

The Narrative of Thought Experiments: Development and Uses of Fictional Narrative  
in Thought Experiments in Philosophy of Mind

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## Abstract

The Narrative of Thought Experiments: The Uses and Development of Thought Experiments in Philosophy of Mind, consists of my novel, *Love and Other Thought Experiments*, along with a critical commentary that examines the relationship between fictional narrative and philosophy of mind in the context of the thought experiment.

The novel is a creative response to a selection of thought experiments, in which I reimagine ten of these thought experiments and combine the resulting stories into a composite novel. The selected thought experiments were chosen for their connection to, and impact upon, contemporary developments in the study of human consciousness. Each chapter follows a principle character of the novel, sometimes overlapping with the narratives of the other characters but as a standalone story, while the overall arc of the novel addresses the central theme of the ‘hard problem’ of consciousness, that is, whether human consciousness is an independent entity of non-physical origin, or a manifestation of our physical being.

The critical commentary begins with a short history of the context and development of what is now known as the thought experiment. The second chapter charts some of the connections between these philosophical short narratives and short narratives in literary fiction. It is my contention that the connections of narrative structure and philosophic awareness, have served to benefit both philosophy of mind and literary narrative, and that in the use of thought experiments in philosophy of mind, we see a synthesis of our storytelling and philosophic investigations into the qualities and properties of the human mind. The third chapter offers a reflection of my writing method for the novel, and how my research affected the development of the creative process.

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## VOLUME II

The Narrative of Thought Experiments: The Uses and  
Development of Narrative in Thought Experiments in  
Philosophy of Mind

## A Brief Introduction to and Overview of the Critical Section

The Universe is made of stories, not of atoms.

Muriel Rukeyser<sup>1</sup>

The following three chapters will explore relevant connections between the narratives employed in thought experiments within philosophy of mind, on the one hand, and the development of narrative resources in the short story that examine aspects of consciousness, on the other. Particular reference will be made to the rise in studies of consciousness, identity and the mind that occurred in both philosophy and literature during the period of the Enlightenment, and also to recent developments in philosophy of mind that have led to our contemporary understanding of thought experiments.

Through these three chapters looking at the history and development of the thought experiment and the short story, and at the connections between the two, I will show how the short stories of both traditional narrative and of thought experiments in philosophy of mind can be seen as partly interdependent, and how they combine to help further our understanding of consciousness and identity. In addition, my own re-interpretation of ten thought experiments as a series of interlinked short stories in the creative section of my submission provides a working example of the relationship between narrative and thought experimentation.

The overall argument of the critical commentary, which is supported by my creative project, is as follows. Since the Enlightenment, reflections on consciousness by way of story have been familiar features of philosophical investigation. Likewise,

<sup>1</sup> Muriel Rukeyser, *The Speed of Darkness* (New York: Random House, 1968).

the Enlightenment involved developments in fictional narratives that attempted to portray the human psyche. These simultaneous representations of consciousness in fiction and in philosophy are significant conditions of a formalised use of narrative device in philosophy of mind, so that there is more than a structural similarity between modern thought experiments in philosophy of mind and the traditional short story (or tale). The use of fictional narrative in philosophy of mind can be considered essential, not just in terms of representation, but in enabling, establishing and developing higher-order theories of consciousness, some of which propose that consciousness itself is a construct of narrative.



## Chapter 1    How the Zombie Lost Its Soul: An Introduction to Thought Experiments

This chapter will examine modern definitions of thought experiments and also the distant prototypes of such experiments in the allegories of Pre-Socratic philosophers and the dialectics of Plato. It will include a succinct literature review addressing some primary texts such as the philosopher Donald Davidson's thought experiment 'Swampman'<sup>2</sup> and Einstein's *Autobiographical Notes*<sup>3</sup>, and some secondary texts, especially the work of Roy Sorensen's *Thought Experiments*<sup>4</sup> and of Nicholas Rescher on the notion of Pre-Socratic thought experiments.<sup>5</sup> The chapter includes an outline of the development of thought experiments in some of their contemporary uses in modern philosophy of mind.

### 1. What is a thought experiment?

<sup>2</sup> Donald Davidson, 'Knowing One's Own Mind', *Proceedings and Addresses of the American Philosophical Association*, Vol. 60, No. 3 (Jan., 1987).

<sup>3</sup> Albert Einstein, *Autobiographical Notes*, trans. by Paul Arthur Schilpp (La Salle, IL: Open Court, 1979).

<sup>4</sup> Roy Sorensen, *Thought Experiments* (New York: Oxford University Press, 1992).

<sup>5</sup> Nicholas Rescher, 'Thought Experiments in Pre-Socratic Philosophy', *Thought Experiments in Science and Philosophy*, ed. by Tamara Horowitz and Gerald J. Massey (Lanham, Maryland, USA: Rowman & Littlefield, 1991).

The term ‘thought experiment’ is used in different disciplines to describe a hypothetical experiment, a scenario enacted in the mind, independent of the laws of nature and unbound by the conditions and consequences of a physical experiment. In 1883, the Austrian physicist and philosopher Ernst Mach (1838-1916) used the term *gedankenexperimente* to describe a hypothetical situation from which one could draw conclusions.<sup>6</sup> Although the Danish physicist Hans Christian Ørsted (1777-1851) was the first to use the term circa 1812, it was Mach, in his post as Professor of Experimental Physics at Charles University in Prague, who sought to place a clear definition before his students of an experiment that could take place in the mind and then be reproduced in the laboratory.<sup>7</sup> In a scientific experiment the methodology involves observations of reproducible conditions, but the experiment may start with a hypothesis, a thought experiment for inductive reasoning, where probable conclusions can be drawn from a set of circumstances. Mach considered the *gedankenexperimente* a necessary precondition for physical experiments.

Earlier versions of what came to be called ‘thought experiments’ had existed in other forms, from at least as far back as Plato. As Nicholas Rescher argues, the means of deductive reasoning through ‘imaginative projections’ is as old as philosophy itself.<sup>8</sup> Such a projection can be seen in Plato’s ‘Allegory of the Cave’, an enduring metaphor in which a colony of cave dwellers is obliged to face inwards and

<sup>6</sup> Ernst Mach, *The Science of Mechanics: A Critical and Historical Account of Its Development*, trans. by Thomas J. McCormack, 6th edn (La Salle, Illinois: Open Court, 1960), pp. 32-41.

<sup>7</sup> Sophie Roux, ‘The Emergence of the Notion of Thought Experiments’ in *Thought Experiments in Methodological and Historical Contexts*, ed. by Katerina Ierodiakonou, Sophie Roux (Leiden, The Netherlands: Brill, 2011), p. 5.

<sup>8</sup> Nicholas Rescher, ‘Thought Experiments in Pre-Socratic Philosophy’, in *Thought Experiments in Science and Philosophy*, ed. by Tamara Horowitz and Gerald J. Massey <<http://philsci-archive.pitt.edu/id/eprint/3190>> [accessed 2 April 2015]

may only observe the outside world by watching shadows cast on the wall in front of them. Plato likens the philosopher's role to one of these prisoners who has been released. Knowing now that existence is more than the shadow world he had previously understood, the philosopher's duty is to help the other prisoners perceive reality.<sup>9</sup>

It was Plato's contemporary Archytas of Tarentum who is credited with 'the first recorded thought experiment'.<sup>10</sup> The 'projection' can be found in Aristotle's *Physics* and describes Archytas standing on the edge of heaven brandishing a stick. If the stick could extend forwards, states Archytas, that would be evidence of infinity.<sup>11</sup> Unlike Mach's *gedankenexperimente*, such a speculation was not a theoretical reflection that formed the basis of a possible physical experiment. The imaginative projections of Plato and of those before him, such as Thales, Xenophanes of Colophon and Pythagoras, represented ideas as metaphors, framing questions about existence and our perceptions of reality. Studies by the philosophers Rescher and Imre Lakatos have focused on tracing the genealogical line between our contemporary understanding of a philosophical thought experiment and the reflections of early Greek thinkers.

The discursive nature of these philosophical enquiries using, as they did, the valued qualities of rhetoric and oration was easily adapted to many forms of imaginative activity such as poetry, plays and prose. Rescher argues that the use of 'fiction' first made its way into Greek thought 'not in the setting of *belles lettres*, but

<sup>9</sup> Plato, *The Republic*, trans. by Christopher Rowe (London: Penguin Classics, 2012) pp. 239-240.

<sup>10</sup> Katerina Ierodiakonou, 'Remarks on the History of an Ancient Thought Experiment', in *Thought Experiments in Methodological and Historical Contexts*, ed. by Katerina Ierodiakonou, Sophie Roux (Leiden, The Netherlands: Brill, 2011) p. 37.

<sup>11</sup> Aristotle, *Physics*, ed. and trans. by Philip H. Wicksteed and Francis M. Cornford (Cambridge, MA: Harvard University/William Heinemann, 1960), p. 467.

in that of philosophy.’<sup>12</sup> An example of the imaginative projections of the early Greek thinkers is found in the poetry of Xenophanes of Colophon: ‘What if horses had gods, would they be in equine form?’<sup>13</sup> Xenophanes was elaborating on his idea that human beings cannot help imagining the gods in human form.<sup>14</sup> We are unlikely ever to know if horses have gods and whether, to the horse, they resemble horses, but Xenophanes uses the ‘what if’ to question the notion of human projection.

These early explorations seem to resemble more closely the thought experiments of modern philosophers than does the definition provided by Mach. While they conform to his notion of hypothetical situations from which one can draw conclusions, they are not intended as precursors for physical experiments but as investigations in their own right. Indeed, Xenophanes asserts:

No man knows, or ever will know, the truth about gods and about everything I speak of: for even if one chanced to say the complete truth, yet oneself knows it not. Seeming is wrought over all things.<sup>15</sup>

For Xenophanes it seems that, like the subjects in Plato’s ‘Allegory of the Cave’, human beings are condemned to understand the world only as it appears to them, as shadows on the wall. It is only the use of the imagination in hypothetical figurations that allows an insight into the possibilities that exist beyond what we might experience, even though we will never learn the truth.

<sup>12</sup> Rescher, p. 40.

<sup>13</sup> J.H. Leshner, *Xenophanes of Colophon: Fragments: A Text and Translation with Commentary* (Toronto: University of Toronto Press, 1992) p. 25.

<sup>14</sup> J.H. Leshner, ‘Xenophanes’, *The Stanford Encyclopedia of Philosophy* (Fall 2014) ed. by Edward N. Zalta  
<http://plato.stanford.edu/archives/fall2014/entries/xenophanes/> [accessed 05 June 2015]

<sup>15</sup> G.S. Kirk and J.E. Raven, *The Presocratic Philosophers* (Cambridge: Cambridge University Press, 1957) p. 179.

Mach's notion of the *gedankenexperimente*, however, can be found in other hypothetical situations explored by the Pre-Socratic thinkers when they were investigating the physical qualities of the world. As shown by Rescher, the work of some of the Pythagorean school, including Thales of Miletus, Alexander of Miletus and Heraclitus of Ephesus, utilises different forms of thought experimentation 'as an investigation of the real'. The Greek term for a thought experiment is *deiknymi* and is translated as 'to make the truth or falsity of a mathematical proof visible in some way',<sup>16</sup> leading Lakatos to describe the thought experiment as 'the most ancient pattern of mathematical proof'.<sup>17</sup> As Rescher states: '[Thought experimentation] was already a prominent instrumentality in the thought of the Presocratic nature-philosophers of Ancient Greece who launched this philosophical enterprise on its way.'<sup>18</sup> The work of Rescher, Brown, Lakatos and Ierodiakonou places the allegories of the ancient philosophers as the precursors to our modern thought experiments. With the introduction of a scientific methodology, modern thought experiments can be seen both as pre-conditions for scientific investigation and as a link between the scientific and philosophic methods.

