Freud', *Journal of the American Psychoanalytic Association* 41(3) (1993), 679.
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- ²⁰⁰ *Ibid*, 24.
- ²⁰¹ Andrew Pickering, *The Cybernetic Brain: Sketches of Another Future* (London: University of Chicago Press, 2010), 6.
- ²⁰² *Ibid*, 63.
- ²⁰³ Johnston, *The Allure of Machinic Life*, 102.
- ²⁰⁴ Christopher Johnson, *Claude Lévi-Strauss: The Formative Years* (Cambridge: Cambridge University Press, 2003), 90-103.

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- ²⁰⁵ Charles G. Gross, 'Claude Bernard and the Constancy of the Internal Environment', *The Neuroscientist* 4 (1998), 380.
- ²⁰⁶ *Ibid*, 384.
- ²⁰⁷ Oliver Sacks, *Awakenings* (London: Picador, 1982), 234.
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- ²¹⁰ *Ibid*.
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- ²¹³ Antonio Damasio and Hannah Damasio, 'Exploring the concept of homeostasis and considering its implications for economics', *Journal of Economic Behavior & Organization* 126 (2016), 126.
- ²¹⁴ *Ibid*.
- ²¹⁵ Antonio Damasio, *The Feeling of What Happens: Body, Emotion and the Making of Consciousness* (London: Vintage, 2000), 169.
- ²¹⁶ *Ibid*, 127.
- ²¹⁷ *Ibid*, 217.
- ²¹⁸ *Ibid*, 188.
- ²¹⁹ *Ibid*.
- ²²⁰ Antonio Damasio, *Self Comes to Mind: Constructing the Conscious Brain* (New York: Pantheon Books, 2010), 26.
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- ²²² Žižek, *The Parallax View*, 210.
- ²²³ George Lakoff and Mark Johnson, *Philosophy in the Flesh: The Embodied Mind and its Challenge to Western Thought* (New York: Basic Books, 1999), 3.
- ²²⁴ *Ibid*, 235.

²²⁵ Ibid.

²²⁶ Ibid, 103.

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²²⁹ Ibid.

²³⁰ Italo Calvino, *Six Memos for the Next Millennium* (London: Penguin, 2009), 87.

²³¹ Ibid, 91.

²³² Italo Calvino, *The Literature Machine*, tr. Patrick Creagh (London: Vintage, 1997), 8.

²³³ Ibid, 6.

²³⁴ Ibid, 21-22.

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²³⁶ Ibid, 15.

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²⁴⁰ Ibid.

²⁴¹ N. Katherine Hayles, 'Flesh and Metal: Reconfiguring the Mindbody in Virtual Environments', *Configurations* 10(2) (2002), 303.

²⁴² Draaisma, *Metaphors of Memory*, 9.

²⁴³ McEwan, *Saturday*, 142.

²⁴⁴ Self, *Umbrella*, 272-273.

²⁴⁵ Quoted in Tom McCarthy, 'Interview with Will Self, writer', *INS* 3 April 2001.

http://www.necronauts.org/interviews_will.htm

²⁴⁶ Ibid.

²⁴⁷ McCarthy, *Remainder*, 82.

²⁴⁸ Ibid., 84; 92; 127; 149; 215; 217 (twice); 218; 236; 250; 274.

²⁴⁹ Ibid, 274.

²⁵⁰ Ibid, 281.

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- ²⁵¹ Ibid, 84.
- ²⁵² Ibid, 84 (twice); 91; 92; 96 (twice); 188; 217.
- ²⁵³ Draaisma, *Metaphors of Memory*, 157.
- ²⁵⁴ Will Self, *The Book of Dave* (London: Penguin, 2007), 31.
- ²⁵⁵ Ibid, 108.
- ²⁵⁶ Ibid.
- ²⁵⁷ Ian McEwan, *The Child in Time* (London: Vintage, 1992), 148.
- ²⁵⁸ Ali Smith, *The Accidental* (London: Penguin, 2006), 8.
- ²⁵⁹ Ibid.
- ²⁶⁰ Ibid, 26.
- ²⁶¹ McCarthy, *C*, 46.
- ²⁶² Smith, *Both*, 182.
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- ²⁶⁶ Ibid.
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- ²⁷⁰ Claire Colebrook, 'Vitalism and Theoria', in *Mindful Aesthetics: Literature and the Science of the Mind*, ed. Chris Danta and Helen Groth (London: Bloomsbury 2014), 34-35.
- ²⁷¹ Ibid, 34.
- ²⁷² George Lakoff and Mark Johnson, *Metaphors We Live By* (London: University of Chicago Press, 1980), 10.
- ²⁷³ Ibid, 210.
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²⁷⁵ Andy Clark, *Being There: Putting Brain, Body, and World Together Again* (London: Bradford, 1997), 193.

²⁷⁶ *Ibid.*, 208.

²⁷⁷ *Ibid.*

²⁷⁸ *Ibid.*, 194.

²⁷⁹ Lakoff and Johnson, *Metaphors We Live By*, 126.

²⁸⁰ Ross and Ladyman, 'Fallacy', 156.

²⁸¹ Lakoff and Johnson, *Philosophy in the Flesh*, 235-236.

²⁸² Kelina Gotman, 'The Neural Metaphor', in *The Neuroscientific Turn: Transdisciplinarity in the Age of the Brain*, ed. Melissa M. Littlefield and Jenell M. Johnson (University of Michigan Press, 2012), 72.

²⁸³ *Ibid.*

²⁸⁴ Smith, *Both*, 35.

²⁸⁵ *Ibid.*, 170.

²⁸⁶ *Ibid.*

²⁸⁷ *Ibid.*

²⁸⁸ Ali Smith, 'Picture This', *The Guardian* 18 September 2010, <https://www.theguardian.com/artanddesign/2010/sep/18/picture-this-courtauld-somerset-house>.

²⁸⁹ 'She is not a girl. [...] She is a piece of wall'; 'Imagine if someone projected films on to the side of your house. Would what those films were about affect your living space, she wondered, or your breathing, say, if they projected them on your chest?'; George calls her mother's ashes 'bits of rubble', which her father presses into cracks in her favourite buildings (Smith, *Both*, 101; 165; 179).

²⁹⁰ 'George looks at her mother. Her mother looks at George. A yellow-white flower drops, brushes past her mother's nose'; 'when the/ roots on their way to the surface/ break the surface they turn into stems/ and the stems push up over themselves into stalks/ and up at the end of the stalks/there are flowers that open for/ all the world like/ eyes'; 'I stood up and the whole

gown slipped off the clothes trunk then slipped down away from me like the peeled back petals of a lily and me at its centre standing straight like the stamen'; 'I thought of my mother [...] I thought of my mother's French-sounding name: I thought of the French shape that means the flower her name meant'; 'all I could think of all that week was flowers for breath and flowers for eyes, and mouths full of flowers'; 'eyes opening at the end of a sprig like flowers will, cause the great Alberti writes that *the eye is like a bud*, which made me think of eyes opening like plantwork'; 'it is as if his body gives out a greenness, one I can nearly taste, as if my mouth has been filled with leaves and grass : although I know of course it is the meadow casting its colour on him' (Smith, *Both*, 61; 191; 219; 221; 272 ; 346; 358).

²⁹¹ 'the pillar's had its top broken off and there's what looks like a miniature forest growing out of it'; 'I pointed up a the roof of our house behind us, at the place where a twig that had taken root in the ridge on the top stuck up in the air' (Smith, *How*, 156; 211).

²⁹² Smith, *Accidental*, 156.

²⁹³ *Ibid*, 97.

²⁹⁴ *Ibid*.

²⁹⁵ Lakoff and Johnson, *Philosophy in the Flesh*, 376.

²⁹⁶ McCarthy, *Remainder*, 19.

²⁹⁷ *Ibid*, 21.

²⁹⁸ *Ibid*, 33.

²⁹⁹ *Ibid*, 36-37.

³⁰⁰ *Ibid*, 5.

³⁰¹ C. Namwali Serpell, *Seven Modes of Uncertainty* (London: Harvard University Press, 2014), 231.

³⁰² Sebastian Groes, 'Information Overload in Literature', *Textual Practice* 2016 <http://dx.doi.org/10.1080/0950236X.2015.1126630>, 20.

³⁰³ Serpell, *Seven Modes*, 232.

³⁰⁴ Groes, 'Information Overload', 20

³⁰⁵ Serpell, *Seven Modes*, 231.

³⁰⁶ Self, *Dave*, 94.

³⁰⁷ ‘From some dark rank in his memory a recollection pulled away’; ‘Scuttling into his fevered mind came all the sharp-toothed fears that infested the zone, protecting its secrets’; ‘Michelle’s fabricators went to work in the cab and speedily erected a plausible mockup of the flat on Streatham High Road; ‘a memory rose up and bumped against the underside of his consciousness’; ‘It was as if, by impersonating a fare, Carl had exposed himself to the deepest, darkest, most atavistic stream of cabbie consciousness’; ‘I know what happens to dads’ minds when they do not honour the Breakup and observe the Changeover [...] The separate compartments into which Dave has poured all goodness and badness become once again mingled’; ‘the vessels of his brain burst and blood flooded into all his memories’; ‘Five stormy years of marriage have given her a piratical internal monologue she stands on the tilting deck of her consciousness wielding a tongue like a cutlass’; ‘Strange things were happening in the back alleys of Dave Rudman’s consciousness’; ‘crack criminals who’d broken into their psyches, stolen everything worth having’; ‘The matter with Steve was a depression so fundamental and so complete that it melted his muscles and coated his mind in a tarmac of despair’; ‘Now two kinds of Knowledge joined together in Antone Bom’s mind, two world irrupted into each other’; ‘Tiny bubbles rushed to the surface of his brown mind in a mounting ebullition’; ‘From deep inside the station came the mammoth door chimes that precede an announcement; here, at the very epicentre of the Knowledge, a hefty realization was requesting admission’ (Self, *Dave*, 34; 65; 105; 154; 161; 176; 199; 205; 232; 284; 286; 312; 343; 413).

³⁰⁸ ‘Dave had been driving for so long he hardly ever thought about the actual graft of turning the wheel’; ‘He wasn’t using any knowledge to get to his destination – simply a homing instinct’; ‘adding his own can of pain to this slopping tank of loss’; ‘Confusing the cab’s number with his own, confusing the cab with him. But everyone did that – even Dave’; ‘The driver was only another part of the cab’s equipment for him, like the reading light or the fan heater’; ‘*It’s not juss a motor – it’s almost fucking human*’; ‘When Dave first bought the cab, he lavished his attention on it, laving it, waxing it, shammy-leathering it personally in an autosexual frenzy. It was – he thought – a cool, dark reflection of the man he was’; ‘A full

cab-tariff band later, Dave's heart changed down and struggled to pull his clapped-out consciousness into the dim light of the spieler'; 'His Faredar tricked by human chaff'; 'Jane Bernal interviewed him, a standard risk assessment: reality testing, cognitive function, a physical once-over that had the functionality of a car service'; 'one wiper bent up like a *broken arm*'; 'All masses – no matter how pacific – contain within their sumps many thousands of litres of adrenalin the motor oil of rage'; 'As he walked, Dave looked not up to the sky, nor around him at the brutal buildings, but at the ground, at the tarmac upon which his life had been rolled out [...] This was the petrified skin he'd been feeling all his prostituted life, its texture transmitted through rubber tread and steel shock-absorber. Dave felt a compulsion [...] to lick the abrasive surface with his rough old tongue'; 'they moved into and out of one another with fluid ease, revving and squealing, before arriving quite suddenly'; 'there was the Fairway – a stupid, bulbous creature with a radiator grin' (Self, *Dave*, 39; *Ibid.*; 44; 45; 46; 52; 202; 223; 269; 279; 286; 390; 392; *Ibid.*; 417).

³⁰⁹ McEwan, *Saturday*, 254.

³¹⁰ *Ibid.*

³¹¹ Freud, *Civilization*, 9-10.

³¹² Nora Pleske, *The Unintelligible Metropolis: Urban Mentality in Contemporary London Novels* (2014), 470.

³¹³ Ian McEwan, *Saturday*, 242.

³¹⁴ *Ibid.*, 242.

³¹⁵ *Ibid.*, 243.

³¹⁶ *Ibid.*

³¹⁷ *Ibid.*, 18.

³¹⁸ *Ibid.*, 18-19.

³¹⁹ *Ibid.*, 127.

³²⁰ *Ibid.*, 262.

³²¹ *Ibid.*, 263.

³²² Lakoff and Johnson, *Philosophy in the Flesh*, 391.

³²³ Draaisma *Metaphors of Memory*, 104.

³²⁴ Ibid.

³²⁵ Lakoff and Johnson, *Philosophy in the Flesh*, 268.

³²⁶ Ibid.

³²⁷ George Lakoff, 'Multiple Selves: the Metaphorical Models of the Self Inherent in Our Conceptual System' (1992), <https://georgelakoff.files.wordpress.com/2011/04/multiple-selves-the-metaphorical-models-of-the-self-inherent-in-our-conceptual-system-lakoff-1992.pdf>, 5-6.

³²⁸ McEwan, *Child*, 59.

³²⁹ McCarthy, *Remainder*, 22-23.

³³⁰ Ibid, 25.