A later natural philosopher who is credited as being responsible for helping to develop what became the modern scientific method, including hypothesis as part of the process, was Ibn al-Haytham (known as Alhazen). Influenced by Aristotle to investigate philosophy, Alhazen worked in tenth-century Mesopotamia and Egypt and followed the model of observation, formulation and hypothesis, followed by

<sup>16</sup> Imre Lakatos, *Proofs and Refutations: The Logic of Mathematical Discovery*, ed. by John Worrall and Elie Zahar (New York: Cambridge University Press, 1978) p. 9.

<sup>17</sup> Imre Lakatos, p. 9.

<sup>18</sup> Rescher, p. 32.

experimentation.<sup>19</sup> Without proof of the hypothesis through experimentation, Alhazen would not admit the ‘theory’, or *logos*, as valid.<sup>20</sup> This model of proof by experimentation following a hypothesis resembles the formulation of Mach’s definition of the *gedankenexperimente* over eight centuries later. The role of the thought experiment, while an acknowledged precursor to physical experimentation has also been seen as an investigative tool in its own right from the earliest thinkers, such as Zeno, to mathematicians such as Lakatos.<sup>21</sup> However, it is not only in theoretical investigations, such as in philosophy and pure mathematics (where a thought experiment might be considered indistinguishable from the result or solution), that the thought experiment has been utilised as a proof in and of itself, but also in the physical, applied sciences, as we shall see.

Galileo’s ‘Falling Bodies’ predicted that differently weighted objects of the same material when dropped from the same height would fall at the same speed. As in Mach’s definition of the term *gedankenexperimente*, Galileo’s was not initially a practical experiment; it involved examining a problem in theory that could be later examined physically, and Galileo formed his conclusion without performing the actual experiment.<sup>22</sup> The ‘Falling Bodies’ hypothesis shows Galileo studying the laws ‘from’ nature, that is, information from observable (or previously observed) data, in opposition to the Aristotelian orthodoxy of the laws ‘of’ nature, where the hypothesis is formed and applied to the natural world, a method of enquiry that has led natural

<sup>19</sup> Sabra, A. I. ‘Configuring the Universe: Aporetic, Problem Solving, and Kinematic Modeling as Themes of Arabic Astronomy.’ *Perspectives on Science*, vol. 6 no. 3, 1998, pp. 288-330.

<sup>20</sup> Sabra, p. 303.

<sup>21</sup> Marco Buzzoni, ‘On Mathematical Thought Experiments’ [https://www.academia.edu/6399418/ON\\_MATHEMATICAL\\_THOUGHT\\_EXPERIMENTS](https://www.academia.edu/6399418/ON_MATHEMATICAL_THOUGHT_EXPERIMENTS) [accessed 30 October 2018]

<sup>22</sup> ‘On Motion’, *The Galileo Project*, Rice University <[http://galileo.rice.edu/sci/theories/on\\_motion.html](http://galileo.rice.edu/sci/theories/on_motion.html)> [accessed 02 April 2015]

philosophy in the Middle Ages to be described as ‘philosophy without nature’.<sup>23</sup> Galileo’s work formed the basis of a new model of mathematical observations that was later explored by scientists, including Einstein in his principles of relativity.<sup>24</sup>

Although Einstein knew Mach’s work on *gedankenexperimente*, and credited Mach’s philosophical writings as inspiration,<sup>25</sup> he was often careful to refer to his scientific hypotheses as ‘reasoning’ and ‘analogy’,<sup>26</sup> and was judicious in his use of the term ‘thought experiment’ to describe his work.<sup>27</sup> However, he does associate one thought experiment most clearly with his childhood recollections:

If one follows a light beam with the speed of light, then one would obtain a time-independent wave field. However, such a thing does not exist! This was the first childish thought experiment which had something to do with the Special Theory of Relativity.<sup>28</sup>

Several of Einstein’s theories are framed by Mach’s thought-experiment model of a hypothesis from which one could draw conclusions. In 1907, when working on his theory of general relativity, he had what he called ‘the happiest thought of my life’ when contemplating Newtonian gravity in his chair in Bern.<sup>29</sup> His thought was that if a body were to free-fall, it would not feel the effects of gravity. Einstein described this

<sup>23</sup> John E. Murdoch, ‘The Analytic Character of Late Medieval Learning: Natural Philosophy Without Nature’, in *Approaches to Nature in the Middle Ages*, ed. by Lawrence Roberts (New York: 1982), pp. 171-213.

<sup>24</sup> Stephen Hawking, ‘Galileo and the Birth of Modern Science’, *American Heritage's Invention & Technology*, Vol. 24, No. 1 (Spring 2009) 36-37 (p. 36).

<sup>25</sup> Albert Einstein, *Autobiographical Notes*, trans. by Paul Arthur Schilpp, (La Salle, IL: Open Court, 1979), p. 54.

<sup>26</sup> Einstein, p. 27.

<sup>27</sup> Roux, p. 13.

<sup>28</sup> Einstein, ‘Autobiographische Skizze’, trans. by Galina Weinstein, ‘Einstein Chases a Light Beam’ <[http://www.academia.edu/1505461/Einstein\\_Chases\\_a\\_Light\\_Beam](http://www.academia.edu/1505461/Einstein_Chases_a_Light_Beam)> [accessed 05 June 2015]

<sup>29</sup> Albert Einstein, ‘How I Created the Theory of Relativity’, a lecture delivered in Kyoto on 14 December 1922 and printed in *Physics Today* (August, 1982) trans. by Yoshimasa A. Ono.

process as a ‘Gedanken-Experiment’.<sup>30</sup> The conclusions that Einstein drew from his hypothesis led to the Theory of General Relativity.<sup>31</sup>

While some of these scientific thought experiments, such as Galileo’s ‘Falling Bodies’, are easily reproduced as physical experiments and can be considered part of the process for the modern scientific method, others, such as Einstein’s ‘Theory of Relativity’ are still being investigated. Still others, such as ‘Maxwell’s Demon’ that challenged the second law of thermodynamics, and ‘Schrodinger’s Cat’ that challenged the Copenhagen model of atomic superpositions, produced conclusions that have been utilised in the body of scientific knowledge but have been physically unverifiable. How can such ‘armchair enquiry’, as thought experiments are sometimes designated, increase knowledge of the physical world without any physical experimentation?

In his book *Thought Experiments*, Roy Sorensen poses this central question on the ‘Wonder of Armchair Enquiry’: ‘But if you just ponder, then the information you have leaving the armchair is the same as the information you had when you sat down. So how can you be better off?’<sup>32</sup> One of the answers Sorensen suggests relates to Plato’s doctrine of recollection, developed in response to Socrates’ assertion that all learning is a recollection of previous knowledge. For Socrates, there is no such thing as *a posteriori* knowledge. Thus, the armchair enquiry is a valid method of discovery. But such a strong assertion of *a priori* learning is not required to see the application of Plato’s doctrine to thought experiments.

<sup>30</sup> Einstein, ‘Autobiographische Skizze’, p. 10.

<sup>31</sup> John D. Norton, ‘What was Einstein’s principle of Equivalence?’, *Einstein and the History of General Relativity: Einstein Studies*, ed. by D. Howard and J. Stachel, Vol. I (Boston: Birkhauser, 1989), pp. 5-47.

<sup>32</sup> Roy A. Sorensen, *Thought Experiments* (New York: Oxford University Press, 1992), p. 76.



Sorensen gives us the example of a pilot in an open-topped plane who does not fasten her safety belt. When the pilot does a forward loop in the air, will she not fall out of the plane? This standard physics thought experiment can be conducted using previous knowledge about the effects of gravity and of centrifugal force. Further enquiry might require more information on the speed of the plane. In such a case, Sorensen shows that it is memory that helps the thought experimenter to make ‘an epistemic advance without learning new information’.<sup>33</sup>

Although this thought experiment is physically reproducible (preferably without a live subject), such armchair enquiry based on reflection and memory can also be applied to purely theoretical problems. Sorensen refers to examples based on applying well-known political philosophies such as those of Bentham and Kant to a problem questioning animal cruelty, or on the Ptolemaic and Copernican systems for how the world might be affected were the sun to disappear. Applied in this way, thought experiments can utilise knowledge of a system, philosophical, economic, scientific, and apply that knowledge to a new problem. However, in such cases, can it be said that the experimenter’s ‘knowledge’ is increasing? Is the thought experimenter merely applying previously acquired knowledge to a problem and not really engaging in an experiment at all?

One of the objections that Sorensen presents to the validity of thought experiments questions the difference in thinking *about* a problem and performing a mental *experiment*: ‘Are thought experiments experiments?’<sup>34</sup> In answer to this question, Sorensen distinguishes between the two ways of processing the information. He asks us to consider a game of ‘mind chess’. In such a game, we might play a game of chess, perhaps with an opponent who is at a board, and by visualising the chess set,

<sup>33</sup> Sorensen, p. 89.

<sup>34</sup> Sorensen, p. 229.

proceed to play a game of chess. Playing the game in your head does not preclude the idea of an experiment, but it is not, in itself, a thought experiment.<sup>35</sup> We might call this an ‘imaginary’ experiment, a term Karl Popper applied to thought experimentation in general,<sup>36</sup> but which Sorensen reserves for those scenarios which may be visualised in the mind but which do not conform to his definition of a thought experiment. Sorensen defines a thought experiment as ‘an experiment that purports to achieve its aim without the benefit of execution’,<sup>37</sup> and he defines an experiment as: ‘An *experiment* is a procedure for answering or raising a question about the relationship between variables by varying one (or more) of them and tracking any response by the other or others.’<sup>38</sup> Sorensen makes clear that a ‘cognitive aim’ is essential to an experiment. For this reason, a game of mind chess would only conform to Sorensen’s definition of a thought experiment if there were a particular question that was being asked or answered by the experimenter. As we shall see in Chapter 2, when we look at the use of narrative in thought experimentation, the imaginary game may provide both not enough and too many variables to qualify as a thought experiment.

For Sorensen, we rearrange information in thought experiments in order to better understand it, by taking shortcuts or by approaching a problem from a different angle, even by what Sorensen calls ‘deforming’ the information to make it more easily understandable. We might think of a stone tied to a string, for example, when trying to understand the behaviour of artificial satellites.<sup>39</sup> In the same way, exaggeration, increasing the quantity of the variables for instance, might also enhance

<sup>35</sup> Sorensen, p. 229.

<sup>36</sup> Karl Popper, ‘On the Use and Misuse of Imaginary Experiments’, in *The Logic of Scientific Discovery* (London: Routledge, 2004), pp. 464-481.

<sup>37</sup> Sorensen, p. 205.

<sup>38</sup> Sorensen, p. 186.

<sup>39</sup> Sorensen, p. 103.

our understanding. But even these obvious adjustments might invalidate the usefulness of a thought experiment, according to Daniel Dennett's criticism of thought experiments as 'intuition pumps'.<sup>40</sup> Dennett defines an intuition pump as:

[A] device for provoking a family of intuitions by producing variations on a basic thought experiment. An intuition pump is not, typically, an engine of discovery, but a persuader or pedagogical tool – a way of getting people to see things your way once you've seen the truth.<sup>41</sup>

Sorensen acknowledges Dennett's criticisms of the possible 'bias' in thought experimentation, particularly in regard to how 'our desires color the reception of many thought experiments'.<sup>42</sup> But Sorensen argues that some of the objections to the validity of thought experimentation can be equally levelled at experimentation in general, as for example, the notion of simplification when an experiment is performed under laboratory conditions as opposed to the 'real life' conditions that might affect outcomes. Ultimately, Sorensen concludes that though thought experiments 'systematically err under certain conditions', they can 'Provide evidence about the conceivability of a proposition that only imperfectly corresponds to its possibility. This correspondence is close enough for most purposes.'<sup>43</sup> Despite their imperfections, and the criticisms by those, such as Dennett, who acknowledge the utility of only empirical experimentation, thought experiments continue to be used, not simply as the hypothesis for physical experimentation, but as stand-alone

<sup>40</sup> Daniel Dennett, 'Swampman meets a cow-shark', *Intuition Pumps and Other Tools for Thinking* (New York: W.W.Norton, 2013), pp. 180-183.

<sup>41</sup> Daniel Dennett, 'The Milk of human intentionality', *Behavioral and Brain Sciences*, 3 (3), pp. 428-430, doi: <10.1017/S0140525X0000580X> [accessed 05 August 2019] (p. 429)

<sup>42</sup> Sorensen, p. 261.

<sup>43</sup> Sorensen, p. 289.

experiments that can increase our knowledge and understanding of particular enquiries in many disciplines, and especially in contemporary philosophy.

## 2. Thought experiments in contemporary philosophy.

Just as *gedankenexperimente* can be part of the process in scientific methodology, so thought experiments often form the basis for exploring a philosophical hypothesis, particularly with regard to contemporary philosophy. This contemporary period is defined as the present period in Western philosophy that started in the twentieth century. While thought experiments illuminated questions in natural philosophy and have been central to many modern fields of study, from economics and physics to psychology and politics, the constant refining, discussion and refutation of thought experimentation is most deeply embedded in contemporary philosophy, particularly analytic philosophy. In 1968, the philosopher C. Mason Myers wrote, ‘Philosophy without thought experiments seems unthinkable’.<sup>44</sup> Examples of engagement with thought experiments are to be found in different branches of philosophy. In political philosophy, John Rawls’ ‘Original Position’ thought experiment imagines a ‘veil of ignorance’ about a subject’s past behind which they must choose the fairest political system.<sup>45</sup> In philosophy of religion, Dean Zimmerman’s ‘Falling Elevator’ thought experiment is an attempt to establish a scientific explanation for the resurrection.<sup>46</sup> In aesthetics, one example of thought experimentation is held to be ‘Pierre Menard’ by Jorge Luis Borges,<sup>47</sup> a story that I look at in further detail in Chapter 2 Part 2.

<sup>44</sup> C. Mason Myers, ‘Thought Experiments and Secret Stores of Information’, *International Philosophy Quarterly*, Vol. 8 (1968), pp. 180-192.

<sup>45</sup> Samuel Freeman, ‘Original Position’, *The Stanford Encyclopedia of Philosophy* (Winter 2016), Edward N. Zalta (ed.)  
<<https://plato.stanford.edu/archives/win2016/entries/original-position/>>[accessed 28 November 2018]

<sup>46</sup> Dean Zimmerman, ‘The Compatibility of Materialism and Survival’, *Faith and Philosophy* 16 (2), (1999), pp. 194-212.

<sup>47</sup> Paisley Livingston and Mikael Petterson, ‘Thought Experiments in Aesthetics: The Case of Pierre Menard’

Such thought experiments are well suited for use by analytical philosophers, given the adaptability of the form and the possibility of development for each individual hypothesis. As described by Sorensen,

Analytic philosophers make heavy use of thought experiment because it is the natural test for the clarificatory practices constituting conceptual analysis: definition, question delegation, drawing distinctions, crafting adequacy conditions, teasing out entailments, advancing possibility proofs, mapping inference patterns.<sup>48</sup>

As an example of the flexibility and usefulness of a thought experiment, in contrast to a physical experiment, Sorensen cites the case of Sydney Shoemaker's 'Lefty/Righty' thought experiment, part of another branch of philosophical thought experimentation known as 'Body Transfer' experiments. Shoemaker's experiment is based upon neurophysiological studies of patients who survived losing half of their brain:

His extension of this research was first to suppose that a healthy person Smith has the left half of his brain transplanted in to a debrained body and the right half destroyed. Given that the post-transplant person, Lefty, is physiologically similar to Smith, we are inclined to say that Smith survived the operation and so is identical to Lefty.<sup>49</sup>

Similarly, if the right side of Smith's brain was not destroyed, but was transplanted into another body, then which version of Smith is the 'real' Smith? In addition to the obvious comparative ease of exploring the concept as a thought experiment rather than a physical experiment on a human case study, it is also notable that were this thought experiment to be carried out, the implantation in the real world would not resolve the question. In the case of 'Lefty/Righty', the thought experiment was drawn from real-life observable cases of brain injury, and the thought experiment was a

<[https://www.academia.edu/31454163/Thought\\_experiments\\_in\\_aesthetics.pdf](https://www.academia.edu/31454163/Thought_experiments_in_aesthetics.pdf)>[accessed 28 November 2018]

<sup>48</sup> Sorensen, p. 15.

<sup>49</sup> Sorensen, p. 11.

development of such case studies in a way that was neither ethically, nor medically possible, as a physical experiment. The accusation of ‘unreproducibility’ may be levelled at such thought experiments. Nevertheless, the issues of ‘identity’ that the thought experiment raises (such as where does ‘identity’ reside?) are philosophically engaging. They also connect with another branch of ‘personal identity’ in philosophy that has its roots in a thought experiment known as the ‘Ship of Theseus’, of which more in Chapter 3.<sup>50</sup>

Further examples of thought experiments conforming to Sorensen’s definition can be found in the philosophy of ethics, or moral philosophy, where hypothetical situations are used to assess reactions in test cases, leading to conclusions that are drawn about the morality of the subjects and the situations. The thought experiments may never be physically reproduced, and indeed it would be impossible to enact many of the scenarios envisaged, but the reactions of the participants to the experiment can be considered as valid as a physical experiment in itself. The case samples can be of a much larger and more diverse demographic, for example, than any experiment physically undertaken with human test subjects. One of the most often cited experiments in social psychology, The Milgram Experiment, involved 40 participants.<sup>51</sup> This experiment has been repeated and updated many times since its inception, but the initial impact of its findings, in which 65% of participants were prepared to deliver what they believed to be a 450-volt electric shock to another human subject, was significant. Although the experiment and its results are now

<sup>50</sup> See Chapter 3, ‘New to Myself’.

<sup>51</sup> Stanley Milgram, ‘Behavioral Study of Obedience’, *Journal of Abnormal and Social Psychology*, Vol. 67, No. 4 < [doi:10.1037/h0040525](https://doi.org/10.1037/h0040525) > [accessed 25 July 2017] (pp. 371-8)

widely disputed,<sup>52</sup> and were not realised as such, the methodology subscribed to the scientific procedure of a hypothesis followed by an observable and reproducible physical experiment with verifiable data, as modelled at least as far back as the eleventh century by Alhazen.<sup>53</sup>

By comparison, a thought experiment in philosophy of ethics known as ‘The Trolley Problem’ has been conducted many times over since Philippa Foot first framed the ethical dilemma therein.<sup>54</sup> The basis of the problem is that the test subject is asked whether they would change the track of a trolley car to avoid killing several people, if it meant the sacrifice of one life. Like the Milgram experiment, ‘The Trolley Problem’ has had a significant impact on our understanding of ethics and psychology, and continues to be utilised in the development of new technology, such as self-driving cars.<sup>55</sup> ‘Trolleyology’, as it is now known, has its own particular subset of studies, but it can never be physically reproduced under scientific conditions without violating international norms and conventions. Still, there is a basis for understanding the Trolley Problem in the context of Sorensen’s scientific analogy, since the problem involves some scientific investigation even if the experiment itself is imaginary.

The development of studies in ‘Trolleyology’, like those of the ‘Body Transfer’ experiments such as ‘Lefty/Righty’, illustrates one of the ways in which

<sup>52</sup> Gina Perry, *Behind the Shock Machine: the Untold Story of the Notorious Milgram Experiments* (New York: The New York Press, 2013).

<sup>53</sup> A.I. Sabra, ‘Configuring the Universe: Aporetic, Problem Solving, and Kinematic Modeling as Themes of Arabic Astronomy’, *Perspectives on Science*, Vol. 6, No. 3 (1999) <<https://muse.jhu.edu/>> [accessed 17 March 2017] (p. 293)

<sup>54</sup> Philippa Foot, ‘The Problem of Abortion and the Doctrine of the Double Effect’, *Oxford Review*, No. 5 (1967) <http://www.pitt.edu/~mthomps/readings/foot.pdf> [accessed 17 March 2017]

<sup>55</sup> Jean-François Bonnefon, Azim Sharriff, Iyad Rahwan, ‘The Social Dilemma of Autonomous Vehicles’, *Science*. (2016) Vol. 352, Issue 6293 <[doi:10.1126/science.aaf2654](https://doi.org/10.1126/science.aaf2654)> [accessed 17 March 2017] (pp. 1573-1576)



thought experimentation in philosophy is utilised as part of a continuing ‘conversation’ by philosophers. These conversations may take the form of further developments, or of refutations. In some cases, the presenting of ideas or theories is separated by centuries, as, for example where Hilary Putnam’s ‘Brain in a Vat’ thought experiment expands upon Descartes’ ‘Evil Demon’. Others have only been debated more recently, such as Judith Thomson’s ‘Unconscious Violinist’, a thought experiment that contributed to a branch of debate about abortion known as ‘the bodily-rights’ argument.<sup>56</sup> Again, much of the discussion in this field, amongst philosophers of ethics, revolves around this thought experiment, either developing and refining the parameters of the experiment, such as in David Boonin’s *A Defense of Abortion*,<sup>57</sup> or refuting it, in such articles as ‘Unstringing the Violinist’.<sup>58</sup> In the final part of Chapter 2, I will examine the narrative elements that are used in some of these thought experiments and which I believe contribute to their ‘success’ in philosophical studies, where success is defined in terms of both utility and engagement. For now, I want to note that the article that featured the ‘Unconscious Violinist’, Thomson’s ‘In Defense of Abortion’, is ‘the most widely reprinted essay in all of contemporary philosophy’.<sup>59</sup> Despite the scepticism towards philosophical thought experimentation as elaborated by Sorensen,<sup>60</sup> thought experimentation in philosophy continues to be an essential and prevailing tool.

<sup>56</sup> Judith Jarvis Thomson, ‘A Defense of Abortion’ in *Philosophy and Public Affairs*, Vol. 1, no. 1 (Fall 1971).

<sup>57</sup> David Boonin, *A Defense of Abortion* (Cambridge: Cambridge University Press, 2003).