³³¹ Ibid, 5-6.

³³² Ibid, 120; 147; 149; 182; 229

³³³ Quoted in Mathew Hart, Aaron Jaffe, Jonathan Eburne, 'An Interview with Tom McCarthy', *Contemporary Literature* 54(4) (2013), 668.

³³⁴ McCarthy, *Remainder*, 66

³³⁵ Ibid, 114

³³⁶ Ibid, 126

³³⁷ Ibid, 197

³³⁸ Ibid.

³³⁹ Ibid, 229.

³⁴⁰ Ibid, 262.

³⁴¹ Ibid, 264-265.

³⁴² McEwan, *Saturday*, 29.

³⁴³ Ibid, 32.

³⁴⁴ Ibid, 181.

³⁴⁵ Ibid, 37.

³⁴⁶ Ibid, 254-255.

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- ³⁴⁷ Smith, *The Accidental*, 29.
- ³⁴⁸ Ibid, 233.
- ³⁴⁹ Ibid, 232.
- ³⁵⁰ Ibid, 114.
- ³⁵¹ McCarthy, *C*, 125.
- ³⁵² Ibid.
- ³⁵³ Ibid, 235.
- ³⁵⁴ Ibid, 157.
- ³⁵⁵ Ibid, 160.
- ³⁵⁶ Enda Duffy, *The Speed Handbook: Velocity, Pleasure, Modernism* (Durham and London: Duke University Press, 2009), 164.
- ³⁵⁷ Walter Benjamin, *Illuminations* (Schocken: New York, 1968), 234.
- ³⁵⁸ McCarthy, *C*, 65; 87; 88; 93; 103; 105; 112; 119; 157; 158; 164; 166; 186; 190; 196; 199; 205-206; 209; 213; 220-221; 280; 283; 292.
- ³⁵⁹ Ibid, 105; 157; 213.
- ³⁶⁰ Ibid, 271.
- ³⁶¹ Ibid, 255.
- ³⁶² Ibid, 39.
- ³⁶³ Pepperell and Punt, *The Postdigital Membrane*, 33.
- ³⁶⁴ Ibid.
- ³⁶⁵ Alva Noë, *Out of Our Heads: Why You Are Not Your Brain, and Other Lessons from the Biology of Consciousness* (New York: Hill and Wang, 2009), 65.
- ³⁶⁶ McEwan, *Child*, 2.
- ³⁶⁷ Ibid, 14.
- ³⁶⁸ Ibid, 9.
- ³⁶⁹ Ibid, 10.
- ³⁷⁰ Self, *Dave*, 353.

³⁷¹ Ibid, 404.

³⁷² Smith, *Accidental*, 239.

³⁷³ Alan Turing, 'On Computable Numbers, With an Application to the *Entscheidungsproblem*', *Proceedings of the London Mathematical Society* 42(1) (1937), 250.

³⁷⁴ Ibid.

³⁷⁵ Ibid, 251.

³⁷⁶ Charles Petzold, *The Annotated Turing: A Guided Tour through Alan Turing's Historic Paper on Computability and the Turing Machine* (Indianapolis: Wiley, 2008), 68.

³⁷⁷ Ibid, 69.

³⁷⁸ George Lakoff, *Women, Fire and Dangerous Things: What Categories Reveal about the Mind* (London: University of Chicago, 1987), 271.

³⁷⁹ Self, *Umbrella*, 382.

³⁸⁰ Ibid, 22-23.

³⁸¹ Lakoff and Johnson, *Philosophy in the Flesh*, 247.

³⁸² Ibid, 406.

³⁸³ Smith, *The Accidental*, 37-38.

³⁸⁴ Ibid, 39.

³⁸⁵ Ibid, 238-239.

³⁸⁶ Lakoff and Johnson, *Philosophy in the Flesh*, 442-448.

³⁸⁷ McCarthy, *C*, 15-16.

³⁸⁸ Ibid, 16.

³⁸⁹ Ibid, 19.

³⁹⁰ Michael J. Reddy, 'The Conduit Metaphor – A Case of Frame Conflict in our Language about Language', in *Metaphor and Thought*, ed. Andrew Ortony (Cambridge: Cambridge University Press, 1979), 290.

³⁹¹ Ibid, 306.

³⁹² McEwan, *Saturday*, 20.

³⁹³ McEwan, *Child*, 5.

³⁹⁴ Self, *Umbrella*, 273.

³⁹⁵ McCarthy, *C*, 63.

³⁹⁶ Daniel C. Dennett, 'The Normal Well-Tempered Mind: A Conversation with Daniel C. Dennett', *Edge* 8 January 2013, <https://www.edge.org/conversation/normal-well-tempered-mind>.

³⁹⁷ Nicholas Carr, 'Do I Smell a Metaphor Melting?', *Rough Type* 8 January 2013, <http://www.roughtype.com/?p=2412>.

³⁹⁸ Turing, 'Computing Machinery and Intelligence', 433.

³⁹⁹ McCarthy, *Remainder*, 217-218.

⁴⁰⁰ Groes, 'Information Overload', 20.

⁴⁰¹ Draaisma, *Metaphors of Memory*, 149.

⁴⁰² *Ibid*, 138.

⁴⁰³ *Ibid*, 92.

⁴⁰⁴ McCarthy, *Remainder*, 250.

⁴⁰⁵ Serpell, *Seven Modes*, 257.

⁴⁰⁶ McCarthy, *Remainder*, 250.

⁴⁰⁷ *Ibid*, 73.

⁴⁰⁸ *Ibid*.

⁴⁰⁹ *Ibid*, 250.

⁴¹⁰ Clark, *Natural-Born Cyborgs*, 45.

⁴¹¹ *Ibid*.

⁴¹² McCarthy, *Remainder*, 40.

⁴¹³ *Ibid*, 41.

⁴¹⁴ *Ibid*.

⁴¹⁵ *Ibid*, 65; 79; 84; 169 (twice); 181; 189; 211; 212 (twice); 232; 242.

⁴¹⁶ *Ibid*, 53.

⁴¹⁷ Zadie Smith, *Changing My Mind: Occasional Essays* (London: Hamish Hamilton, 2009), 85. Smith reads the encounter in terms of a parodic search for authenticity, which is swiftly dismissed.

⁴¹⁸ McCarthy, *Remainder*, 56.

⁴¹⁹ Arne de Boever, *Narrative Care: Biopolitics and the Novel* (London: Bloomsbury, 2013), 12.

⁴²⁰ Sidney Miller, 'Intentional Fallacies: (Re)enacting the Accidental in Tom McCarthy's *Remainder*', *Contemporary Literature* 56(4) (2015), 636.

⁴²¹ McCarthy, *Remainder*, 238.

⁴²² Tom McCarthy, *Satin Island* (London: Jonathan Cape, 2015), 9.

⁴²³ *Ibid*, 68.

⁴²⁴ *Ibid*, 68-69.

⁴²⁵ *Ibid*, 3.

⁴²⁶ *Ibid*, 3.

⁴²⁷ Justus Nieland gives a comprehensive reading of this aspect of the novel in 'Dirty Media: Tom McCarthy and the Afterlife of Modernism', *MFS Modern Fiction Studies* 58(3) (2012), 570-599.

⁴²⁸ McCarthy, *Satin Island*, 55-56.

⁴²⁹ *Ibid*, 127.

⁴³⁰ *Ibid*, 56.

⁴³¹ *Ibid*, 56-57.

⁴³² *Ibid*, 57.

⁴³³ *Ibid*, 69.

⁴³⁴ *Ibid*, 58.

⁴³⁵ *Ibid*, 71.

⁴³⁶ *Ibid*.

⁴³⁷ *Ibid*, 72.

⁴³⁸ *Ibid*.

⁴³⁹ Tom McCarthy, 'The Death of Writing – if James Joyce Were Alive Today He'd be Working for Google', *The Guardian* 7 March 2015, <http://www.theguardian.com/books/2015/mar/07/tom-mccarthy-death-writing-james-joyce-working-google>. McCarthy: 'khakis swapped for cotton shirt and tie, saliva liquor for the Twinings or iced scotch your housekeeper purveys you on a tray, you write the Book on them' (Ibid); Peyman: 'khakis swapped for cotton shirt and tie, saliva-liquor for the Twinings, tisane or iced Scotch your house-keeper purveys you on a tray, you write the book' (McCarthy, *Satin Island*, 56).

⁴⁴⁰ McCarthy, 'The Death of Writing'.

⁴⁴¹ Gardner, *The Mind's New Science*, 238-243.

⁴⁴² U describes Lévi-Strauss as his 'hero', and compares his Great Report to a text Lévi-Strauss describes writing in *Tristes Tropiques* (McCarthy, *Satin Island*, 29; 115). When he realises that the Great Report is 'unwritable', one of the reasons he gives is that there could be no 'Lévi-Strauss 2.0' (Ibid, 117).

⁴⁴³ McCarthy, *Satin Island*, 40.

⁴⁴⁴ Claude Lévi-Strauss, *Structural Anthropology*, tr. Claire Jacobson and Brooke Grundfest Schoep (London: Penguin, 1968), 211.

⁴⁴⁵ Johnson, *Lévi-Strauss*,

89.

⁴⁴⁶ Ibid, 101.

⁴⁴⁷ Ibid, 102.

⁴⁴⁸ Saul Bellow, *Novels 1956-1964: Seize the Day, Henderson the Rain King, Herzog* (New York: Library of America, 2007), 619.

⁴⁴⁹ Ibid.

⁴⁵⁰ Ibid.

⁴⁵¹ Ibid.

⁴⁵² Ibid.

⁴⁵³ McEwan, *Saturday*, epigraph.

⁴⁵⁴ Martin Ryle, 'Anosognosia, or the Political Unconscious: Limits of Vision in Ian McEwan's *Saturday*', *Criticism*, 52(1) (2010), 26.

⁴⁵⁵ McEwan, *Saturday*, 3.

⁴⁵⁶ *Ibid*, 22.

⁴⁵⁷ Graham Hillard, 'The Limits of Rationalism in Ian McEwan's *Saturday*', *The Explicator* 68(2) (2010), 141.

⁴⁵⁸ Martin Randall gives a detailed reading of the ways in which *Saturday* develops on specific aspects, as well as the broad themes, of those essays in *9/11 and the Literature of Terror* (Edinburgh: Edinburgh University Press, 2011), 19-25.

⁴⁵⁹ Ian McEwan, 'Only Love and then Oblivion', *The Guardian* 15 September 2001, <http://www.theguardian.com/world/2001/sep/15/september11/politicsphilosophyandsociety2>

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⁴⁶⁰ *Ibid*.

⁴⁶¹ Caroline Lusin, '“We Daydream Helplessly”: The Poetics of (Day)Dreams in Ian McEwan's Novels,' *Anglistik & Englishunterricht* 73 (2009), 147.

⁴⁶² Andrew Foley, *The Imagination of Freedom: Critical Texts and Times in Contemporary Liberalism* (Johannesburg: Wits University Press, 2009), 244.

⁴⁶³ McEwan, *Saturday*, 277.

⁴⁶⁴ *Ibid*, 102.

⁴⁶⁵ *Ibid*, 161.

⁴⁶⁶ *Ibid*, 3.

⁴⁶⁷ *Ibid*.

⁴⁶⁸ Ian McEwan, 'Beyond Belief', *The Guardian* 12 September 2001, <http://www.theguardian.com/world/2001/sep/12/september11.politicsphilosophyandsociety>

⁴⁶⁹ *Ibid*.

⁴⁷⁰ Hayles, 'Cognition Everywhere', 201.

⁴⁷¹ *Ibid*, 211.

⁴⁷² Quoted in Lynn Wells, *Ian McEwan* (Basingstoke: Palgrave Macmillan, 2010), 127. See also Jon Cook, Sebastian Groes and Victor Sage, 'Journeys Without Maps: An Interview with Ian McEwan', in *Ian McEwan Contemporary Critical Perspectives*, 2nd Edition, edited by Sebastian Groes (London: Bloomsbury, 2013), 144, and Zadie Smith and Ian McEwan 'Zadie Smith Talks With Ian McEwan', *The Believer* August 2005, http://www.believermag.com/issues/200508/?read=interview_mcewan.

⁴⁷³ McEwan, *Saturday*, 187-188.

⁴⁷⁴ *Ibid*, 193.

⁴⁷⁵ *Ibid*, 207 (twice); 210; 211 (twice); 219; 222.

⁴⁷⁶ *Ibid*, 207; 213.

⁴⁷⁷ *Ibid*, 209.

⁴⁷⁸ *Ibid*, 211; 212.

⁴⁷⁹ *Ibid*, 207.

⁴⁸⁰ *Ibid*, 217.

⁴⁸¹ *Ibid*, 223.

⁴⁸² *Ibid*, 223-224.

⁴⁸³ Tim Gauthier, "'Selective in Your Mercies": Privilege, Vulnerability, and the Limits of Empathy in Ian McEwan's *Saturday*', *College Literature* 40(2) (2013), 19.

⁴⁸⁴ Hannah Courtney, 'Distended Moments in the Neuronarrative: Character Consciousness and the Cognitive Sciences in Ian McEwan's *Saturday*', in *Mindful Aesthetics: Literature and the Science of the Mind*, ed. Chris Danta and Helen Groth (London: Bloomsbury, 2014), 177.