<sup>58</sup> Greg Koukl, ‘Unstringing the Violinist’  
<[https://www.str.org/articles/unstringing-the-violinist#.W\\_wpbpP7Ryw](https://www.str.org/articles/unstringing-the-violinist#.W_wpbpP7Ryw)>  
[accessed 28 November 2018]

<sup>59</sup> Boonin, p. 134.

<sup>60</sup> Sorensen, pp. 21-50.

### 3. Thought experiments in philosophy of mind.

The ‘explanatory gap’, Joseph Levine’s argument against dualism, describes the difficulty in understanding how a physical body, the brain, can produce a non-physical substance, feeling, and what this means for notions of consciousness and identity.<sup>61</sup> The lack of an easy explanation for ‘qualia’, or the way physical properties can induce sensation, has led to a burgeoning exchange of thought experimentation in modern philosophy. Just as Plato used traditional techniques of storytelling to investigate the nature of knowledge in allegories such as ‘Plato’s Cave’, so enquiries in the last fifty years by leading philosophers, including David Chalmers, Thomas Nagel, Frank Jackson and John Searle, have employed narrative techniques in thought experiments to investigate the explanatory gap, known as the ‘hard problem’ of studies of consciousness, specifically within philosophy of mind.<sup>62</sup>

Such thought experiments still follow the model of other philosophical thought experiments, being investigations that explore a hypothesis but without necessarily proceeding, or being able to proceed, to a physical experiment. In particular, thought experiments in philosophy of mind are a necessary means of exploring certain concepts of consciousness, since theorists cannot always test the brains of human subjects, either because some tests would be unethical or because neurological science is not sufficiently advanced. In addition, we have seen with ‘Lefty/Righty’ that sometimes philosophical hypotheses cannot be proven using

<sup>61</sup> Joseph Levine, ‘Materialism and Qualia: The Explanatory Gap’, *Pacific Philosophical Quarterly*, Vol. 64 (October 1983), pp. 354–361.

<sup>62</sup> David Chalmers, ‘Facing Up to the Hard Problem of Consciousness’, *Journal of Consciousness Studies* 2 (3) (1995) < <http://consc.net/papers/facing.html> > [accessed 2 April 2015] (pp. 200–219)

physical methods. However, as seen in Sorensen,<sup>63</sup> these philosophical thought experiments can be analogous to scientific thought experiments, and such an analogy in philosophy of mind can be found in recent debates on machine, or artificial, intelligence.

John Searle's thought experiment 'The Chinese Room', for example, aims to investigate the theory that computers cannot be said to 'understand' the information that they impart or process, as machines do not think in the way that organic human, or even animal, brains are said to think.<sup>64</sup> According to Searle's experiment, computer processing cannot be considered a sufficient condition for intelligence. This argument against what is known as Strong AI has significant implications for scientists working with the development of 'Artificial Intelligence', a term developed by mathematicians Stanislaw Ulam and John von Neumann in 1958 to describe the cognitive functions of machines that at least simulate human intelligence.<sup>65</sup>

Searle's experiment was an attack on the analogous scientific thought experiment issuing from the mathematician and computer scientist Alan Turing's question, 'Are there imaginable digital computers that would do well in the *imitation game*?'<sup>66</sup> Like Searle, Turing developed this thought experiment as a possible reply to the question of whether machines could be said to think, a question which had been asked at least since René Descartes in his *Discourse on Method*.<sup>67</sup> As with Mach's *gedankenexperimente* and Alhazen's experimental methodology, Turing's hypothesis

<sup>63</sup> Sorensen, p. 11.

<sup>64</sup> See Chapter 3, 'The Goldilocks Zone'.

<sup>65</sup> Piero Scaruffi, 'Artificial Intelligence and the Singularity – History, Trends and Reality Check', *Institute for Ethics and Emerging Technologies* (2014) <<http://ieet.org/index.php/IEET/more/scaruffi20141027>> [accessed 05 January 2017]

<sup>66</sup> Alan Turing, 'Computing Machinery and Intelligence', *Mind*, Vol. LIX, Issue 236 (1950) <doi: 10.1093/mind/LIX.236.433> [accessed 07 February 2017] (p. 442)

<sup>67</sup> René Descartes, *Discourse on Method and Related Writings*, trans. by Desmond Clarke (London: Penguin, 1999), p. 40.

was later followed by physical experimentation. The imitation game thought experiment came to be known as ‘the Turing Test’ and is still held up as a model for investigating machine intelligence in a way that is practical, verifiable and reproducible. The Turing Test is seen as a solution to the problem of ‘other minds’ as identified by John Stuart Mill, who made a direct challenge to the assertion that it is possible to know whether anyone, or thing, could be said to think.<sup>68</sup> It also addresses the difficulty of defining what is meant by ‘thinking’. The Turing Test only aims to assess whether a machine can convince a human interlocutor that the machine is human. If the machine succeeds, then it could be said that the machine appears to think, by exhibiting intelligence, at least inasmuch as we are able to say that any other mind can think.

Both Turing and Searle addressed the issue of machine intelligence with a thought experiment designed to explore what constitutes ‘thinking’. The criteria set by Turing’s ‘imitation game’ are scientifically verifiable, but the parameters are necessarily limited: the machine only has to appear to think. The conclusions that ‘The Chinese Room’ draws, while only hypothetical and necessarily unverifiable, rely upon our instinctive understanding that repeating or mimicking information is not proof of an intelligence that could be said to correspond to human understanding. Searle’s experiment is subject to Dennett’s ‘Intuition Pump’ criticism, whereby the conclusions are formed by the way in which the thought experiment appeals to our intuitions about machine intelligence.<sup>69</sup> This criticism can be levelled at many of the thought experiments in philosophy of mind, but the objection at least admits to the

<sup>68</sup> Alec Hyslop, ‘Other Minds’, *The Stanford Encyclopedia of Philosophy* (Spring 2016 Edition) <https://plato.stanford.edu/archives/spr2016/entries/other-minds/> [accessed 07 February 2017]

<sup>69</sup> Daniel Dennett, ‘Swampman meets a cow-shark’, *Intuition Pumps and Other Tools for Thinking* (New York: W.W.Norton, 2013), pp. 180-183.

advantage of allowing philosophers to explore what these intuitions, or prejudices, might mean. As with all philosophical thought experiments, thought experiments in philosophy of mind can address questions that might seem impossible to examine by any other method, the occasional definition of the discipline, as Sorensen summarises, being the view ‘that problems are philosophical just because other fields deem them hopeless’.<sup>70</sup> Conventional scientific investigations have not consigned the understanding of the explanatory gap to the dust heap. Rather, they have led many scientists to deny that there is a problem to understand.<sup>71</sup> Meanwhile, layered narrative developments in thought experimentation allow the many philosophical positions on human consciousness to be sustained, debated and developed by philosophers of mind. As I shall discuss in Chapter 2 Part 3, elements of fictional narrative are both particularly suited to the debate about the hard problem, since they invoke the intangible world of the imagination which may be regarded as part of the explanatory gap itself, as well as contributing to the ways in which thought experiments can be regarded as ‘successful’ in their propensity to be remembered and reproduced by those philosophers of mind leading the field of study.

<sup>70</sup> Sorensen, p. 16.

<sup>71</sup> Daniel Dennett, *From Bacteria to Bach and Back: The Evolution of Minds* (New York: Allen Lane, 2017).

## Chapter 2      When Mary Saw Red: Thought Experiments, Consciousness and Narrative

This chapter will examine how the use of story in philosophical studies of human consciousness has overlapped with the philosophical studies of human consciousness in literature, particularly during the Enlightenment. This period encompassed the development of ‘modern’ philosophy as observed by Anthony Gottlieb in *The Dream of the Enlightenment: The Rise of Modern Philosophy*.<sup>72</sup> At the same time, the Enlightenment included the development of the novel and the short story, as discussed in Rebecca Tierney-Hynes’ *Novel Minds: Philosophy and Romance Readers*<sup>73</sup> and Charles May’s *New Short Story Theories*.<sup>74</sup> As it is my contention that the connection between these developments, of philosophy of mind and of the short story, was particularly focused in the period of the Enlightenment and that contemporary thought experiments in philosophy of mind are the exemplar of this connection, this chapter will chart some of the separate investigations into human consciousness in literature and philosophy from that time, as well the many influences that each had upon the other.

In the first part, the chapter will look at some of the questions of individual consciousness and identity in philosophy that were addressed during the period of the Enlightenment, beginning with Descartes’ *Meditations*.<sup>75</sup> While it is not within the scope of this chapter to provide a literary history of the short story or tale, in the

<sup>72</sup> Anthony Gottlieb, *The Dream of the Enlightenment: The Rise of Modern Philosophy* (London: Allen Lane, 2016).

<sup>73</sup> Rebecca Tierney-Hynes, *Novel Minds: Philosophy and Romance Readers, 1680-1740* (Basingstoke, Hampshire: Palgrave Macmillan, 2012).

<sup>74</sup> Charles May, ed., *New Short Story Theories* (Athens, Ohio: Ohio University Press, 1994).

<sup>75</sup> René Descartes, *Meditations on First Philosophy*, trans. by John Cottingham (Cambridge: Cambridge University Press, 1996).

second part of the chapter I will review some of the literary context as discussed in Tim Killick's *British Short Fiction in the Early Nineteenth Century*,<sup>76</sup> to examine the ways in which short fiction, though no longer limited by its roots in parable, provides a narrative template for the modern philosophical thought experiments of the late twentieth century. The third part of the chapter will employ the examples of particular short stories, 'Micromégas' by Voltaire, 'The Mortal Immortal' by Mary Shelley, 'Black Destroyer' by A.E. Von Vogt and 'Pierre Menard, Author of *The Quixote*' by Jorge Luis Borges to illustrate the development and some of the uses of philosophical notions of consciousness and the creative responses in short fiction since the Enlightenment. The fourth and final part of the chapter will examine how the structure and narrative devices of particular forms of short fiction, such as parables, tales and fables, as discussed in Barbara Lounsberry's *The Tales We Tell*<sup>77</sup> and Helmut Bonheim's *The Narrative Mode*,<sup>78</sup> continue to be utilised by thought experiments in philosophy of mind.

<sup>76</sup> Tim Killick, *British Short Fiction in the Early Nineteenth Century: The Rise of the Tale* (Aldershot, Hampshire: Ashgate Publishing, 2008).

<sup>77</sup> Barbara Lounsberry, ed., *The Tales We Tell: Perspectives on the Short Story* (Westport: Greenwood Press, 1998).

<sup>78</sup> Helmut Bonheim, *The Narrative Modes: Techniques of the Short Story* (Cambridge: Brewer, 1982).

## 1. The mind, the Enlightenment and the thought experiment

The philosopher Gilbert Ryle charted a shift in philosophical enquiry to the role and status of an academic subject at the turn of the twentieth century.<sup>79</sup> However, while the study of philosophy and, in turn, philosophy of mind, have become specialised fields in the last century, the metaphysical examination of human consciousness and identity has been part of a larger field of debate, at least since the scientific revolution that began with Galileo's observations 'from' nature as opposed to the previous orthodoxy of the Aristotelian model in observing the laws 'of' nature, as seen in Chapter 1 Part 1 above. The gradual confining of philosophy to an academic field of enquiry can be traced to the distinctions that continued to grow between natural philosophy and theology during what became known as the Age of Enlightenment, as addressed by John J. Richetti's *Philosophical Writings*<sup>80</sup> and Anthony Gottlieb's *The Dream of the Enlightenment*,<sup>81</sup> among others. Partly because of these distinctions, during this time the reflection on the relationship between the mind and the body flourished. In the burgeoning climate of proto-scientific enquiry, doubts about the nature of existence were no longer always considered in opposition to the prevailing religious orthodoxy:

In the great metaphysical acts of that (the seventeenth) century – those of Descartes and Malebranche, of Spinoza and Leibniz – reason is the realm of the “eternal verities”, of those truths held in common by the human and the divine mind. What we

<sup>79</sup> Gilbert Ryle, 'Introduction', *The Revolution in Philosophy*, ed. by Gilbert Ryle (London: Macmillan & Co Ltd, 1957), pp. 1-11.

<sup>80</sup> John J. Richetti, *Philosophical Writing: Locke, Berkeley, Hume* (Cambridge, Massachusetts: Harvard University Press, 1983).

<sup>81</sup> Gottlieb, 2016.



know through reason, we therefore behold “in God”. Every act of reason means participation in the divine nature; it gives access to the intelligible world.<sup>82</sup>

Given the assumption that their investigations were bringing them closer to understanding the ‘divine order’, the rationalists of the Enlightenment did not see their work in opposition to their religious beliefs, and new enquiries and methodologies proliferated.<sup>83</sup> Philosophers such as Descartes, John Locke, and David Hume rejected the concept of *a priori* knowledge and a received wisdom dictated by, particularly religious, authority, in favour of knowledge based on reason and scepticism.

Acknowledged by many as the ‘father’ of this modern philosophy,<sup>84</sup> Descartes published his *Meditations* in 1641<sup>85</sup> in which he questioned what it was that he could know about his existence. The question took the form of a proto-thought experiment, known as the ‘Evil Genius Doubt’ or the ‘Evil Demon’, that proposed that it was possible to differentiate between ‘things located outside me’ and ‘everything that is within’.<sup>86</sup> In Meditation Two, Descartes introduces the idea of a ‘malicious demon’ that has employed special powers to deceive Descartes about the nature of his own existence.<sup>87</sup> Descartes’s examinations of the relationship between mind and body were not accepted by the Catholic Church during, and well beyond, his lifetime, but his writings marked a change in attitude from an emphasis on God as the centre of everything, to a focus on the individual’s conception of God. In keeping with

<sup>82</sup> Ernst Cassirer, *The Philosophy of the Enlightenment*, trans. by Peter Gay (Princeton, New Jersey: Princeton University Press, 2009), p. 13.

<sup>83</sup> John Hedley Brooke, *Science and Religion: Some Historical Perspectives* (Cambridge: Cambridge University Press, 2007), p. 19.

<sup>84</sup> Anthony Kenny, *The Rise of Modern Philosophy: A New History of Western Philosophy, Volume 3* (Oxford: Oxford University Press, 2008), p. 33.

<sup>85</sup> René Descartes, *Meditations on First Philosophy*, trans. by John Cottingham (Cambridge: Cambridge University Press, 1996).

<sup>86</sup> Descartes, *Meditations*, p. 15.

<sup>87</sup> Descartes, *Meditations*, p. 19.

Galileo's advances in natural philosophy, Descartes's many followers, including Newton, were able to start their investigations from a mechanical, observational viewpoint as opposed to assuming the established celestial overview.

By the close of the eighteenth century, developing forms of thought experiments, such as Descartes', were being used both as formal tools of a proto-scientific methodology and in the metaphysical explorations of philosophers. As discussed in Chapter 1 Part 1, such 'early' thought experiments could not have been defined as *gedankenexperimente* until Mach's formulation in 1833, and they differed from Mach's definition of a thought experiment as a hypothesising stage that precedes a physical experiment. In the case of early thought experiments such as Descartes' 'Evil Demon' and others such as those by Locke and Leibniz, as we shall see, the hypothesis was posed and answered within the short narrative form. The flexibility of the narrative device in both early and contemporary thought experiments, the structure and form of which will be analysed in Chapter 2 Part 3, allowed the author to engage in a hypothetical situation with the possibility of discovering new information.

At the same time that philosophers had gained the intellectual freedom to question consciousness and personal identity, they used versions of thought experiments to construct and investigate their hypotheses. John Locke's *Essay Concerning Human Understanding* includes a direction to the reader to 'try to suppose' that their soul could have inhabited another body:

Reflect on yourself, and conclude that you have in yourself an immaterial spirit that is what thinks in you, keeps you the same throughout the constant change of your body, and is what you call 'myself'. Now try to suppose also that it is the same soul that was

in Nestor or Thersites at the siege of Troy...Can their actions have anything to do with you?<sup>88</sup>

In this chapter of the *Essay*, ‘Of Identity and Diversity’, Locke investigates notions of consciousness and the possibilities of identity in connection with different forms of substance that he groups into three categories: God, finite intelligences and bodies. Through the process of early thought experimentation, Locke asks what constitutes ‘identity’ and whether such identity is transferable. He concludes that if ‘we take a man to be a rational spirit, then it is easy to know what is the same man, namely the same spirit—whether or not it is embodied’.<sup>89</sup> Through this use of early thought experimentation, within the fast-developing freedom of ideas of the late seventeenth century, Locke’s understanding of ‘selfhood’ established a new territory for philosophical debate: ‘The *Essay* was rightly seen as an ambitious elaboration and extension of the ‘new philosophy’ of Galileo, Descartes, Newton and the Royal Society.’<sup>90</sup>

In another early thought experiment proposed in the *Essay*, ‘The prince and the cobbler’ imagines the ‘Soul of a Prince’ inhabiting the ‘Body of a Cobbler’: ‘[the Prince] would be the same Person with the Prince, accountable only for the Prince’s Actions’.<sup>91</sup> Locke also writes about ‘waking and sleeping Socrates’ in an early thought experiment that considers ‘waking Socrates’ is not necessarily responsible for the thoughts or actions of ‘sleeping Socrates’, since he was not conscious when he slept.<sup>92</sup> These early thought experiments propose that personal identity might exist as an entity separate from the physical matter of that person, and indeed the same

<sup>88</sup> John Locke, *An Essay Concerning Human Understanding*, ed. by Pauline Phemister (Oxford: Oxford World’s Classics, 2008), p. 212.

<sup>89</sup> Locke, p. 218.

<sup>90</sup> Gottlieb, p. 120.

<sup>91</sup> Gottlieb, p. 152.

<sup>92</sup> Locke, p. 215.

physical body may not have continuous identity. In Chapter 3, I examine the connections between Locke's early thought experiments and contemporary thought experiments, such as 'The Brain in a Vat', and their expression of the mind-body problem. But it was Locke's *Essay* that was 'the first sustained philosophical treatment of the subject'<sup>93</sup> of this problem, and that was a considerable development in the discussion on the nature of consciousness.

The notion of the interior self as central to any understanding of a corresponding exterior reality was further examined as a philosophical hypothesis by the Earl of Shaftesbury in 1710. Shaftesbury considered the idea of Locke's 'conscious selfhood', and the stability of such a selfhood, away from any concept of embodiment, as noted by Roy Porter in *Flesh in the Age of Reason*:

What was of prime importance for Shaftesbury was the disciplines self-control imparted by reason. 'Tis the known Province of Philosophy to teach us *our-selves*,' he explained in his significantly titled *Soliloquy* (1710), 'keep us the *self-same* Persons, and so regulate our governing Fancys, Passions, and Humours.' Not the flesh but philosophy was the sure guarantee of sameness and oneness.<sup>94</sup>

This rejection of the corporeal as the key to 'self' was continued by the philosopher and polymath Gottfried Leibniz who responded to Locke's *Essay* with his *New Essays on Human Understanding*, in which he developed his own considerable account of human knowledge and personal identity.<sup>95</sup> And in 1714, in the *Monadology*, Leibniz expanded his proposition that all living matter contains 'monads', similar to an atom, but indivisible and immaterial. These monads were separate from physical matter but essential to its existence, and only such monads could be considered to have

<sup>93</sup> Gottlieb, p. 152.

<sup>94</sup> Roy Porter, *Flesh in the Age of Reason* (London: Penguin, 2003), p. 137.

<sup>95</sup> Gottfried Wilhelm Leibniz, *New Essays On Human Understanding*, trans. and ed. by Peter Remnant and Jonathan Bennett (Cambridge: Cambridge University Press, 1996).

‘perception’. To investigate and clarify his hypothesis that it is not the physical matter of the brain that perceives, Leibniz imagined the human mind as a mill, in an early thought experiment now known as ‘The Mill Argument’:

And supposing there were a machine so constructed as to think, feel, and have perception, it might be conceived as increased in size, while keeping the same proportions, so that one might go into it as into a mill. That being so, we should, on examining its interior, find only parts which work one upon another, and never anything by which to explain a perception. Thus it is in a simple substance, and not in a compound or in a machine, that perception must be sought for.<sup>96</sup>

Leibniz’s formulation of what has become known as the ‘mind-body problem’ was later interpreted by John Searle with the ‘Chinese Room’ thought experiment and Gilbert Harmon in the ‘Brain in a Vat’. Following Descartes’ ‘Evil Demon’ these accounts by Leibniz and, later, Searle and Harmon amongst others, subscribe to a dualist approach to matter. In Chapter 3, I describe Searle’s and Harmon’s thought experiments and their relationship to questions of personal identity, materialism and consciousness. For now, it is helpful to note that following Descartes, Locke and Leibniz, among others, the importance of perception and interior experience, separate from physical existence, gained recognition throughout the Enlightenment. As the concept of a ‘philosophy of mind’ developed, thought experimentation proved critical to the exploration and dissemination of the new philosophy.

<sup>96</sup> Gottfried Wilhelm Leibniz, *The Monadology*, trans. by Robert Latta (Dumfries & Galloway, Scotland: Anodos Books, 2017), p. 4.

## 2. Short fiction and the mind: how the tale became self-conscious

From biblical tales to Boccaccio's *The Decameron*, and the tales of the *Arabian Nights*, as well as within the tradition of oral storytelling, versions of what we would now call short fiction have existed most often as morality tales, sometimes romantic, invariably cautionary. The stories from ancient Greece attributed as Aesop's Fables, for example, which included the Ant and the Grasshopper, and the Tortoise and the Hare, used tropes of animals (the hardworking ant, the slow tortoise) and people, such as the lying child in *The Boy Who Cried Wolf* to articulate observations about human behaviour.<sup>97</sup> As seen in Chapter 1, Part 1, the ancient philosophers such as Aristotle and Plato utilised these tales in their public work to convey philosophical meaning. In his 'Aesop, Aristotle and Animals' Edward Clayton analyses the use of fables in the dialectics of the Greek thinkers:

The fables are intended to be cautionary tales, warning of the dangers of being the weaker party, and providing advice on how to behave if one is in a position of weakness.<sup>98</sup>

Aristotle's support of the use of fables in political speechmaking again shows that such uses would have been expected and looked on favourably by the audience if they were properly used.<sup>99</sup>

Clayton's research describes how the use of fictional narrative in the form of fables and tales played an essential role in ancient philosophical thinking. The influence of these fictional narratives is further evident in proto-thought experiments such as

<sup>97</sup> Among others see:

David Sedaris, *Squirrel Seeks Chipmunk*, (New York: Little, Brown, 2010).