⁴⁸⁵ *Ibid*.

⁴⁸⁶ McEwan, *Saturday*, 225-226.

⁴⁸⁷ *Ibid*, 227.

⁴⁸⁸ Dennett, *The Intentional Stance*, 15.

⁴⁸⁹ *Ibid*, 28.

⁴⁹⁰ Courtney, 'Distended Moments', 177.

⁴⁹¹ Mark Currie, *About Time* (Edinburgh: Edinburgh University Press, 2007), 127.

⁴⁹² Sebastian Groes, 'Ian McEwan and the Modernist Consciousness of the City in *Saturday*', in *Ian McEwan: Contemporary Critical Perspectives*, 2nd Edition, ed. Sebastian Groes (London: Bloomsbury, 2012), 99-114.

102.

⁴⁹³ Ibid, 104.

⁴⁹⁴ Molly Clark Hillard, "When Desert Armies Stand Ready to Fight": Re-Reading McEwan's *Saturday* and Arnold's *Dover Beach*', *Partial Answers: Journal of Literature and the History of Ideas* 6(1) 2008, 185.

⁴⁹⁵ Waugh, 'Thinking in Literature', 78.

⁴⁹⁶ Ian McEwan, *The Imitation Game* (London: Pan, 1982), 15-16.

⁴⁹⁷ Ibid, 125-126.

⁴⁹⁸ Ibid, 125.

⁴⁹⁹ Ibid 84 (twice); 86; 87 (four times); 90; 91; 92; 96; 97 (twice); 98; 102; 115 (twice); 116 (four times); 120; 121; 122; 123; 125 (four times); 126; 129 (twice); 130; 131 (three times); 133 (twice); 134; 135 (three times); 136 (twice); 137; 142 (twice); 143

⁵⁰⁰ Ibid 82; 84 (three times); 88 (five times); 90 (twice); 94 (three times); 95; 96; 106; 111 (twice); 112 (twice); 113; 114; 115 (six times); 116 (eight times); 125 (three times); 130; 134; 136 (twice); 137; 138 (twice); 139 (three times); 141 (twice); 142 (twice); 143

⁵⁰¹ Ibid, 17.

⁵⁰² Ibid, 138.

⁵⁰³ Ibid, 139.

⁵⁰⁴ Ibid, 112-113.

⁵⁰⁵ Ian McEwan, *The Innocent* (London: Vintage, 2005), 35

⁵⁰⁶ Ibid.

⁵⁰⁷ Ian McEwan, *Enduring Love* (London: Vintage, 1998), 247.

⁵⁰⁸ Steven Pinker, *The Language Instinct* (London: Penguin, 1995), 17, 73-78.

⁵⁰⁹ Ibid, 56-78.

⁵¹⁰ Ibid, 78.

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- ⁵¹¹ Ibid, 155.
- ⁵¹² McEwan, *Enduring Love*, 167,
- ⁵¹³ Ibid, 172-173.
- ⁵¹⁴ McEwan, *Saturday*, 77.
- ⁵¹⁵ Ibid, 80.
- ⁵¹⁶ McEwan, *Enduring Love*,
- ⁵¹⁷ Courtney, 'Distended Moments', 179-186.
- ⁵¹⁸ Ibid, 186.
- ⁵¹⁹ Sebastian Groes, *The Making of London: London in Contemporary Literature* (Basingstoke: Palgrave Macmillan, 2011), 157.
- ⁵²⁰ Pinker, *The Language Instinct*, 15.
- ⁵²¹ Ibid, 220-222.
- ⁵²² Ibid, 220.
- ⁵²³ See Dominic Head, *Ian McEwan* (Manchester: Manchester University Press, 2013), 177-199.
- ⁵²⁴ McEwan, *Saturday*, 209
- ⁵²⁵ Ibid, 210.
- ⁵²⁶ Ibid, 213.
- ⁵²⁷ Ibid, 213-214 (my emphasis).
- ⁵²⁸ McEwan, *Enduring Love*, 19.
- ⁵²⁹ McEwan, *Saturday*, 180.
- ⁵³⁰ Ibid, 107.
- ⁵³¹ Ibid, 108.
- ⁵³² McEwan, *Enduring Love*, 48.
- ⁵³³ McEwan, *Saturday*, 180.
- ⁵³⁴ McCarthy, *Remainder*, 17
- ⁵³⁵ Ibid, 19.
- ⁵³⁶ Ibid, 19-20

⁵³⁷ Ibid, 20.

⁵³⁸ Ibid.

⁵³⁹ Ibid, 21.

⁵⁴⁰ Ibid, 21.

⁵⁴¹ Ibid, 23.

⁵⁴² Ibid, 24.

⁵⁴³ Patricia Waugh and Jennifer Hodgson, Introduction to *The Review of Contemporary Fiction: The future of British Fiction* 32 (3) (2015), 11.

⁵⁴⁴ McCarthy, *Remainder*, 73.

⁵⁴⁵ Ibid, 73.

⁵⁴⁶ Ibid.

⁵⁴⁷ Ibid, 75; 76; 78; 52.

⁵⁴⁸ Ibid, 75.

⁵⁴⁹ Ibid, 76.

⁵⁵⁰ Ibid, 78.

⁵⁵¹ Ibid, 79.

⁵⁵² Ibid, 83.

⁵⁵³ Ibid, 92; 96; 100; 102.

⁵⁵⁴ Ibid, 254.

⁵⁵⁵ Ibid, 255.

⁵⁵⁶ Ibid, 256.

⁵⁵⁷ Ibid, 258.

⁵⁵⁸ Ibid, 248-249.

⁵⁵⁹ Ibid, 249.

⁵⁶⁰ Ibid, 251.

⁵⁶¹ Ibid, 251-252.

⁵⁶² Ibid, 251.

⁵⁶³ Tom McCarthy, 'Ulysses and Its Wake,' *London Review of Books* 36(12) (2014), 39.

⁵⁶⁴ Ibid.

⁵⁶⁵ Ibid.

⁵⁶⁶ McCarthy, *Remainder*, 272.

⁵⁶⁷ Ibid, 271.

⁵⁶⁸ Quoted in Roger Orwell, 'What's Left Behind: An Interview with Tom McCarthy' *Static* 7 (2008), 1.

⁵⁶⁹ Ibid, 2; 4.

⁵⁷⁰ Pieter Vermeulen, *Contemporary Literature and the End of the Novel: Creature, Affect, Form* (Basingstoke: Palgrave Macmillan, 2015), 25.

⁵⁷¹ McCarthy, *Remainder*, 5.

⁵⁷² Ibid.

⁵⁷³ Ibid.

⁵⁷⁴ Ibid.

⁵⁷⁵ Miller, 'Intentional Fallacies', 637.

⁵⁷⁶ Ibid, 639.

⁵⁷⁷ McCarthy, *Satin Island*, 12-13

⁵⁷⁸ Ibid, 48.

⁵⁷⁹ McCarthy, *Remainder*, 87

⁵⁸⁰ Draaisma, *Metaphors of Memory*, 27.

⁵⁸¹ Dennett, *Consciousness Explained*, 254.

⁵⁸² Ibid, 223.

⁵⁸³ McEwan, *Child*, 1.

⁵⁸⁴ Ibid, 5.

⁵⁸⁵ Ibid.

⁵⁸⁶ Dennett, *Consciousness Explained*, 245.

⁵⁸⁷ Ibid, 135.

⁵⁸⁸ Ibid, 245.

⁵⁸⁹ Ibid.

⁵⁹⁰ Ibid.

⁵⁹¹ McEwan, *Child*, 5.

⁵⁹² Ibid, 6.

⁵⁹³ Ibid, 12.

⁵⁹⁴ Ibid, 11.

⁵⁹⁵ Ibid.

⁵⁹⁶ Roger Brown and James Kulik, 'Flashbulb Memories', *Cognition* 5 (1977), 73-99.

⁵⁹⁷ Bruce Hood, *The Self Illusion* (London: Constable & Robinson, 2011), 161-162.

⁵⁹⁸ McEwan, *Child*, 11.

⁵⁹⁹ Ibid, 14.

⁶⁰⁰ Ibid, 16-17.

⁶⁰¹ Hood, *Self Illusion*, 161.

⁶⁰² Ibid. Earlier in *The Self Illusion* he cites Dennett's notion that the self 'is constructed out of narratives' (Hood, *Self Illusion*, xi).

⁶⁰³ Charles Fernyhough, *Pieces of Light: The New Science of Memory* (London: Profile, 2013), 21.

⁶⁰⁴ Ibid, 6.

⁶⁰⁵ Ibid, 202-233.

⁶⁰⁶ McEwan, *Child*, 6.

⁶⁰⁷ Ibid, 17.

⁶⁰⁸ Ibid, 18.

⁶⁰⁹ Fernyhough, *Pieces of Light*, 70-71.

⁶¹⁰ Ibid, 71.

⁶¹¹ McEwan, *Child*, 155.

⁶¹² Ibid, 166

⁶¹³ Ibid, 166-167.

⁶¹⁴ Ibid, 167.

⁶¹⁵ William Watkin, *On Mourning: Theories of Loss in Modern Literature*, (Edinburgh: Edinburgh University Press, 2004.), 180.

⁶¹⁶ McEwan, *Child*, 213.

⁶¹⁷ Watkin, *On Mourning*, 181.

⁶¹⁸ Ian McEwan, *The Comfort of Strangers* (London: Vintage, 2006), 73-74.

⁶¹⁹ Quoted in John Haffenden, *Novelists in Interview* (London: Methuen, 1985), 180.

⁶²⁰ 'Satiated desire brought on a speedy, reckless clarity' (McEwan, *Child*, 69).

⁶²¹ 'It's clarifying to be without desire' (McEwan, *Saturday*, 58); 'the sudden clarity of sexual release' (Ibid, 217).

⁶²² Mary's growing realisation that a photo seen in another character's home is of her husband, Robert, signalling murderous intentions, is 'at the back of her mind, just beyond her reach', like 'a vivid dream that cannot be recalled' (McEwan, *Comfort of Strangers*, 65).

⁶²³ Wells, *Ian McEwan*, 39.

⁶²⁴ Judith Seaboyer, 'Sadism Demands a Story: Ian McEwan's *The Comfort of Strangers*', *MFS Modern Fiction Studies* 45(4) (1999), 964.

⁶²⁵ Ibid.

⁶²⁶ M. Hunter Hayes and Sebastian Groes, "Profoundly dislocating and infinite in possibility": Ian McEwan's screenwriting', in *Ian McEwan: Contemporary Critical Perspectives*, 2nd Edition, ed. Sebastian Groes (London: Bloomsbury, 2013), 26.

⁶²⁷ Ibid.

⁶²⁸ McEwan, *Imitation Game*, 101.

⁶²⁹ Ibid, 103.

⁶³⁰ Ibid, 103-104.

⁶³¹ McCarthy, *C*, 64.

⁶³² Ibid, 63

⁶³³ Pieter Vermeulen, 'The Critique of Trauma and the Afterlife of the Novel in Tom McCarthy's *Remainder*', *Modern Fiction Studies* 58(3) (2012), 562.

⁶³⁴ Ibid, 563.

⁶³⁵ McCarthy, *Remainder*, 228.

⁶³⁶ *Ibid*, 22.

⁶³⁷ *Ibid*, 231-232.

⁶³⁸ *Ibid*, 231.

⁶³⁹ *Ibid* 187.

⁶⁴⁰ *Ibid*, 187-188.

⁶⁴¹ *Ibid*, 194.

⁶⁴² *Ibid*, 194.

⁶⁴³ *Ibid*, 196.

⁶⁴⁴ *Ibid*, 197.

⁶⁴⁵ *Ibid*.

⁶⁴⁶ *Ibid*, 198.

⁶⁴⁷ *Ibid*, 199.

⁶⁴⁸ *Ibid*, 200-201.

⁶⁴⁹ McCarthy, *C*, 65,

⁶⁵⁰ *Ibid*, 66.

⁶⁵¹ *Ibid*.

⁶⁵² *Ibid*, 67.

⁶⁵³ Tom McCarthy, *Tintin and the Secret of Literature* (London: Granta, 2011), 76-77.

⁶⁵⁴ *Ibid*, 79.

⁶⁵⁵ *Ibid*.

⁶⁵⁶ *Ibid*.

⁶⁵⁷ *Ibid*, 81.

⁶⁵⁸ Sigmund Freud, *The 'Wolfman' [From the History of an Infantile Neurosis]*, tr. Louise Adey Huish (London: Penguin, 2002), 81.

⁶⁵⁹ Catherine Malabou, 'Plasticity and Elasticity in Freud's *Beyond the Pleasure Principle*', *Diacritics* 37(4) (2007), 81.

⁶⁶⁰ McEwan, *Saturday*, 243.

⁶⁶¹ Ibid, 74.

⁶⁶² Ibid, 227.

⁶⁶³ Teresa Winterhalter, "'Plastic Fork in Hand': Reading as a Tool of Ethical Repair in Ian McEwan's *Saturday*", *Journal of Narrative Theory* 40(3) (2010), 344.

⁶⁶⁴ Ibid, 338.

⁶⁶⁵ McEwan, *Saturday*, 14.