Michael Rosen, *Aesop's Fables*, (London: Tradewind, 2013).

<sup>98</sup> Edward Clayton, 'Aesop, Aristotle and Animals', *Humanitas* (2008), Vol. XXI, Nos. 1 and 2 <http://www.nhinet.org/clayton21-1.pdf> [accessed 22 March 2017] (p. 2)

<sup>99</sup> Clayton, p. 8.

‘Zeno’s Paradox of the Tortoise and Achilles’.<sup>100</sup> While these tropes and characters from fables were of use in the dissemination of early philosophical thinking, it was the development of short narrative fictions into what we now term ‘stories’, that provided a more directly useful form of fictional template for the modern thought experiment.

In *New Short Story Theories*, Karl-Heinz Stierle provides a definition for the particular ways in which the fable, ‘presenting the general *as* the particular’, differs from the tale, or short story, ‘presenting the general *in* the particular’.<sup>101</sup> In the third part of this chapter, we shall look at how these elements of narrative are used in modern thought experiments. For now, it is helpful to show that the transition from fable, as a short story with a moral, to the tale, with or without a moral, has been dated by short story theorists such as May and Stierle as taking place from the end of the eighteenth century. As May states: ‘At a particular historical point (roughly the end of the eighteenth or the beginning of the nineteenth centuries), it became less easy to determine the meaning lying beyond the events depicted in the story.’<sup>102</sup> These developments in the short story can also be seen to reflect the increasing independence of Enlightenment philosophers, from the moral supervision of the established church, as seen in the first part of this chapter, toward an understanding of personal experience and responsibility. Rebecca Tierney-Hynes has written in detail about the relationship between the philosophers of the Enlightenment and novels and fictional texts of the day, emphasising the ways in which philosophers such as Locke and Hume navigated the reading of fiction and, ‘the place of fiction and fantasy in the

<sup>100</sup> Plato, *Parmenides*, trans. by Mary Louise Gill and Paul Ryan (Indianapolis: Hackett Publishing Company, 1996), p. 3.

Aristotle, *Physics*, ed. by David Bostock, trans. by Robin Waterfield (Oxford: Oxford University Press, 2008), p. 161.

<sup>101</sup> May, p. xxiii.

<sup>102</sup> May, p. xxiii.

empiricist vision, a vision that is deeply concerned, in the absence of God-given *a priori* knowledge, to ensure that *a posteriori* is accurate and truthful.’<sup>103</sup> Just as the natural philosophers had interrogated the relationship between fiction and their developing interpretation of the human mind, so literary fictions began to demonstrate a new understanding of human consciousness, and none more so than the short story as it gradually shifted from the general morality tale or fable, to the story of individual moral autonomy.

With these changes, the short story becomes, in Stierle’s understanding, ‘syntagmatic’, that is, related to the surface structure rather than embedded paradigms: ‘As history frees itself from the clutches of the moral-philosophic system, it goes out of the paradigmatic and into the syntagmatic sphere of endless interconnections which continually overlap but can never be conclusively defined.’<sup>104</sup> Stierle notes that the work of Voltaire, writing predominantly in the mid-eighteenth century, demonstrates not just the syntagmatic but rather the ‘two possibilities of orientation’. With Voltaire, Stierle writes: ‘History is narrated (a) in the syntagmatic framework of world history, and (b) in the paradigmatic framework of a collection of exempla for the never-changing condition of human baseness.’<sup>105</sup> As seen in the third part of this chapter, the short story ‘Micromégas’, demonstrates these liminal qualities in Voltaire’s tale, written at a time when the short story was initially shifting its focus from the representation of morality as a lesson to the reader, or listener, into the representation of individual moral consciousness.

While the exploration of moral questions may have shifted focus, the link between the short story and the ‘morality tale’ continued beyond the Enlightenment

<sup>103</sup> Tierney-Hynes, p. 6.

<sup>104</sup> May, p. 25.

<sup>105</sup> Stierle, pp. 25-26.



and into the nineteenth century, especially, as Tim Killick claims, in the work of British authors. Killick's *British Short Fiction in the Early Nineteenth Century* charts how the legacy of short fiction in the form of the fable is continued:

Stories with moralistic or didactic intentions constitute a genre that is as old as any in the history of literature. From the earliest parables, fables, and exemplars, narratives designed to convey instruction at the same time as they entertain and amuse have remained a staple educational tool right up to the present day.<sup>106</sup>

Killick counts the tales of Hannah More as particularly inspiring to writers of 'improving stories' in the late eighteenth and early nineteenth centuries. More's *Cheap Repository Tracts*, contained fictional tales with a domestic narrative and reached a wide audience across the working, middle and upper classes of Britain, with more than two million copies distributed by 1795.<sup>107</sup> Killick credits the popularity of the tales with the burgeoning market that led to Amelia Opie, Mary Russell Mitford, Elizabeth Holmes and Anne Catherine Monkland's work. M.M. Busk's *Tales of Fault and Feeling* and sisters Marion and Margaret Corbett's *Petticoat Tales* followed, 'attempting to push the definition of moral short fiction beyond the limits established during the late eighteenth and early nineteenth centuries.'<sup>108</sup> With these works, the genre continued to develop:

To some degree, writers such as the Corbetts are anomalous within the moral code, but along with others, such as Mitford and M.M. Busk, they are indicative of a newfound freedom amongst improving writers—a freedom which arose when the boundaries between didactic fiction and fiction written for the purposes of entertainment began to blur.<sup>109</sup>

<sup>106</sup> Killick, pp. 73-74.

<sup>107</sup> Killick, p. 78.

<sup>108</sup> Killick, p. 107.

<sup>109</sup> Killick, p. 114

The didactic narratives of ‘improving tales’ continued, but by the mid-nineteenth century they were principally restricted to overtly educational use rather than for literary or entertainment purposes. Meanwhile, the tale itself though no longer principally concerned with moral themes, continued to develop as a form of storytelling that bridged a gap between the mythic fable and the new psychological reality presented by the philosophers and novelists of the nineteenth century.

Although short fiction continued to develop into the vast range of contemporary storytelling, it is the particular connection between the tale and the psychological developments in short fiction that occurred as a result of the European Enlightenment that are the focus of this chapter. In Descartes’s ‘Evil Demon’, Locke’s ‘Prince and the Cobbler’, Leibniz’s ‘Mill’, and Condillac’s *Treatise on the Sensations*<sup>110</sup> we can trace connections to the modern philosophical thought experiment and the development of fictional devices to investigate philosophical hypotheses. And, in the short fiction that emerged from the Enlightenment, we can see how writers, from Voltaire to Melville began to use the insights gained from philosophical investigations into human experience and consciousness to develop their stories.

With the developments in fiction, such as the ‘increasingly complex negotiation between writer, reader, and message’ that characterised nineteenth-century literature,<sup>111</sup> the tale became more sophisticated: ‘Moral tales became psychologically active, justifying their arguments to their readers in rational as well as sentimental ways, and acknowledging the political and sociological nature of their content.’<sup>112</sup> The late eighteenth and early nineteenth century saw the aims and uses of

<sup>110</sup> Condillac, *Treatise on the Sensations* (The Faval Press, 1930).

<sup>111</sup> Killick, p. 114.

<sup>112</sup> Killick, p. 114.

the tale change considerably, from the simplicity of cautionary folktales through the improving tales to the increasingly social tales of Dickens's *Sketches by Boz*. The broad moral tale, now placed into particular settings, with subjective interpretations, gave rise to a new form of short story.<sup>113</sup> Melville and Gaskell in Britain, Balzac, Flaubert and Stendhal in France, Poe and Hawthorne in America, explored varying concepts of reality within the structure of the tale. As Charles May argues, despite the many definitions of short fiction that have been imposed on the genre, the short story retains its connections to the mythic through 'metaphoric projection and hierophantic revelation'.<sup>114</sup> In order to explore further the ways in which the short fictions of the philosophical thought experiment and the short stories of literary fiction have developed together, the following section of this chapter will investigate some particular examples of short stories and their connection to the contemporaneous philosophical notions of human consciousness.

<sup>113</sup> Charles May, *The Short Story: The Reality of Artifice* (New York: Twayne, 1995), p. 5.

<sup>114</sup> Charles May, 'Metaphoric Motivation in Short Fiction: "In the beginning was the Story"', in *Short Story Theory at a Crossroads*, ed. by Susan Loahfer and Jo Ellyn Clarey (London: Louisiana State University Press, 1989) p. 65.

3. Examples of the development of short fiction from the Enlightenment to the twentieth century

The four stories I have chosen to examine for this section are notable for their ability to reflect the current literary and philosophical preoccupations of their times and, as prominent works by these authors, to represent how the developments of the Enlightenment made possible the new forms of fiction that expanded philosophical explorations of consciousness. These four stories are connected thematically by their engagement with contemporary scientific and philosophical debates at the time they were written, and by their alignment as eighteenth, nineteenth, and twentieth-century exemplars. The last two stories, published in the same year, can be seen to represent the bridge from one form of twentieth-century fiction, with its ties to the previous century, to a new era of popular fiction. As paradigms of the relationship between thought experimentation, as it would become, and short fiction, each of these stories has also influenced my creative project as Chapter 3 will discuss.

In analysing the philosophical framework of these stories, and their relationship to notions of consciousness in particular, I will consider how closely each story might be compared to a thought experiment. Whether a work of literature *per se* could be categorised as a thought experiment, as defined in Chapter 1 Part 1, or even a proto-thought experiment, is perhaps a matter of how strictly the definition is applied. The philosopher David Egan has suggested three separate criteria to assess narrative fiction: applicability, cognitivism and identity.<sup>115</sup> Egan makes clear that while thought experiments do make use of literary fiction and that literature can provide knowledge about the world, it is not so obvious that this knowledge is

<sup>115</sup> David Egan, 'Literature and Thought Experiments', *The Journal of Aesthetics and Arts Criticism* 74 (2016) <doi: 10.1111/jaac.12270> [accessed 16 May 2018]

acquired through the ‘literary features’ of the narrative. It is particularly difficult to claim that ‘appreciating the literary features of fiction simply is to treat the fiction as a kind of thought experiment’.<sup>116</sup> He proposes that the purpose of a thought experiment is to form part of an argument, and that without that, the thought experiment is ‘exhausted’. Like Sorensen and Swirski, Egan concludes that the epistemic in literature is *part* of the whole but not the significant part.

However, as Catherine Elgin suggests in ‘Fiction as Thought Experiment’,<sup>117</sup> the gaining of knowledge through literary fictions, while not the ‘banal’ purpose, might prove instructive in a larger sense: ‘If, as I have argued, works of fiction advance understanding in much the way that thought experiments do, it makes no difference if that advance is literary or extra-literary.’<sup>118</sup> In this definition, we can see that the criteria for ‘thought experiments’ when applied so loosely, could result in almost all fictional narratives being categorised as thought experimentation. But while there may be some value in acknowledging the work that literary fiction can do in advancing knowledge about the world, as Egan proposes, it would be a disservice both to literature and thought experimentation in philosophy to confuse the two disciplines. Sorensen gives examples of how inspiration between thought experimentation and narratives in literature can ‘flow(s) both ways’,<sup>119</sup> as when the stories of Jules Verne motivated rocket scientists, or the writer R. Wilson writes a novel entitled *Schrodinger’s Cat*. But ultimately, while the fictional narratives of short stories and novels may contain ‘natural thought experiments’, as artefacts that

<sup>116</sup> Egan, ‘Literature and Thought Experiments’.

<sup>117</sup> Catherine Z. Elgin, ‘Fiction as Thought Experiment’, *Perspectives on Science*, 22 (2014) pp. 221-241, <doi: [10.1162/POSC\\_a\\_00128](https://doi.org/10.1162/POSC_a_00128)> [accessed 16 May 2016]

<sup>118</sup> Elgin, p. 239.

<sup>119</sup> Sorensen, p. 222.

'have not been intentionally produced' they do not meet the definition proposed by Sorensen.

## Micromégas

Published in 1752, Voltaire's 'Micromégas' describes an expedition by two giants of the universe, Monsieur Micromégas from the planet Sirius and his companion Monsieur Secretary from Saturn, who arrive on Earth and discover it is inhabited by (relatively) microscopic creatures.<sup>120</sup> In seven short chapters, Voltaire describes the travellers and a little of their background, their encounter with Earth, and two principal discussions, one between the protagonists and the second their conversation with the humans.

Subtitled 'A Philosophical Story', 'Micromégas' name checks many prominent influences, including some of the leading philosophical arguments of the mid-eighteenth century, as well as a renowned Jesuit priest and critic of Voltaire's, Father Castel, summarising their contribution to the sum of knowledge either approvingly or disapprovingly. Of the philosophers, it is Locke's position on the soul that the learned travellers most clearly respect, as seen when one of the humans questioned by Micromégas replies:

'I revere the eternal power, and it is not for me to set bounds to it; I affirm nothing, and am content to believe that more things are possible than we think.'

The animal from Sirius smiled. He found the last speaker by no means the most foolish; and the dwarf from Saturn would have embraced this follower of Locke but for their extreme disparity in size.<sup>121</sup>

The guiding principle of the two travellers is knowledge, and the understanding that however much they discover there will always be more to know. Locke's empiricism,

<sup>120</sup> Voltaire, 'Micromégas', in *Micromégas and Other Short Fictions*, trans. by Theo Cuffe (London: Penguin, 2002), pp. 17-35.

<sup>121</sup> Voltaire, pp. 34-35.

as proposed in his *Essay Concerning Human Understanding*,<sup>122</sup> appears to make the most sense to both beings, as it did to Voltaire who wrote a eulogy to Locke (along with Francis Bacon and Isaac Newton) in his *Letters Concerning the English Nation*.<sup>123</sup> Voltaire engages the Swiftian metaphor of scale, from *Gulliver's Travels*, to challenge notions of certain knowledge and established orders. The giants believe that such tiny 'animalcules' as humans could not possibly possess reason or a soul, but they readily admit their mistake. On the other side, the belief systems of the humans are thrown into disarray by the sound of the giant's voices, but the Earthlings are an educated group, and counter their shock with a scientific analysis of the interlocutors. In accordance with the sensibility of Locke's *Essay*, the world of Micromégas is one of infinite possibilities, to be navigated with an open mind.

There is good reason to consider this *conte*, or narrative tale, a prototypical thought experiment in itself. Voltaire uses and further realises the scientific advances of his time, such as Copernican heliocentrism, Galileo's telescope, and Newton's gravity, to furnish a fictional universe in which interplanetary travel is facilitated and the resulting encounters staged. However, Voltaire does not set out his fiction on an experimental basis. As explained by Sorensen, stories or tales, are not necessarily to be classified as thought experiments, simply because they demonstrate a hypothetical situation and draw conclusions. Voltaire does not appear to set out to address a specific theory with his story, and 'intentional production is a necessary condition for an experiment'.<sup>124</sup> In addition, as in most fiction, there is too much extraneous detail for the story to conform to the thought-experiment model, as we now know it, and the

<sup>122</sup> Locke, John, *An Essay Concerning Human Understanding*, ed. by Peter H. Nidditch (Oxford: Oxford World Press, 1979).

<sup>123</sup> Voltaire, *Letters Concerning the English Nation*, ed. by N. Cronk (Oxford: Oxford University Press, 1994), pp. 54-60.

<sup>124</sup> Roy Sorensen, p. 223.



multitude of variables confuses any possible conclusion. Lastly, there is no provision made for the experimenter or reader to take part in an experiment, no means to project or imagine the possible outcomes in order to explore the theoretical conclusions. Unlike, say, Frank Jackson's *Mary's Room*<sup>125</sup> (see also Chapter 3, Part 3 *What Mary Knew*), where the experimenter has to try and understand what Mary might experience when she sees the colour red for the first time, Voltaire has written a complete story. Although there is plenty of scope for general visualisation, there is no direct part for the reader to play in order to answer a specific question.

While 'Micromégas' cannot be classified as a thought experiment, the central preoccupation of 'Tell me what your soul is, and how you form your ideas'<sup>126</sup> reflects some of the philosophical arguments of the Enlightenment and Voltaire's own interest in a world where the pursuit of knowledge is prioritised above religious orthodoxy. The story gives a sense of all beings in the universe, whatever their size or provenance, having the potential for a soul. And the 'self' features not as a denomination of a particular religion, but as a centre for rational thought and 'consciousness' as described by Locke: 'For since consciousness always accompanies thinking, and 'tis that, that makes everyone to be, what he calls *self*, and thereby distinguishes himself from all other thinking things, in this alone consists *personal Identity*, *i.e.* the sameness of a rational Being.'<sup>127</sup> The notion of consciousness in this story is represented more in theory than in the characters' individuality, but there is no doubting Voltaire's emphasis in the text that the traditional notions of geographical, cultural or, even, species identity are secondary to the idea of the self. And, just as the

<sup>125</sup> Frank Jackson, 'Epiphenomenal Qualia', in *The Philosophical Quarterly*, Vol. 32, No. 127. (April, 1982), pp. 127-136 <http://www.jstor.org/stable/2960077> [accessed 07 July 2017]

<sup>126</sup> Voltaire, 'Micromégas', p. 33.

<sup>127</sup> Locke, p. 335.

‘science fiction’ of ‘Micromégas’ utilises some of the scientific discoveries of the time, so the examination of the self is based on the freedom of thought that the philosophers of the Enlightenment pursued. If the Earth was not the centre of the universe, neither was Man. It was incumbent on the individual to discover ‘the nature of things’.<sup>128</sup>

‘Micromégas’ could be considered a crossover story between the natural philosopher’s prototypical thought experiment and, on the other side, short fiction, in that the latest theories and discoveries are presented in fictional terms but with the additional motive of extrapolating meaning from the ‘new’ knowledge. In Voltaire’s tale, we can see the antecedents of some well-known contemporary thought experiments in philosophy of mind, in particular Hilary Putnam’s ‘Twin Earth’, in which a man travels to another planet that seems identical to Earth but where an object, in this case water, has a different chemical composition. Putnam’s experiment asks whether when the man refers to water, though it is not H<sub>2</sub>O, he can be said to refer to the same thing as we usually mean by the term. ‘Meanings’, states Putnam, ‘Just ain’t in the head’.<sup>129</sup> The parallels between ‘Micromégas’ and ‘Twin Earth’ are clear. For both authors, the metaphor of space travel is a practical solution rather than an imaginary flourish, a means of examining the notion of difference in a particular capacity. For Voltaire, the difference in his alien beings is one of scale, in size, lifespan, and experience. For Putnam, the change only affects a single article, in this case, the chemical component of water. There is a lack of any wider practical impact from these changes in both stories. If water on Twin Earth is not H<sub>2</sub>O but XYZ, then does that not alter all chemical composition on the planet, including that of a human?

<sup>128</sup> Voltaire, p. 35.

<sup>129</sup> Hilary Putnam, ‘The meaning of meaning’, *Philosophical Papers*, Vol. 2. Mind, Language and Reality (Cambridge: Cambridge University Press, 1975), p. 227.

And if giant beings roam the universe and introduce themselves to other civilizations, do they not alter the course of history on those planets, in this case, Earth? This disconnect between the fictional scenario and any ‘real life’ implications leads to the accusation of what Daniel Dennett has termed ‘intuition pumps’, a fictional situation that is not fully realised but is designed to achieve a particular reaction in the reader.<sup>130</sup>

The philosophical credentials of Voltaire’s tale are evident, if complicated by some ‘literary’ features of the narrative. In addition, narrative is serviceable to the philosophical requirements of the text, as it is to Putnam’s. Both ‘Micromégas’ and ‘Twin Earth’ conform to what Brander Matthews has termed ‘unity’,<sup>131</sup> the focus of one event, character, or emotion, and to Edgar Allen Poe’s ‘totality’,<sup>132</sup> the ability to be read in a single sitting. Both ‘stories’ are concerned with the consciousness of the traveller, his individual perception, and the meaning of his experience in the narrowest sense, as it relates to his own self, as well as more widely.

<sup>130</sup> Daniel Dennett, *Consciousness Explained*, (London: Penguin, 1993), p. 282.

<sup>131</sup> Brander Matthews, ‘The Philosophy of the Short-Story’, in *The New Short Story Theories* ed. by Charles May (Athens, Ohio: Ohio University Press, 1994), p. 73.

<sup>132</sup> Edgar Allen Poe, ‘Poe on Short Fiction’, in *The New Short Story Theories* ed. by Charles May (Athens, Ohio: Ohio University Press, 1994), p. 61.

## The Mortal Immortal

The development of the connections between philosophical thought experimentation and the short story is also evident in the work of Mary Shelley. Shelley's reading is well documented and included leading works by Enlightenment philosophers from Locke and Rousseau to Voltaire, including 'Micromégas'.<sup>133</sup> In her essays and fiction she frequently advocated the Enlightenment ideals of education and individual freedoms.

The pursuit of the philosopher's knowledge is explored in one of Shelley's later stories, 'The Mortal Immortal', where a 'miracle of life' is sought: the 'gift' of immortality.<sup>134</sup> The tale chronicles the life of a young man named Winzy who is apprenticed to the 'renowned philosopher' Cornelius Agrippa. As in her novel *Frankenstein*,<sup>135</sup> the name of Agrippa is associated with the protagonist's downfall, and throughout 'The Mortal Immortal' Shelley compares the unnatural science of Agrippa, the 'dark spirits', 'Satan himself', 'the Devil', 'accursed arts', with the natural world:

Human science, I soon persuaded myself, could never conquer nature's laws so far as to imprison the soul forever within its carnal habitation.<sup>136</sup>

Such an enigma is man—born to perish—when he wars, as I do, against the established laws of nature.<sup>137</sup>

<sup>133</sup> Blumberg, p. 22.

<sup>134</sup> Mary Shelley, 'The Mortal Immortal,' *The Mary Shelley Reader: Containing Frankenstein, Mathilda, Tales and Stories, Essays and Reviews, and Letters*, ed. Betty Bennett and Charles E. Robinson (New York and Oxford: Oxford University Press, 1990), pp. 314-26.

<sup>135</sup> Shelley, *Frankenstein*, p. 32.

<sup>136</sup> Shelley, 'The Mortal Immortal', p. 321.

<sup>137</sup> Shelley, 'The Mortal Immortal', p. 325.