⁶⁶⁶ Ibid, 37-48.

⁶⁶⁷ Ibid, 205.

⁶⁶⁸ Ibid, 207

⁶⁶⁹ Ibid.

⁶⁷⁰ Ibid, 209.

⁶⁷¹ Ibid, 210.

⁶⁷² Ibid, 216.

⁶⁷³ Ibid, 217

⁶⁷⁴ Ibid, 220.

⁶⁷⁵ Ibid, 220-222.

⁶⁷⁶ Ibid, 48-49.

⁶⁷⁷ Ibid.

⁶⁷⁸ Ibid.

⁶⁷⁹ Ibid.

⁶⁸⁰ Pleske, *The Intelligible Metropolis*, 294.

⁶⁸¹ McEwan, *Enduring Love*, 42.

⁶⁸² Ibid, 24.

⁶⁸³ Ibid, 43.

⁶⁸⁴ Ibid, 44.

⁶⁸⁵ Ibid, 247.

⁶⁸⁶ Antonio Damasio, *Descartes' Error: Emotion, Reason and the Human Brain* (London: Papermac, 1996), xiv-xv; xviii.

⁶⁸⁷ McEwan, *Enduring Love*, 41.

⁶⁸⁸ Ibid.

⁶⁸⁹ Ibid.

⁶⁹⁰ Duffy cites Jazz as an example of a popular form ‘receptive to speed’s excitements’ (Duffy, *The Speed Handbook*, 55). The passage from *C* is part of an extended section depicting Serge’s relationship with a cabaret performer, including an extended account of one performance. Rae Beth Gordon defines cabaret as ‘the principal site for a radically new aesthetic and ethos that would later be recognizes as typifying modernity’ in its ‘carnavalesque atmosphere of raucous audience participation, with its vital exchange of energy between performer and spectator’ (Rae Beth Gordon, ‘From Charcot to Charlot: Unconscious Imitation and Spectatorship in French Cabaret and Early Cinema’, *Critical Inquiry* 27(3) (2001), 524). McCarthy’s use of popular forms of the early twentieth century emphasises the paradoxical sense of continuity and detachment described by Duffy, articulating the latter through the metaphor of transmission.

⁶⁹¹ McCarthy, *C*, 212.

⁶⁹² Ibid.

⁶⁹³ Ibid, 213.

⁶⁹⁴ Milly Weaver, ‘Restricted Action: McCarthy’s Modernist Legacy?’, in *Tom McCarthy: Critical Essays*, ed. Dennis Duncan (Canterbury: Gylphi, 2016), 96.

⁶⁹⁵ McCarthy, *Satin Island*, 6.

⁶⁹⁶ Ibid, 10.

⁶⁹⁷ Ibid, 11; 26; 35; 89.

⁶⁹⁸ Ibid, 75.

⁶⁹⁹ Weaver, ‘Restricted Action’, 109.

⁷⁰⁰ Ibid.

⁷⁰¹ McCarthy, ‘Writing Machines’.

⁷⁰² Ibid.

⁷⁰³ Damasio, *Descartes’ Error*, 124.

⁷⁰⁴ Ibid.

⁷⁰⁵ McEwan, *Enduring Love*, 206.

⁷⁰⁶ Ibid, 207.

⁷⁰⁷ David James, “‘A boy stepped out’: Migrancy, visibility and the mapping of masculinities in later fiction of Ian McEwan’, *Textual Practice* 17(1) (2003), 88

⁷⁰⁸ Hayes and Groes, ‘Profoundly Dislocating’, 31-32.

⁷⁰⁹ James, “‘A boy stepped out’”, 88.

⁷¹⁰ Ibid, 87.

⁷¹¹ McEwan, *Child*, 115-116.

⁷¹² Ibid, 113.

⁷¹³ Ibid, 113.

⁷¹⁴ Ibid, 53.

⁷¹⁵ Ibid, 53.

⁷¹⁶ Ibid, 58.

⁷¹⁷ Ibid.

⁷¹⁸ Ibid, 57.

⁷¹⁹ Ian McEwan, ‘An Only Childhood: Ian McEwan Remembers Growing Up Without Brothers and Sisters’, *The Observer* 31 January 1982, 41.

⁷²⁰ Ibid.

⁷²¹ McEwan, *Child*, 59.

⁷²² Ibid, 59-60.

⁷²³ Ibid, 60.

⁷²⁴ Ibid, 59-60.

⁷²⁵ Ibid, 61.

⁷²⁶ Ibid, 62.

⁷²⁷ Ibid, 62-63.

⁷²⁸ Ibid, 63.

⁷²⁹ Damasio, *Descartes’ Error*, 124.

⁷³⁰ Ibid.

⁷³¹ McCarthy, *C*, 3.

⁷³² Ibid, 10-12.

⁷³³ Tom McCarthy, 'His Dark Materials', *The New Statesman* 8 January 2010, <https://www.newstatesman.com/film/2010/01/lynch-prosthetic-god-world>.

⁷³⁴ Ibid.

⁷³⁵ Ibid.

⁷³⁶ McCarthy, *C*, 265.

⁷³⁷ McCarthy, 'His Dark Materials'.

⁷³⁸ McCarthy, *C*, 68.

⁷³⁹ Ibid, 199.

⁷⁴⁰ Ibid, 118.

⁷⁴¹ Ibid, 219.

⁷⁴² Ibid.

⁷⁴³ Ibid, 117.

⁷⁴⁴ Theo Tait, 'Satin Island by Tom McCarthy', *The Sunday Times*, 15 March 2015, <http://www.thesundaytimes.co.uk/sto/culture/books/fiction/article1529226.ece>.

⁷⁴⁵ Tom McCarthy and Margarita Gluzberg, 'Circuits and Loops: Tom McCarthy & Margarita Gluzberg', *Bomb Magazine* 4 May 2012, <http://bombmagazine.org/article/6563/>

⁷⁴⁶ Jacques Lacan, *The Seminar of Jacques Lacan: Book Two: The Ego in Freud's Theory and in the Technique of Psychoanalysis*, ed. Jacques Alain-Miller, tr. Sylvana Tomaselli (Cambridge: Cambridge University Press, 1988), 177.

⁷⁴⁷ Ibid, 177-178.

⁷⁴⁸ Ibid, 46-47.

⁷⁴⁹ Ibid, 49.

⁷⁵⁰ Ibid, 322.

⁷⁵¹ Ibid, 323.

⁷⁵² McCarthy, *C*, 124.

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- ⁷⁵³ Ibid.
- ⁷⁵⁴ Ibid.
- ⁷⁵⁵ Ibid, 126.
- ⁷⁵⁶ Ibid, 126.
- ⁷⁵⁷ Ibid.
- ⁷⁵⁸ Ibid, 138.
- ⁷⁵⁹ Ibid, 142.
- ⁷⁶⁰ Ibid, 141.
- ⁷⁶¹ Ibid, 143.
- ⁷⁶² Ibid, 141.
- ⁷⁶³ Ibid, 160.
- ⁷⁶⁴ Critchley, *Infinitely Demanding*, 60.
- ⁷⁶⁵ Ibid, 63.
- ⁷⁶⁶ Ibid, 65.
- ⁷⁶⁷ Emily Horton, 'Reassessing the Two-Culture Debate: Popular Science in Ian McEwan's *The Child in Time* and *Enduring Love*', *MFS Modern Fiction Studies* 59(4) (2013), 692-699.
- ⁷⁶⁸ Claudia Schemberg, *Achieving 'At-one-ment': Storytelling and the Concept of the Self in Ian McEwan's The Child in Time, Black Dogs, Enduring Love and Atonement* (Oxford: Peter Lang, 2004); Derek Wright, 'New Physics, Old Metaphysics: Quantum and Quotidian in Ian McEwan's *The Child in Time*', *Revista Alicantina de Estudios Ingleses* 10 (1997): 221-233.
- ⁷⁶⁹ Horton, 'Reassessing the Two-Culture Debate', 692.
- ⁷⁷⁰ Ibid, 692.
- ⁷⁷¹ McEwan, *Child*, 148.
- ⁷⁷² Ibid, unpagged.
- ⁷⁷³ Ibid, 128.
- ⁷⁷⁴ David Bohm, *Wholeness and the Implicate Order* (London: Ark, 1983), ix.
- ⁷⁷⁵ Ibid, x.
- ⁷⁷⁶ Ibid, 29.

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- ⁷⁷⁷ McEwan, *A Move Abroad: Or Shall We Die? And, The Ploughman's Lunch* (London: Pan, 1982), 15.
- ⁷⁷⁸ McEwan, *Child*, 130.
- ⁷⁷⁹ *Ibid*, 56-57.
- ⁷⁸⁰ *Ibid*, 92.
- ⁷⁸¹ *Ibid*.
- ⁷⁸² *Ibid*, 182.
- ⁷⁸³ *Ibid*, 181.
- ⁷⁸⁴ *Ibid*, 193.
- ⁷⁸⁵ *Ibid*, 194
- ⁷⁸⁶ Wells, *Ian McEwan*, 53.
- ⁷⁸⁷ 'It almost connects up,' she said. 'Almost.' (McEwan, *Child in Time*, 195).
- ⁷⁸⁸ Wells, *McEwan*, 53.
- ⁷⁸⁹ McEwan, *Child in Time*, 180-181.
- ⁷⁹⁰ Serpell, *Seven Modes*, 84-85.
- ⁷⁹¹ David James, *Contemporary British Fiction and the Artistry of Space: Style, Landscape, Perception* (London: Continuum, 2009), 10; Laura Marcus, 'Ian McEwan's Modernist Time: *Atonement* and *Saturday*', in *Ian McEwan: Contemporary Critical Perspectives*, 2nd Edition, ed. Sebastian Groes (London: Bloomsbury, 2013), 88-89.
- ⁷⁹² Wells, *McEwan*, 53.
- ⁷⁹³ Bohm, *Wholeness*, 50.
- ⁷⁹⁴ *Ibid*, 51.
- ⁷⁹⁵ *Ibid*.
- ⁷⁹⁶ *Ibid*.
- ⁷⁹⁷ Susan Blackmore, *The Meme Machine* (Oxford: Oxford University Press, 2000), 238.
- ⁷⁹⁸ *Ibid*.
- ⁷⁹⁹ Dennett, 'Narrative Gravity', 8.
- ⁸⁰⁰ *Ibid*.

⁸⁰¹ Self, *Dave*, 280.

⁸⁰² Self, *Dave*, 27.

⁸⁰³ Quoted in Chris Hall, *Will Self – Official Site*, ‘Umbrella – An Introduction and “The Rules”’, <http://will-self.com/2013/01/12/umbrella-an-introduction-and-the-rules/>.

⁸⁰⁴ Self, *Dave*, 27.

⁸⁰⁵ See Will Self, ‘Demotic English in *The Book of Dave*’, *Voices and Silence in the Contemporary Novel in English*, ed. by Vanessa Guignery (Newcastle: Cambridge Scholars, 2009), 20-25. In his essay on literary modernism, ‘Modernism and Me’ (2012), Self mentions the influence of Céline, ‘through Ralph Manheim’s translations’, as having freed up his sense of how ‘prose could combine thought and speech into a sort of “prose libre”, that incorporated both Mandarin and demotic locutions’ (Will Self, ‘Modernism and Me’, *Guardian* 3 August 2012, <https://www.theguardian.com/books/2012/aug/03/will-self-modernism-and-me>). In 2006 Self also published an essay on Céline in which he calls *Journey to the End of the Night* a ‘stream of misanthropic consciousness, almost unrelieved by any warmth or fellow-feeling’, and a ‘furious attempt to place one man’s consciousness at the epicenter of a world that is exploding under the centripetal influences of capitalism, imperialism, consumerism and licentiousness’, descriptions which sum up *The Book of Dave*, published the same year (Will Self, ‘Céline’s Dark Journey’, *The New York Times* 10 September 2006, <http://www.nytimes.com/2006/09/10/books/review/Self.t.html>).

⁸⁰⁶ Self, *Dave*, 33.

⁸⁰⁷ *Ibid.*

⁸⁰⁸ *Ibid.*, 54-57.

⁸⁰⁹ M. Hunter Hayes, *Understanding Will Self* (Columbia: University of South Carolina Press, 2007), 44.

⁸¹⁰ *Ibid.*, 45.

⁸¹¹ Will Self, *My Idea of Fun: A Cautionary Tale*, (London: Bloomsbury, 2011), 198.

⁸¹² *Ibid.*

⁸¹³ Will Self, *Dorian: An Imitation* (London: Penguin, 2009), 261.

⁸¹⁴ Ibid.

⁸¹⁵ Ibid, 267.

⁸¹⁶ Ibid.

⁸¹⁷ Ibid, 269.

⁸¹⁸ Ibid, 265.

⁸¹⁹ Self, *Feeding Frenzy*, 209.

⁸²⁰ Ibid.

⁸²¹ Julian Jaynes, *The Origin of Consciousness in the Breakdown of the Bicameral Mind* (London: Allen Lane, 1979, 140.

⁸²² Ibid.

⁸²³ Ibid, 141.

⁸²⁴ Self, *Book of Dave*, 44.

⁸²⁵ Smith, *Accidental*, 81.

⁸²⁶ Ibid, 79.

⁸²⁷ Ibid, 80.

⁸²⁸ Ibid, 83-85.

⁸²⁹ Ibid, 86-87.

⁸³⁰ Ibid, 101.

⁸³¹ Stephen M. Levin, 'Narrating Reminders: Spectral Presences in Ali Smith's Fictions', in *Ali Smith: Contemporary Critical Perspectives*, ed. Monica Germana and Emily Horton (London: Bloomsbury, 2013), 36.

⁸³² The narrator, travelling in Amsterdam with a friend, Jackie, visits a prostitute, who has a poster of a singer on her wall which she says she likes 'because he was a man but he looked like a woman'. The narrator remembers thinking 'that was a very exciting thing to say, I hadn't heard anyone say anything direct like that before' (Ali Smith, *Free Love and Other Stories* (London: Virago, 1995), 2). She contrasts it to a memory of seeing a gay couple in a pub at home, and hearing Jackie say 'something about how disgusting it was, I think I even agreed, I never wanted to disagree with her on anything' (Ibid, 3). The articulation of a different

perspective on homosexuality prompts a shift in the relationship between the narrator and Jackie. Jackie expresses her attraction to the narrator by finding an ambiguity in spoken language as they both look at a painting: ‘Her leg was pressing firmly into my leg. Do you like this? She asked, looking at the picture, and I said I did.’ (Ibid, 6-7). As they both lie on their backs looking at the sky, the narrator tells Jackie ‘all the things I’d felt for years now, and she looked at me woundedly, as if I’d slapped her, and told me she felt exactly the same’ (Ibid, 7).

⁸³³ She calls the first time she made love with Jackie ‘one of the most exciting things I have ever done in my life, though Jackie always called it our sordid first experience’ (Smith, *Free Love*, 8). She remembers seeing Jackie kissing a boy and thinking ‘that remarkably more sordid [...] But then, what people think is sordid is relative after all; the person who saw us holding hands between our seats at the theatre one night thought it sordid enough to tell our mothers about in anonymous letters.’ (Ibid, 9)

⁸³⁴ Smith, *Free Love*, 2.

⁸³⁵ Ali Smith, *Hotel World* (London: Penguin, 2002), 15.

⁸³⁶ Ibid, 17.

⁸³⁷ ‘I decided to let myself think a little more about the girl. It was a lot easier in the dark. It didn’t feel anywhere near as it risky as it did to catch myself thinking about her with the light on [...] I thought about what my parents would think [...] What people who knew me would think. What people who hardly knew or didn’t know me at all would think.’ (Smith, *Hotel World*, 22-23).

⁸³⁸ Smith, *Hotel World*, 81-122.

⁸³⁹ Ibid, 94.

⁸⁴⁰ Ibid, 132-134.

⁸⁴¹ Dennett, *Intentional Stance*, 255.

⁸⁴² Bakhtin, *The Dialogic Imagination*, 293.

⁸⁴³ Ibid.

⁸⁴⁴ Self, *Dave*, 280. See also Will Self, 'What's in a Brain', in *Memory in the Twenty-First Century*, edited by Sebastian Groes (Houndmills: Palgrave Macmillan, 2016), 92.

⁸⁴⁵ Quoted in Francois Gallix, Didier Girard, Vanessa Guignery, 'Conversation with Will Self', in *Voices and Silence in the Contemporary Novel in English*, ed. Vanessa Guignery (Newcastle: Cambridge Scholars, 2009), 27.

⁸⁴⁶ Hugo Spiers, 'Will Self and His Inner Seahorse', in *Memory in the Twenty-First Century*, ed. Sebastian Groes (Houndmills: Palgrave Macmillan, 2016), 98.

⁸⁴⁷ *Ibid*, 98; Self, *Dave*, 280.

⁸⁴⁸ Self, *Dave*, 295.

⁸⁴⁹ *Ibid*, 289; 292.

⁸⁵⁰ Richard Bentall, *Madness Explained: Psychosis and Human Nature* (London: Penguin, 2004), 160.

⁸⁵¹ Will Self, 'Walking is Political', *The Guardian* 30 March 2012, <https://www.theguardian.com/books/2012/mar/30/will-self-walking-cities-foot>

⁸⁵² Will Self, 'Pinpoint by Greg Milner Review – how is GPS changing our world?', *The Guardian* 4 May 2016, <https://www.theguardian.com/books/2016/may/04/pinpoint-how-gps-is-changing-our-world-greg-milner-review>

⁸⁵³ *Ibid*.

⁸⁵⁴ 'Dave saw the tendons in her thin neck, exposed by the open neck of her blouse'; 'She was breathing heavily, the taut tendons in her neck exposed by a flap of her cloakyfing'; 'He hardly seemed conscious of his progress, lifting each heavy denim leg over the chainlink as if it were a prosthesis'; 'He walked on [...] hardly conscious of his progress, lifting his legs over the trunks of fallen trees as if they belonged to another'; 'Eye wan yaw sex'; 'I want your sex'; 'Time, distance and money – the three dimensions of Dave Rudman's universe'; 'Tym, munny distunz'; 'She brushed his lips with the back of her freckled hand'; 'she brushed his cracked lips with the back of her speckled hand'; 'Eye thwimmin!'; 'I swimmin!'; 'I'm swimming!'; 'The long streak of cloud immediately overhead began to revolve as if there were an axle set in it [...] the blood pounded in his temples'; 'Feeling the blood pound in his temples, Dave

leaned back and watched as the clouds overhead revolved on the axis that was him'; 'You fucking bitch, you've taken ... you've taken ... ev-ery-thing!'; 'You fucking bitches ... You've taken – you've taken ev-ery-thing!'; 'Symun felt the raised phonics 'Lti' pressing between his shoulder blades'; 'he saw the letters 'Lti' stamped on his forehead'; 'a pair of high-topped leather boots [...] empty, broken at the ankle'; 'a pair of high-topped trainers that were broken at the ankle'; 'O Dave! Ees onlë gonnan lungdup!'; 'O Dave! Terry cried, ees onli gon an lunged up' (Self, *Dave*, 53; 83; 42; 84; 82; 107; 31; 120; 11-112; 138; 142; 217; 416; 187; 230; 42; 315; 187; 350; 336; 373; 187; 431).

⁸⁵⁵ Self, *Dave*, 409.

⁸⁵⁶ Ibid, 167.

⁸⁵⁷ Ibid, 167.

⁸⁵⁸ Ibid, 180.

⁸⁵⁹ Ibid, 132; 480.

⁸⁶⁰ Ibid, 138.

⁸⁶¹ Ibid, 138.

⁸⁶² Ibid, 347.

⁸⁶³ The notion that the circulation of Wilde's words grants his 'psyche' a persistence beyond death, articulated by reference to Jaynes and depicted in the epilogue to *Dorian*, echoes Self's review of a book by Timothy Leary, relaying the latter's argument that, based meme theory, by visiting his website, 'you may in some elliptical sense be gifting him a shot at sentience from beyond the grave' (Self, *Feeding Frenzy*, 11). *Dorian* seems to build on this in its reference to a proposed *Cathode Narcissus* website: "*Cathode Narcissus* Belongs to Us All', the slogan on the homepage proclaimed; 'Download some Perfection Today.' (Self, *Dorian*, 270) The intention is for the artwork to 'become synonymous with male beauty at the end of the twentieth century', a process which apparently succeeds in terms recognisably influenced by the concept of the meme: 'During the first few months of 1997, the cathode Narcissi spread throughout the virtual metabolism of the culture, like a digital virus.' (Ibid, 271) When *Dorian* goes out clubbing, he loses 'himself in the throng of his *alter egos*, all bumping and grinding

and voguing their way towards the twenty-first century'; the Voice comments 'No need for those biologists to bother with genetic engineering, eh Dorian [...] you boys have beaten them to it. You're all completely interchangeable.' (Ibid, 272-273) Another article, published in 1996, mentions as an aside members of the House of Lords 'who seem to contain, encoded within their psyches – as if they were some kind of sentient, politico-cultural DNA – the living history of our polity' (Self, *Feeding Frenzy*, 360). The narrator of 'Grey Area', from the collection of the same name (1994), describes the apprehension that she somehow been impregnated by the 'VPL man', 'he-who-lingers-by-the-facsimile-machine', sending into her from a distance 'his tadpole, his micro-construction robot, which burrows into me carrying the blueprints for the manufacture of more VPL men and VPL women'; this is followed by her suspicion of a computer virus in her office's network (Will Self, *Grey Area and Other Stories* (London: Bloomsbury, 1994), 189). In a review of Terence McKenna's *Food of the Gods* (1992), originally published in 1993, Self describes McKenna as a 'meta-Kantian, holding that the very phenomenon of sentience itself is a function of a symbiotic relationship between *Homo sapiens* and the plant species that contain psychoactive alkaloids' (Self, *Junk Mail*, 19). For McKenna, the "wetware" of our minds is profoundly bound up with our ecosystem [...] a self-regulating planetary organism, a 'Transcendent Other'.' (Ibid., 20) Self describes McKenna as having 'brought together Richard Dawkins's Neo-Darwinianism and Daniel Dennett's synthesized idea of 'memes' (concepts themselves as self-replicating organisms, subject to natural selection) to paint a picture of human consciousness as an evolutionary gestalt' (Ibid.).

⁸⁶⁴ Self, *Dave*, 465.

⁸⁶⁵ Earworms are used as an example in Dawkins' original formulation of memes, becoming particularly important in his discussion of how memes replicate through imitation (Dawkins, *The Selfish Gene*, 194),

⁸⁶⁶ The story is centred on an extreme form of bodily alteration (a miraculous diminishing of terminal liver cancer) and the relationship of a protagonist to their environment (Zurich, to which Joyce has come to seek assisted suicide) mediated through a judgemental Voice

rendered in the same style of italicised interjections within free indirect style. The first of the ‘self-made homilies’ that comes to the protagonist is a song-lyric (*‘What will be, will be’*), while other Latin phrases drawn from Mozart’s requiem, which Joyce has learnt as part of a choir, also appear as ejaculatory thought, along with more song-lyrics and religious scripture (Will Self, *Liver* (London: Penguin, 2009), 65; 66; 78; 89; 90; 93; 94; 99; 103; 111; 124; 125; 128; 133; 134; 137; 140; 145; 150; 158; 171; 172; 174; 176; 180; 182; 184.). The short story is also more explicit in positioning these ejaculatory thoughts as emanating from outside consciousness. Her cancer is rendered as a breakdown of a lifelong ‘secret conversation with her body’; its cells ‘would not stop until they had toppled the sovereignty of consciousness itself, and replaced it with their own screaming masses of cancerous tissue’ (Ibid, 79). Some ejaculatory thought is explicitly marked as dialogue from her body, as a whole or in parts (Ibid, 108; 121; 148), while other sections emerge from more external sources, such as a tape recording (Ibid, 117) or her memory of the words of others (Ibid, 153). As she remains in Zurich, she finds that the ‘abundantly rich and complex orchestration had drained away, while the polyphony had dwindled to a single, deep, dry voice that spoke to her alone, of a *dread*, when the *Judge* shall come, to *judge* all things strictly’ (Ibid, 150). This description follows the dynamic of *The Book of Dave*, while tying it even more explicitly to the environment, in this case to ‘the Swiss’s particular liberalism, whereby the community permitted anything, if the individual could overcome his or her own massive internalized constraint’ (Ibid, 152). She also feels ‘un-musiced’, in that her ‘thoughts had not been about music – or music itself resounding in her mind, note-for-thought, tone-for-feeling, the organic development of mood’, a local orchestra providing only a ‘Taylorization of sound’ (Ibid, 168). ‘Un-musiced’ expresses a determination of one’s relationship to the environment entirely by reductive interpretation similar to the Knowledge: ‘Drained of melody, what remained of anyone’s life? A narrative trajectory as straight and dull, as discordant and crowded, as the M1’ (Ibid, 171).

⁸⁶⁷ *Umbrella* opens with song lyrics rendered as ejaculatory thought, in a subtle reference to the last appearance of Busner in *Great Apes*: ‘*I’m an ape man, I’m an ape-ape man ... Along comes Zachary [...] Muswell Hill calypso* warms the cold Friern Barnet morning, staying with

him, wreathing his head with rapidly condensing *pop breath*.’ (Self, *Umbrella*, 1) Busner hears the song through a window, the anthropomorphised confluence of culture and environment expressed through the metaphor of ‘*pop breath*’, but the lyrics recur for the next few pages, incorporated into his consciousness. At the end of the novel, Busner sees in these songs a marker of his failure of interpretation: ‘The pop ditties that had infested his mind had been, he now understands, continuous reminders not only of this unfinished and abandoned travail, but of all the other crimes of forgetting he had committed: *Don’t let it die, Don’t let it die ... Hurricane Smith had groaned these melodic truisms – but simply because they were truisms, it didn’t mean they weren’t ... true.*’ (Ibid, 396)

⁸⁶⁸ Smith, *Accidental*, 201.

⁸⁶⁹ Ibid, 138.

⁸⁷⁰ Ibid, 139.

⁸⁷¹ Ibid, 201.

⁸⁷² Peter Boxall, *Twenty-First Century Fiction: a Critical Introduction* (Cambridge: Cambridge University Press, 2013), 63.

⁸⁷³ Smith, *Accidental*, 103-105.

⁸⁷⁴ Ibid, 205-211.

⁸⁷⁵ Boxall, *Twenty-First Century Fiction*, 63.

⁸⁷⁶ Smith, *Accidental*, 3.

⁸⁷⁷ Ibid, 185.

⁸⁷⁸ Astrid’s perception is the least predetermined; as the youngest Smart, she brings the least amount of experience to bear. She hears Amber/Alhambra’s ‘way of talking’ as ‘Irish-sounding, or maybe a kind of American’, noting that her hair is ‘supposed to be blonde but Astrid can see much deeper dark in her hair at the roots of her parting’ (Smith, *Accidental*, 31; 21). Astrid’s relatively clear perception of Amber/Alhambra emphasises an ambiguity which brings the assumptions made by the other Smarts into focus. To Magnus, in the next chapter, she has ‘angelic yellow hair’ (Ibid, 55). His perception of her as an angel is determined by the context of their encounter. She effectively prevents him from hanging himself, although it is

worth noting that she does by the fact of her presence rather than intentionally; she even offers to help him do so (Ibid, 55-56). He also sees her as ‘very beautiful, a little rough-looking, like a beautiful used girl off an internet site [...] all lit up against the wipe-clean wallpaper’ (Ibid, 55). This references an earlier passage in which Magnus mentions that once you’ve looked at porn sites ‘all girls start to look like it’ (Ibid, 55).

⁸⁷⁹ Smith, *Accidental*, 64.

⁸⁸⁰ Ibid, 66.

⁸⁸¹ Ibid, 64.

⁸⁸² Ibid, 63.

⁸⁸³ Ibid, 65.

⁸⁸⁴ Ibid, 65-66.

⁸⁸⁵ Ibid, 65.

⁸⁸⁶ Ibid, 61.

⁸⁸⁷ Ibid, 80-88.

⁸⁸⁸ Ibid, 89.

⁸⁸⁹ Ibid, 89.

⁸⁹⁰ Ibid, 194-195.

⁸⁹¹ Ibid, 89.

⁸⁹² The chapter lists the questions Eve asks her, with the answers given on the next page: ‘You’re Scottish, aren’t you?’; ‘I’m a MacDonald’; ‘Where are you actually from, originally?’; ‘I am directly descended from the MacDonalds of Glencoe’ (Smith, *Accidental*, 91-92).

⁸⁹³ Ibid, 93-94.

⁸⁹⁴ Ibid, 98.

⁸⁹⁵ Ibid, 98. Eve tries to remember elements of her interaction with Amber, and responds to the notion that she may have been mistaken by imagining how she will narrate the incident in the future. Mark Currie picks up on this use of tense in a passage from *Hotel World*: ‘Something which is only a prospect is being tested here in retrospect, as a memory and a

story, to be told many years from now, and what is actually happening in the present seems to fall into the space between.’ (Mark Currie, ‘Ali Smith and the Philosophy of Grammar’, in *Ali Smith: Contemporary Critical Perspectives*, ed. Monica Germana and Emily Horton (London: Bloomsbury, 2013), 57) As Currie points out, the ‘notion that the anticipation of memory and completion might be the thief of presence, and perhaps also the purveyor of presence’ is ‘one of the novel’s favourite subjects’; this is also true of *The Accidental* (Ibid).

⁸⁹⁶ Smith, *Accidental*, 153.

⁸⁹⁷ Ibid, 137; 137-138; 138; 140; 141; 142; 143; 145; 147; 153; 156; 158; 236; 238; 246; 250

⁸⁹⁸ Ibid, 7; 8; 9; 13; 15; 19; 20; 24 (twice); 25; 26; 28; 30; 31; 35; 109; 111; 112; 113; 115 (twice); 120; 121; 122; 124; 125; 126; 127; 128; 130; 135; 220; 221; 226;

⁸⁹⁹ Currie, *About Time*, 115.

⁹⁰⁰ Quoted in Beer, ‘Gillian Beer Interviews Ali Smith’, 153.

⁹⁰¹ Ibid, 36; 37; 38; 39 (twice); 41; 43; 45; 51; 55.

⁹⁰² Julia Breitbach, *Analog Fictions for the Digital Age: Literary Realism and Photographic Discourse in Novels after 2000* (London: Camden House, 2012), 115.

⁹⁰³ Ali Smith, *The Whole Story and Other Stories* (London: Penguin, 2004), 48.

⁹⁰⁴ Ibid.

⁹⁰⁵ Dennett, *Darwin’s Dangerous Idea*, 346.

⁹⁰⁶ In ‘Cold Iron’ from *Free Love*, the narrator walks the streets, feeling ‘like I’m always walking against a tide, all sorts of rubbish floating on it, my head full of stuff, packed like a junk shop’, later seeing ‘driftwood’ along the beach’, finally ‘hanging on, leaning on the rail that overlooks the sea on either side of me [...] picking up bits and pieces for my house. I’m thinking it out, I’m working out the story.’ (Smith, *Free Love*, 80; 83; 85) *Like* (1997) picks up this metaphor. The novel’s second narrator, Ash, describes narration as giving ‘a shape to things that didn’t actually have a shape at the time, or didn’t seem to [...] Making the shape up [...] Random, meaningless, the things you’re left with surfacing inside your head like driftwood.’ (Ali Smith, *Like* (London: Virago, 2015), 169) One such piece of driftwood is a ‘greying notice screwed on to the wall with the words *No Unauthorised Persons Beyond This*

Point, shoals of fish flashing blindly past' (Ibid, 169-170), hinting at the use of italicised phrases of official language in *Hotel World*. The driftwood metaphor is mirrored by that of an etching or a scarring into the brain, used by Eve in *The Accidental* to describe earworms. Recalling her first attraction to another girl, Ash remembers having known the rules against this 'innately', 'even before I knew what the word meant, the silent mouthed word for it that some kind and knowing anonymous seer had scrawled like a scar on my science folder at school when I was eleven or twelve, I picked my folder out of the pile and the word branded itself inside my head' (Ibid, 159-160). Her attraction to Amy is described in the same way; Amy 'carved her own name in me like a scar. After that, every time she looked my way, and every time she didn't, though I didn't know or notice, something was branding her deeper into me.' (Ibid, 228) This scarring affects perception: 'It's hard to see what's really out there past the scratches that get left on the retina by what you've seen before and the fiddly engraving already etched into the surface of your brain. Apparently the new cells of the body will still, years after the bite, reproduce the shapes of the teeth that bit you all those years ago.' (Ibid, 327). These scars have their own agency within the psyche. Amy describes bodies as 'the places your memories hog the best armchair, flick the television over from what you're watching to the programme they want', while her attraction to Amy is 'savage, it was wild, it would get out of hand, get me like that in its musky jaws' (Ibid, 327; 262). The metaphor of germs seems to mediate between driftwood and scarring, articulating the potential of memes, floating between psyches, to assert their own form of bodily change. When Amy thinks the word Scotland a 'strange thing happens inside her. It must be nostalgia. It must be homesickness, this must be what it feels like, she has caught it from Kate. It comes on her like a kind of relief, like giving in, like the moment you know a germ has taken hold in your body' (Ibid, 126). Ash's memories of Amy reference this, as she remembers Amy telling her 'when you're ill you have a temperature because your body is working so hard to fight off the germs that have invaded it. Don't worry.' (Ibid, 171) The narrator of 'The Shortlist Season', from *The Whole Story*, imagines that she is 'sensitive' to 'several forms of cultural expression', when she gets a temperature after visiting a gallery, and hearing half a sentence spoken by a

man talking about ‘narrative’ (Smith, *Whole Story*, 168-175). One of Smith’s narrators also reflects on the compelling nature of fragments of narrative, half-stories, in ‘A Story of Love’ from *Other Stories and Other Stories* (1999) (Ali Smith, *Other Stories and Other Stories* (London: Granta, 1999), 173).

⁹⁰⁷ Smith calls pop music ‘the way that we hear our times’, suggesting that ‘for most people it forms some kind of outlet or background to their lives’ (Quoted in Isobel Murray, *Scottish Writers Talking 3* (Edinburgh: John Donald, 2006), 201). *Like*’s Amy describes song lyrics which ‘tack themselves round like crockery being smashed [...] The needle stuck in her head’ (Smith, *Like*, 12-13). In *Hotel World*, one of the voices that Lise hears sings a song from an old advert ‘in her head’, along with others, throughout her chapter (Smith, *Hotel World*, 83; 85; 98; 104; 116). In the last chapter, the ‘ghost of Dusty Springfield, popular singer of the nineteen sixties, soars, sure and broken, definite and tentative, through the open window of a terraced house on the corner of Short Street’ (Ibid, 229-230). The ‘ghost’ in the novel’s first chapter, as I’ve discussed, can be understood as the conscious subject, separate from the body and asking it questions to draw out memories. The last chapter’s listing of various ‘ghosts’ then embodies the extended nature of this subject. In *Writ* (2006), the narrator is confronted, like Eve, by her own recalcitrant teenage self, assuming a version of this questioning relation to an embodiment of her memory. Talking to her brings a song into the narrator’s head, which gives her an idea as to how to engage with her younger self; memory’s alteration of the conscious subject is embodied in bringing to mind one of the memes which make up her mind, changing the questions to be asked (Ali Smith, *Writ* (Oundle Festival of Literature Press, 2006), unpag.).

⁹⁰⁸ Smith, *Accidental*, 91.

⁹⁰⁹ Ibid, 95.

⁹¹⁰ Ibid, 96.

⁹¹¹ Ibid, 147.

⁹¹² Ibid, 295.

⁹¹³ Ibid.

⁹¹⁴ Horton (2012), Tancke (2013), Levin (2013) and Tew (2007) offer comprehensive readings of these aspects of the novel. Horton and Tancke are particularly effective in evaluating the limitations of a reading of the novel solely in terms of the Freudian unconscious or of contemporary models of trauma. Both establish Smith's own implicit critique of the ethical injunction to engage with the real beyond representation.

⁹¹⁵ Self, *Grey Area*, 3.

⁹¹⁶ *Ibid*, 13

⁹¹⁷ *Ibid*, 14

⁹¹⁸ *Ibid*, 17

⁹¹⁹ This concern was established early on by Self, in 'Ward 9' from *The Quantity Theory of Insanity*: 'The English depend on class, to the extent that whenever two English people meet, they spend nanoseconds in high-speed calculations. Every nuance of accent, every detail of apparel, every implication of vocabulary, is analysed to produce the final formula. This in turn provides the coordinates that will locate the individual and determine the Attitude.' (Will Self, *The Quantity Theory of Insanity* (London: Penguin, 1994), 28).

⁹²⁰ Hayes, *Understanding Will Self*, 95.

⁹²¹ Self, *Dave*, 28.

⁹²² *Ibid*, 28; 29.

⁹²³ *Ibid*, 34-35.

⁹²⁴ *Ibid*, 41.

⁹²⁵ *Ibid*, 54.

⁹²⁶ Ali Smith, *Ali Smith's Supersonic 70's* (London: Penguin, 2005), 54.

⁹²⁷ *Ibid*, 46.

⁹²⁸ *Ibid*, 50.

⁹²⁹ *Ibid*, 59.

⁹³⁰ *Ibid*.

⁹³¹ Smith, *Accidental*, 286.

⁹³² *Ibid*, 293-294.

⁹³³ Ali Smith, *Public Library and Other Stories* (London: Penguin, 2015), 106-109.

⁹³⁴ *Ibid.*, 109.

⁹³⁵ *Ibid.*, 120-121.

⁹³⁶ *Ibid.*, 104; 112.

⁹³⁷ Rowlands, *The New Science of the Mind*, 161.

⁹³⁸ *Ibid.*

⁹³⁹ I discussed this use of italics in the last chapter. The most pertinent example here is Eve's incorporation of a question posed to her by Amber/Alhambra within her interpretative stance in relation to her own experience; in posing this question, Amber/Alhambra alters Eve's self by altering her processing of experience. The dialogic form developed by Smith consists in the splitting of novels or short stories in half, each half either narrated by one character or narrated in a free indirect style mostly centred on one character, and thematically pre-occupied with that character's relation to the main character in the other half. This form is first used in *Like*, Smith's first novel. *Artful* is a variation of it, in that it is split between a narrator reflecting on their dead lover while reading their draft lectures, and the text of those lectures, which towards the end address the first narrator directly. *How to Be Both* uses another variation, in that the protagonists of each half of the novel often reflect on their relation to the other. Several of Smith's short stories are narrated entirely in the second-person, and a set of short stories are split into two, each half narrated by one character addressing the other.

⁹⁴⁰ Smith, *Both*, 29.

⁹⁴¹ *Ibid.*, 30.

⁹⁴² *Ibid.*, 30-31.

⁹⁴³ George remembers asking her mother 'what's the *point* of art', then asks whether the gallery they are in is 'the place you were talking about in the car [...] the moral conundrum' (Smith, *Both*, 46; 49).

⁹⁴⁴ Smith, *Both*, 49.

⁹⁴⁵ *Ibid.*, 51.

⁹⁴⁶ In a later passage, George and her friend H look at paintings. In one, a ‘handsome man with brown eyes’ is holding a gold ring ‘like his hand is coming right out of the picture over the edge of the frame and into the real world like he’s literally saying, here, it’s for you, do you want it?’ (Smith, *Both*, 141-142). In another picture, a detail in the background changes the meaning of the painting: ‘It is both blatant and invisible [...] Once you’ve seen it, you can’t not see it [...] It can be just rocks and landscape if that’s what you want it to be – but there’s always more to see, if you look.’ (Ibid, 142). There is a further ambiguity here, a contradiction between the painting’s influence on the self, and the choice it offers to the viewer. A long sequence in which George looks at paintings in a gallery develops this idea. The observation that one painting ‘admits the whole thing’s a performance’, in contrast to the others ‘pretending to be real’, is countered by the idea that ‘perhaps it is just that George has spent proper time looking at this one painting and that every single experience of looking at something would be this good if she devoted time to everything she looked at’ (Ibid, 156). The question of whether what is experienced is the effect of the painting on George, and her perception of other paintings, or of George’s particular approach to that one painting, is left unresolved. The two cannot be distinguished.

⁹⁴⁷ Smith, *How*, 308.

⁹⁴⁸ Smith, *Artful*, 26.

⁹⁴⁹ Ibid, 26-27.

⁹⁵⁰ Ibid, 27.

⁹⁵¹ *Artful*’s narrator comes across a quote from *Six Memos* in the lecture notes:

Think what it would be like to have a work conceived from outside the *self*, a work that would let us escape the limited perspective of the individual ego, not only to enter into selves like our own but to give speech to that which has no language, to the bird perching on the edge of the gutter, to the tree in spring and the tree in fall, to stone, to cement, to plastic ... (Smith, *Artful*, 86; Italo Calvino, *Six Memos for the Next Millennium* (London: Penguin, 2009), 124).

George's mother recalls this passage: 'Can we never get to go beyond ourselves? [...] Never get to be more than ourselves? Will I ever, as far as you're concerned, be allowed to be anything other than your mother?' (Smith, *How*, 124). Francesco also describes painting in terms echoing Calvino:

It is a feeling thing, to be a painter of things [...] paint a rose or a coin or a duck or a brick and you'll feel it as sure as if a coin had a mouth and told you what it was like to be a coin, as if a rose told you first-hand what petals are [...] as if a duck told you about the combined wet and underdry of its feathers, a brick about the rough kiss of its skin. (Ibid, 228)

The passage from *Six Memos* above builds on Calvino's use of 'images of lightness' to develop 'fresh methods of cognition and verification'; one of the images from science Calvino proposes for this purpose is that of DNA (Calvino, *Six Memos*, 7-8). George's attention to an image of DNA towards the end of her half of the novel acts as a significant turning point in her own understanding of thought and truth (Smith, *How*, 172-173).

⁹⁵² At the start, Calvino discusses and then rejects the interpretation of myth in favour of an approach to them which reads them 'without losing touch with their language of images'; the myth he discusses 'is telling us something, something implicit in the images that can't be explained any other way' (Calvino, *Six Memos*, 405).

⁹⁵³ Calvino quotes Hofstadter on the role of mental images in writing:

Think, for instance, of a writer who is trying to convey certain ideas which to him are contained in mental images. He isn't quite sure how those images fit together in his mind, and he experiments around, expressing things first one way and then another, and finally settles on some version. But does he know where it all came from? Only in a vague sense. Much of the source, like an iceberg, is deep underwater, unseen – and he knows that. (Cavino, *Six Memos*, 87; Hofstadter, *Gödel*, 713)

Calvino uses Hofstadter to make the point that the role of mental images in art depends on 'processes that, even if they do not originate in the heavens, certainly go beyond our intentions and our control – acquiring – with respect to the individual – a kind of transcendence'

(Calvino, *Six Memos*, 87). He goes on to claim that the ‘poet’s mind, and at a few decisive moments the mind of the scientist, works according to a process of association of images that is the quickest way to link and to choose between the infinite forms of the possible and the impossible’, adding that the imagination is a ‘kind of electronic machine that takes account of all possible combinations and chooses the ones that are appropriate to a particular purpose, or are simply the most interesting, pleasing, or amusing’ (Ibid, 91). In this, he echoes the introduction to ‘Strange Loops, or Tangled Hierarchies’, the chapter in *Gödel, Escher, Bach* from which he takes the passage above, in which Hofstadter sets out his aim of communicating ‘some of the images which help me to visualize how consciousness rises out of the jungle of neurons; to communicate a set of intangible intuitions’ (Hofstadter, *Gödel*, 686-687).

⁹⁵⁴ Where ‘music and painting, for instance, have traditionally expressed ideas or emotions through a vocabulary of “symbols” [...] now there is a tendency to explore the capacity of music and art to *not* express anything – just to *be*’ (Hofstadter, *Gödel*, 699). Hofstadter points out the difficulty of this endeavour: ‘Any time an object is exhibited in a gallery or dubbed a “work”, it acquires an aura of deep inner significance [...] More and more questions flood into the viewer’s mind; he can’t help it. This is the “frame effect” which art – Art – automatically creates’ (Ibid, 704).

⁹⁵⁵ Hofstadter, *Gödel*, 709.

⁹⁵⁶ Ali Smith, ‘Style vs content? Novelists should approach their art with an eye to what the story asks’, *The Guardian* 18 August 2012, <https://www.theguardian.com/books/2012/aug/18/ali-smith-novelists-approach-art>.

⁹⁵⁷ Self, *Umbrella*, 8.

⁹⁵⁸ Ibid, 9.

⁹⁵⁹ Ibid.

⁹⁶⁰ Ibid, 12.

⁹⁶¹ Ibid, 12-13.

⁹⁶² Ibid, 12.

⁹⁶³ Ibid, 126.

⁹⁶⁴ Sacks, *Awakenings*, 20.

⁹⁶⁵ Ibid.

⁹⁶⁶ Ibid, 20-21.

⁹⁶⁷ Ibid, 288 n.14.

⁹⁶⁸ Self, 'Tea with Oliver Sacks'.

⁹⁶⁹ Oliver Sacks, 'In the River of Consciousness', *New York Review of Books* 15 January 2004, <http://www.nybooks.com/articles/2004/01/15/in-the-river-of-consciousness/>.

⁹⁷⁰ Self, 'Tea with Oliver Sacks'.

⁹⁷¹ Sacks, 'In the River of Consciousness'; 'Oliver said he felt in some ways vindicated by the new neuro-imaging techniques that seemed to demonstrate the astonishing plasticity of the human brain-mind' (Self, 'Tea with Oliver Sacks').

⁹⁷² Sacks, 'In the River of Consciousness'.

⁹⁷³ Smith, *Both*, 11.

⁹⁷⁴ One of the unnamed narrators in 'May', from *The Whole Story and Other Stories* (2003), falls in love with a tree, which they describe in a passage with the same structure as the one from *How to be Both*: 'the buds were like the pointed hooves of a herd of tiny deer. The blossom was like – no, it was like nothing but blossom. The leaves, when they came would be like nothing but leaves. I have never seen a tree more like a tree' (Ali Smith, *The Whole Story and Other Stories* (London: Penguin, 2004), 57).

⁹⁷⁵ Smith, *How*, 13.

⁹⁷⁶ Ibid, 15.

⁹⁷⁷ Ibid.

⁹⁷⁸ James Somers, 'The Man Who Would Teach Machines to Think', *The Atlantic* November 2013, <https://www.theatlantic.com/magazine/archive/2013/11/the-man-who-would-teach-machines-to-think/309529/>.

⁹⁷⁹ Calvino ends a lecture in *Six Memos* with a reference to Hofstadter's use of Escher: 'In a gallery of paintings, a man is looking at the landscape of a city, and this landscape opens up to embrace the gallery that contains it and the man who is looking at it' (Calvino, *Six Memos*,

98). The painting he is describing, 'Print Gallery' by M.C. Escher, is reproduced and discussed by Hofstadter (Hofstadter, *Gödel*, 714). Calvino follows this up with an image of his own: 'The polymorphic visions of the eyes and the spirit are contained in uniform lines of small or capital letters, periods, commas, parentheses – pages of signs, packed as closely together as grains of sand, representing the many-colored spectacle of the world on a surface that is always the same and always different, like dunes shifted by the desert wind' (Calvino, *Six Memos*, 99). Smith references this passage in *Artful* (85-86).

⁹⁸⁰ Smith, *Both*, 154.

⁹⁸¹ Rowland, *New Science of the Mind*, 163.

⁹⁸² *Ibid*, 196.

⁹⁸³ *Ibid*, 196.

⁹⁸⁴ This is most evident in the section narrated by Else. She first sees the sky as a ceiling, and the buildings as walls, before imagining another inside her, holding her up (Smith *Hotel World*, 40). Later on she describes her body as a city, and sees the front of the hotel as a face (*Ibid*, 49-50; 64-65).

⁹⁸⁵ Smith, *Both*, 62.

⁹⁸⁶ *Ibid*.

⁹⁸⁷ Emily Horton, 'Contemporary Space and Affective Ethics in Ali Smith's Short Stories', in *Ali Smith: Contemporary Critical Perspectives*, ed. Monica Germana and Emily Horton (London: Bloomsbury, 2013), 23.

⁹⁸⁸ *Ibid*, 32.

⁹⁸⁹ Ryle's reading of *The Accidental* argues that 'Smith refuses the binary opposition between nature and culture [...] which pastoral sometimes inscribes' (Martin Ryle, 'Neo-Pastoral Eco-Didactics: Ali Smith's *The Accidental*', *Green Letters: Studies in Ecocriticism* 10(1) (2009), 11). Justyna Kostkowska's reading of *Hotel World* argues that the novel establishes a community from its separated characters through both 'the external "world" of the characters' physical environment, of the narrative', and their shared 'attention towards the nonhuman others that involves caring, thoughtfulness, and respect'; both sides of the nature/architecture

binary present in that novel are revealed to function in similar ways, and thus to complement each other (Justyna Kostkowska, *Ecocriticism and Women Writers: Environmentalist Poetics of Virginia Woolf, Jeanette Winterson, and Ali Smith* (Basingstoke: Palgrave Macmillan, 2013), 107; 111). Fiona Cox and Elena Theodorakopoulus's reading of *Like* notes the use of 'the contrast between the dry protection of the 'dim' libraries and 'shaded' lecture halls and the noise, wetness, and warmth' of the natural environment, and argue that while one character learning and culture 'as a form of self-protection, and protection from humanity', Smith's use of space in that novel is used to make the point that 'culture can speak of the everyday, and can touch us in an immediate and human way if we free it from the trappings of academia (Fiona Cox and Elena Theodorakopoulus, 'Female Voices: The Democratic Turn in Ali Smith's Classical Reception', in *Classics in the Modern World: A 'Democratic Turn?'*, ed. by Lora Hardwick and Stephen Harrison (Oxford: Oxford University Press 2013), 292). Kaye Mitchell identifies a variation of this binary in *Girl Meets Boy* (2007), which contrast water with myth and advertising. At one point, a character questions whether myths spring fully formed from the imagination and the needs of a society [...] as if they emerged from society's unconscious' or whether they are 'conscious creations by the various money-making forces' (Ali Smith, *Girl Meets Boy* (Edinburgh: Cannongate, 2007), 89). When that same character claims to have grown up 'mythless', another counters that '[n]obody grows up mythless [...] it's what we do with the myths we grow up with that matters' (Ibid, 98). Mitchell argues that '[a]gency is here reintroduced in the act of storytelling and this self-reflexive avowal [...] might stand as a comment on Smith's own practice of reinvention' (Kaye Mitchell, 'Queer Metamorphoses: *Girl Meets Boy* and the Futures of Queer Fiction', in *Ali Smith: Contemporary Critical Perspectives*, edited by Monica Germana and Emily Horton (London: Bloomsbury, 2013), 67).

⁹⁹⁰ Smith, *Artful*, 186.

⁹⁹¹ Ali Smith, 'A gift for John Berger', *New Statesman* 2 October 2015, <http://www.newstatesman.com/culture/art-design/2015/10/gift-john-berger>.

⁹⁹² Ibid.

⁹⁹³ In her essay on Berger's influence on her work, Smith notes that one of the things she loves 'in Berger's vision is his insistence on the artist not as a creator, but receiver, as a figure crucially open and receptive, since art's impetus is essentially collaborative and communal' (Smith, 'John Berger'). This complements Calvino's discussion of art in *Six Memos*, as well as the structuring of Francesco's half of *How to Be Both*, in which unanswered questions about the paintings that George looks at are explained by a depiction of things Francesco has seen. Berger's claim that '[t]he way we see things is affected by what we know or what we believe' is also relevant, as is his chosen example: 'In the Middle Ages when men believed in the physical existence of Hell the sight of fire must have meant something different from what it means today' (John Berger, *Ways of Seeing* (London: Penguin, 2008), 19). When discussing what Francesco might make of the world today, H says that he would see cars as '[l]ittle confessionals on wheels. Everything for him would've been about God' (Smith *Both*, 138). This is confirmed in Francesco's half of the novel, in which phones are described as votive tablets, and headphones are described as having confessional grilles attached (Ibid, 229-230; 252).

⁹⁹⁴ Berger, *Ways of Seeing*, unpag.

⁹⁹⁵ Ibid, 1.

⁹⁹⁶ Ibid, 4.

⁹⁹⁷ John Berger, *Bento's Sketchbook* (London: Verso, 2015), 149-150.

⁹⁹⁸ Ibid, 149-150.

⁹⁹⁹ Will Self, 'Architectural Salvage', *The Guardian* 27 July 2015, <https://www.theguardian.com/books/2015/jul/26/will-self-architectural-salvage-short-story>.

¹⁰⁰⁰ Ibid.

¹⁰⁰¹ Self, *Umbrella*, 306-307.

¹⁰⁰² Ibid, 235.

¹⁰⁰³ Ibid, 236.

¹⁰⁰⁴ Ibid, 78.

¹⁰⁰⁵ Ibid, 77-78.

¹⁰⁰⁶ Ibid, 161-162.

¹⁰⁰⁷ Ibid, 184.

¹⁰⁰⁸ ‘So bulbous, the cars: vehicles in utero [...] shaped and smoothed so that their Thalidomide wing-mirrors and morbidly obese wheel arches can present no DANGER OF DEATH. Inside the steely cauls vestigial arms pull and push at levers, vestigial feet push pedals, the repetitive and compulsive motions damped down by an *amniotic fluid of new car smell* ... They bounced where the current took them.’ (Self, *Umbrella*, 243-244).

¹⁰⁰⁹ Self, *Umbrella*, 244.

¹⁰¹⁰ Ibid, 162.

¹⁰¹¹ Will Self, *Walking to Hollywood* (London: Bloomsbury, 2010), 175.

¹⁰¹² Ibid, 188-200.

¹⁰¹³ Near the start, Self is told by his psychiatrist that his ‘obsessive-compulsive thought patterns appear to have become, um, *engrafted* in the external world’ (Self, *Walking to Hollywood*, 109). Busner tells him that ‘windcreens are sceens’, and vehicular transport ‘either a cinema that you sit in passively while the world is shown to you, or else, if you drive, you’re operating camera, directing the movie of your journey’ (ibid, 124). In the last section, in which Self starts to lose his memory, he relies on Post-It notes stuck to his walls, a form of ‘random access’ memory, and a notebook (Ibid, 330; 368). He’s referenced the former in his fiction before, while the latter can be read as a reference to the example of Otto’s notebook in Clark and Chalmers’s original paper on EMT. He describes carrying a ‘neurofibrillary tangle that was awkward to manoeuvre – like a large bunch of twisted wire’, which he has to wrangle over obstacles, and sees seaweed and driftwood resolve into a ‘a jumble of letters’ which become legible as words referring to parts of the brain (Ibid, 382; 412).

¹⁰¹⁴ Self, *Walking to Hollywood*, 55.

¹⁰¹⁵ Andrew Gaedtke, ‘Neuromodernism: Diagnosis and Disability in Will Self’s *Umbrella*’, *MFS Modern Fiction Studies* 61(2) (2015), 281-284.

¹⁰¹⁶ Celina Sánchez García, ‘Coming to Terms with Postmodern Artificiality: Reassessing Nature in Ali Smith’s *The Whole Story and Other Stories*’, in *Moving Across a Century*:

Women's Short Fiction from Virginia Woolf to Ali Smith, ed. Laura Ma Lojo Rodríguez (New York: Peter Lang, 2012), 112.

¹⁰¹⁷ Currie, *About Time*, 116-117.

¹⁰¹⁸ Patrick O'Donnell, 'The Space That Wrecks Our Abode: The Stranger in Ali Smith's *Hotel World* and *The Accidental*', in *Ali Smith: Contemporary Critical Perspectives*, edited by Monica Germana and Emily Horton (London: Bloomsbury, 2013), 98.

¹⁰¹⁹ *Ibid.*

¹⁰²⁰ Smith, *Both*, 5.

¹⁰²¹ *Ibid.*

¹⁰²² *Ibid.*, 14.

¹⁰²³ *Ibid.*

¹⁰²⁴ *Ibid.*, 15.

¹⁰²⁵ *Ibid.*, 15-20.

¹⁰²⁶ *Ibid.*, 20-21.

¹⁰²⁷ *Ibid.*, 23-24.

¹⁰²⁸ *Ibid.*, 25.

¹⁰²⁹ *Ibid.*

¹⁰³⁰ *Ibid.*, 27.

¹⁰³¹ *Ibid.*, 5.

¹⁰³² *Ibid.*, 192.

¹⁰³³ *Ibid.*, 193.

¹⁰³⁴ *Ibid.*

¹⁰³⁵ *Ibid.*

¹⁰³⁶ *Ibid.*, 348.

¹⁰³⁷ *Ibid.*, 345.

¹⁰³⁸ Francesco is told that workers come to the palace, ostensibly to 'pay their respects, they tell the doorman, to *show obeisance*', but stop and stand before the painting, some of them dropping flowers before it (Smith, *Both*, 355-356).

¹⁰³⁹ Hannah Arendt, Introduction to *Illuminations* (Schocken: New York, 1968), 50-51.

¹⁰⁴⁰ Buildings, according to Benjamin, are ‘appropriated in a two-fold manner: by use and by perception – or rather, by touch and by sight’ (Benjamin, *Illuminations*, 242). The tactile appropriation of the building is ‘accompanied not so much by attention as by habit’, which ‘cannot be understood in terms of the attentive concentration of a tourist before a famous building’ (Ibid). Smith references this passage in a sequence where George and her mother discuss history. George sees history as ‘a mound of bodies pressing down into the ground below cities and towns in the unending wars and the famines and the diseases [...] its only redeeming feature being that it tends to be well and truly over.’ (Smith, *Both*, 103-104). In this, she shares the viewpoint of Benjamin’s angel of history, who ‘sees one single catastrophe which keeps piling wreckage upon wreckage and hurls it in front of his feet’ (Benjamin, *Illuminations*, 259). When her mother tries to distinguish between different forms of seeing, George claims that ‘you can’t *not* see a building in front of you, unless ‘your eyes don’t work. And even if your eyes didn’t work, you’d still be able to go up to and touch it, you’d be able to register it being there one way or another.’ (Smith, *Both*, 105) Her mother responds by asking whether tourists ‘see differently from other people’ (Ibid). This leads into a discussion of the relevance of the past, with George arguing that history is ‘hardly relevant *now*’ (Ibid, 106). The relevance of the past is the topic of Benjamin’s ‘Theses on the Philosophy of History’, which influences Smith’s depiction of the moment at which George realises that she is wrong.

¹⁰⁴¹ Benjamin, *Illuminations*, 264.

¹⁰⁴² Ibid.

¹⁰⁴³ Ibid, 264-265.

¹⁰⁴⁴ Ibid, 172.

¹⁰⁴⁵ Ibid, 172.

¹⁰⁴⁶ Ibid, 169-170.

¹⁰⁴⁷ Smith, *Both*, 173.

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- ¹⁰⁴⁸ Mark Currie, *The Unexpected: Narrative Temporality and the Philosophy of Surprise* (Edinburgh: Edinburgh University Press, 2013), 63.
- ¹⁰⁴⁹ Self, *Walking to Hollywood*, 190.
- ¹⁰⁵⁰ Benjamin, *Illuminations*, 242.
- ¹⁰⁵¹ *Ibid*, 188-189.
- ¹⁰⁵² Self, *Umbrella*, 235.
- ¹⁰⁵³ *Ibid*.
- ¹⁰⁵⁴ *Ibid*, 99.
- ¹⁰⁵⁵ *Ibid*, 99-100.
- ¹⁰⁵⁶ *Ibid*, 11.
- ¹⁰⁵⁷ *Ibid*, 27.
- ¹⁰⁵⁸ *Ibid*.
- ¹⁰⁵⁹ *Ibid*, 28-29.
- ¹⁰⁶⁰ *Ibid*, 29.
- ¹⁰⁶¹ *Ibid*, 32.
- ¹⁰⁶² *Ibid*, 33.
- ¹⁰⁶³ *Ibid*.
- ¹⁰⁶⁴ *Ibid*, 157.
- ¹⁰⁶⁵ *Ibid*.
- ¹⁰⁶⁶ Will Self, Introduction to *The Society of the Spectacle* (London: Notting Hill Editions, 2013), xii.
- ¹⁰⁶⁷ *Ibid*, xii.
- ¹⁰⁶⁸ Guy Debord, *Society of the Spectacle* (Detroit: Black & Red, 1983), 4-5.
- ¹⁰⁶⁹ *Ibid*, 37.
- ¹⁰⁷⁰ Will Self, 'Medicating the Masses', *New Philosopher* 11 August 2015, <http://www.newphilosopher.com/articles/medicating-the-masses-2/>.
- ¹⁰⁷¹ Towards the end of *Umbrella*, Busner reflects 'yet again that the psy professions are *in and of themselves mental pathologies*' and that any empathy between doctors and patients

‘who’re *so far out as to be otherworldly*’ can only be possible because the former are ‘*nothing but a stranger in this world, I’m nothing but a stranger in this world ...*’ (Self, *Umbrella*, 309).

An earlier reflection defines psychiatry in term of an extended mind in which the doctor is passive:

Easier, Busner thinks, to conceive of the Friern corridor as an endless conveyor belt, running around and around, bringing towards him patient after patient *pari passu*, so that if he can maintain concentration he’ll have ample time to make the appropriate diagnosis of neurosis, dipsomania, dementia praecox, generalised paralysis of the insane, syphilis, addiction to socialism, schizophrenia, shell-shock – the diseases historically synchronized and so entirely arbitrary, the moral ament becoming, on his next go-round, the mentally deficient, on his third, retarded, fourth, mentally handicapped. *Rou-rou-round. Soon it’s gonna change the money round ...* (Ibid, 28)

¹⁰⁷² Self, *Umbrella*, 396.

¹⁰⁷³ Ibid.

¹⁰⁷⁴ Ibid, 47.

¹⁰⁷⁵ Ibid, 48.

¹⁰⁷⁶ Early on Busner visits Marcus, a doctor whose notes on Audrey he has come across. Calling him on the phone, Busner has ‘the unnerving sensation – so clearly did he hear the other man’s voice inside his head – that they were only two hemispheres of the same brain, yoked together by the citywide stretching of the corpus callosum phone line’ (Self, *Umbrella*, 87). When Busner proposes that Audrey may be ‘quite conscious of what goes on around her, although powerless to ... intervene’, Marcus responds that ‘[f]orty years ago those were [his] own fanciful thoughts precisely’ (Ibid, 95). Busner wonders, ‘Is it an indulgence to feel his padded-out hips with my hands? Is it flirting with psychosis [...] to relax inside Marcus’s tinged old skin and peer down [at] *my own feet? ... and there’s no messing.*’ (Ibid) ‘*No messing*’ is a fragment of a song lyric Busner thinks of while talking to Audrey a few pages back (Ibid, 82). Later, Busner is described as having ‘started to feel that his charge nurse is *reading my thoughts*, so engrafted have they become’ (Ibid, 187). The next sentence

demonstrates this: ‘Busner voices his next – What’d be the point of a control? – even though he’s only reiterating what they’ve both said many times in the weeks leading up to giving the selected group of patients the drug’ (Ibid, 187-188). Mboya, the nurse, is not reading Busner’s thoughts; rather their conversations are determining his thoughts. Earlier, Busner realises, following a conversation with his manipulative supervisory, that the purpose of the latter’s speech had been ‘to introduce subliminally the words good and doctor into his own mind’ (Ibid, 45).

¹⁰⁷⁷ Self, ‘Modernism and Me’.

¹⁰⁷⁸ Gabriel Josipovici, *What Ever Happened to Modernism?* (London: Yale University Press, 2011), 60.

¹⁰⁷⁹ Ibid.

¹⁰⁸⁰ Will Self, ‘Kafka’s Wound’: Re-Imagining the Literary Essay for the Digital Age’, *The Space* (2012), <http://thespace.lrb.co.uk/>.

¹⁰⁸¹ Ibid.

¹⁰⁸² Freud, *Civilization and its Discontents*, 1-2.

¹⁰⁸³ Ibid, 2.

¹⁰⁸⁴ Ibid, 2-3.

¹⁰⁸⁵ Ibid, 3.

¹⁰⁸⁶¹⁰⁸⁶ N. Katherine Hayles, *How We Think: Digital Media and Contemporary Technogenesis* (London: University of Chicago Press, 2012), 14.

¹⁰⁸⁷ Daniel C. Dennett, *Consciousness Explained* (London: Penguin, 1993), 79.

¹⁰⁸⁸ Bakhtin, *The Dialogic Imagination*, 256.

¹⁰⁸⁹ Jan Slaby and Suparna Choudhury, ‘Proposal for a Critical Neuroscience’, in *Critical Neuroscience: a Handbook of the Social and Cultural Contexts of Neuroscience*, edited by Suparna Choudhury and Jan Slaby (London: Wiley-Blackwell 2012), 32.

¹⁰⁹⁰ Bakhtin, *The Dialogic Imagination*, 5.

¹⁰⁹¹ Ibid, 6-7.

¹⁰⁹² Ibid, 60.

¹⁰⁹³ Ibid, 293.

¹⁰⁹⁴ Ibid.

¹⁰⁹⁵ Ibid, 348.