This result of this war, of which Winzy portrays himself as an innocent victim, demonstrates the dire consequences of failing to accept the limits of being human, the ‘fate of all children of Adam’.<sup>138</sup> Shelley makes clear the peril, not just to the bodies of the enlightened scientists and their subjects, but also to their souls. She uses the characters of Agrippa and Winzy to further her argument that the individual is valuable not because they might exceed the possibilities of their humanity, but because they might accept and succeed within the boundaries of human nature.

The emphasis on the individual and identity is marked by Shelley’s use of the first person, though Winzy proves an unreliable narrator, invested as he is in justifying his thoughts and actions. Winzy is Agrippa’s ‘pupil’ and ‘scholar’<sup>139</sup>, and as such the older man is responsible for Winzy’s education as well as his livelihood. But when Agrippa is too tired to tend to the vital elixir, though ‘even then he did not quite yield to nature’,<sup>140</sup> he reluctantly leaves his student in charge and lies to him about the potential powers of the potion. In Agrippa’s ‘unnatural’ actions and poor leadership, we can see the ambivalent regard in which Shelley held the ‘fathers’ of Enlightenment philosophy. In particular, she wrote of her admiration for Rousseau in *Lives of the Most Eminent Literary and Scientific Men of France*, and also of her dismay.<sup>141</sup> It is not hard to see a model for Shelley’s flawed heroes, such as Victor Frankenstein and, in ‘The Mortal Immortal’ the combination of Agrippa and Winzy, and of her critique of the great mind that is corrupted by an irresponsible obsession.

<sup>138</sup> Shelley, ‘The Mortal Immortal’, p. 321.

<sup>139</sup> Shelley, ‘The Mortal Immortal’, p. 315.

<sup>140</sup> Shelley, ‘The Mortal Immortal’, p. 317.

<sup>141</sup> Mary Shelley, *Lives of the Most Eminent Literary and Scientific Men of France, Vol. II* (London: Longman, Orme, Brown, Green & Longmans, 1839), p. 111.

The style of the tale is in keeping with the Gothic literary tropes of the ‘supernatural’ ‘the sublime’ and ‘the uncanny’, as established during the Enlightenment by Horace Walpole with *The Castle of Otranto*, in 1764.<sup>142</sup> In ‘The Mortal Immortal’ Shelley adds a ‘scientific’ element to the Gothic, and a resulting horror that associated medical advances with their potential misuses. The Gothic style is evident in many thought experiments, especially in contemporary thought experiments in philosophy of mind. In David Chalmers’ contemporary ‘Philosophical Zombie’ thought experiment, for example, the Gothic is represented by the notion of the zombie, both in the potential existence of the zombies themselves and in their possible ‘scientific’ creation. Still, although Shelley’s style and philosophical engagement are evident in ‘The Mortal Immortal’, this ‘what if’ form of short story is not strictly a form of philosophical thought experiment. There is a simple structure which examines a hypothetical question: What would happen if an ordinary man became immortal? And Shelley’s tale also focuses entirely on the problem of the Mortal Immortal, with only enough sub-plot or colour to elucidate Winzy’s personal life and the effects of his immortality on himself and his wife. In addition, like many thought experiments, such as Chalmers’ ‘Swampman’, or Searle’s ‘Chinese Room’, Shelley’s tale is told in the first person. However, unlike a thought experiment, the ending arguably leaves no room for the reader’s contribution: ‘My task achieved, I shall adopt more resolute means, and, by scattering and annihilating the atoms that compose my frame, set at liberty the life imprisoned within, and so cruelly prevented from soaring this dim earth to a sphere more congenial to its immortal essence.’<sup>143</sup>

<sup>142</sup> John Bowen, ‘Gothic Motifs’, *Discovering Literature: Romantic and Victorians* (2014) <https://www.bl.uk/romantics-and-victorians/articles/gothic-motifs> [accessed 13 February 2018]

<sup>143</sup> Shelley, ‘The Mortal Immortal’, p. 326.

The story is complete, unless the unreliability of the narrator could be considered an ‘open’ ending in itself.

Despite the underlying ‘what if’ premise, the tale does not seek to uncover any new knowledge. Winzy tells us at the start that he is immortal and miserable, and the story ends in similar fashion. Whereas the modern thought experiment, as defined by Mach, investigates a circumstance, or set of circumstances, with the aim of discovering new information, Shelley’s tale furnishes only the premise. The foregone conclusion is emphasised by the use of flashback at the start of the tale:

July 16, 1833. – This is a memorable anniversary for me; on it I complete my three hundred and twenty-third year!...I will tell my story, and so contrive to pass some few hours of a long eternity, become so wearisome to me. For ever! Can it be? To live for ever!<sup>144</sup>

We are told Shelley’s hypothesis at the start of the story, that eternal life is possible but that it is ‘burthensome’.<sup>145</sup> ‘The Mortal Immortal’ demonstrates Shelley’s argument against the unnatural, and her engagement with the philosophical issues of her time. Her protagonist cannot bear the responsibility of immortality and, ultimately, it is not the life force which prevails, but the story itself.

<sup>144</sup> Shelley, ‘The Mortal Immortal’, p. 314.

<sup>145</sup> Shelley, ‘The Mortal Immortal’, p. 314.

Pierre Menard, Author of the *Quixote*

While Voltaire's 'Micromégas' interacts with some of the leading scientific and philosophical developments of the Enlightenment, and 'The Mortal Immortal' reflects Shelley's engagement with some of the philosophical preoccupations of the eighteenth century, many of the short stories and novels of the Argentinian author Jorge Luis Borges more directly examine particular philosophical concepts, such as the notion of authorship in 'Pierre Menard, Author of the *Quixote*' in 1939.<sup>146</sup> In this story, Borges illustrates his point with a plot unencumbered by elaborate literary features and being neither 'too fat nor too thin' as Sorensen prescribes.<sup>147</sup> Rather than allude to particular ideas, as in Voltaire's 'Micromégas', or create a morality tale, as in Shelley's 'Mortal Immortal', Borges creates a tale where the details are minimal. Borges' text largely adheres to Sorensen's definition of thought experimentation to the effect that such details of the narrative must 'support, rather than engulf, the experimental intention'.<sup>148</sup> The authors of 'Thought Experiments in Aesthetics' argue that this story is the 'single most influential theoretical thought experiment in aesthetics'.<sup>149</sup> Certainly, 'Pierre Menard' has inspired philosophers since Deleuze to examine theories of 'textual' identity that unfold within the story.<sup>150</sup>

In 'Pierre Menard', Borges plays with the idea of authorship and influence, developing what became known as 'The Borgesian Conundrum':

<sup>146</sup> Jorge Luis Borges, 'Pierre Menard, Author of the *Quixote*' in *Labyrinths*, ed. by Donald A. Yates and James E. Irby (London: Penguin Classics), p. 62.

<sup>147</sup> Sorensen, p. 224.

<sup>148</sup> Sorensen, p. 224.

<sup>149</sup> Paisley Livingstone and Mikael Pettersson, 'Thought Experiments in Aesthetics' in *A Companion to Applied Philosophy*, ed. by Kasper Lippert-Ramussen, Kimberley Brownlee and David Coady (New Jersey, USA: John Wiley and Sons, 2017) p. 501.

<sup>150</sup> Gilles Deleuze, *Difference and Repetition*, trans. by Paul Patton (New York: Columbia University Press, 1995), p. xxii.



The fact is that every writer creates his own precursors. His work modifies our conception of the past, as it will modify the future. In this correlation the identity of the men involved is unimportant.<sup>151</sup>

The identities and precursors in the story come in the character of Pierre Menard, the spectre of Cervantes, and a narrator who claims some ‘slight authority’ on Menard’s body of work, in particular on ‘the subterranean, the interminably heroic, the peerless’ unfinished text of Menard’s *Don Quixote*. With only a few chapters of Menard’s *Quixote* to analyse, the narrator proceeds to detail Menard’s approach to the work and to compare Cervantes’ original book with Menard’s version, to the detriment of Cervantes. The reason for the alleged difference between the two texts, the narrator explains, is that the reader navigates the text either with the knowledge of Menard’s ‘impossible’ task, or with Cervantes’ more ‘prosaic’ authorship. The narrator’s explanation of Menard’s achievement is further complicated by his conclusion that Menard’s main contribution to the ‘art of reading’ is to obfuscate the issue of authorship entirely.

In his essays, such as ‘Parable of Cervantes and the *Quixote*’, Borges refers to the author and Don Quixote as ‘the dreamer and the dreamed one’,<sup>152</sup> and in ‘Partial Magic in the *Quixote*’, he discusses Cervantes’ placing of other texts and even his own work *Galatea* within his *Don Quixote*. In ‘Pierre Menard’, Borges takes the idea of an author creating a character who has read about his own life, and inverts it again to become an author, Borges, who creates the character of an author, Menard, who writes a book by an actual author, Cervantes, that the fictional author, Menard, has already read. The assertion that the importance of a reader’s individual experience of

<sup>151</sup> Borges, ‘Kafka and His Precursors’, in *Labyrinths*, p. 234.

<sup>152</sup> Borges, ‘Parable of Cervantes and the *Quixote*’, *Labyrinths*, p. 278.

the text in some ways supersedes the ‘authority’ of the author can be seen as a logical conclusion of the identity of self, as given such prominence by Descartes. In ‘Pierre Menard’, Borges ironizes this claim for the *reductio ad absurdum* of selfhood for the writer, and reader, of fiction.

While this story, and others such as ‘The Secret Miracle’, ‘The Lottery of Babylon’, and the paragraph-long ‘On Exactitude in Science’, are clear explorations of philosophical questions on metaphysics, aesthetics and paradox, they do not fully conform to the criteria for thought experiments as framed by those such as Sorensen and Swirski, as seen in Chapter 1. Indeed, Borges rejected the idea of allegory and complexity in his work that such an association might imply: ‘I have tried (I am not sure how successfully) to write plain tales’.<sup>153</sup> And further from Borges’ *Conversations* with Richard Burgin:

But the tale itself should be its own reality, no? People never accept that. They like to think that writers are aiming at something, in fact, I think that most people think – of course they won’t say so to themselves or to anybody else – they think of literature as being a kind of Aesop’s *Fables*, no?<sup>154</sup>

As David Egan argues, there can be a reductive quality in treating literature as allegory, where every concrete element ‘has an allegorical analogue at the abstract level’.<sup>155</sup> In his poem on Spinoza, Borges sums up his admiration for the clarity of the lens-grinder who, ‘Free of metaphor and myth, grinds/A stubborn crystal’.<sup>156</sup> And yet Borges, an avid reader of philosophy and philosophical tales including ‘Micromégas’,

<sup>153</sup> W.H. Bossart, *Borges and Philosophy: Self, Time and Metaphysics* (New York: Peter Lang Publishing, 2003), p. 118.

<sup>154</sup> Bossart, p. 119.

<sup>155</sup> Egan, p. 144.

<sup>156</sup> Jorge Luis Borges, ‘Spinoza’, in *Borges, A Reader: A Selection from the Writings of Jorge Luis Borges*, ed. by Emir Rodriguez Monegal and Alastair Reid (New York: Dutton, 1981), p. 285.

so often chooses as his subject the landscape of mythology and paradox, of fable and metaphysics, that it is difficult to take him at his word as the teller of 'plain tales'.

Still, compared with Voltaire and Shelley in 'Micromégas' and 'The Mortal Immortal', it is Borges' 'Pierre Menard' that most clearly succeeds in avoiding 'metaphor and myth' and could most closely be identified, using Sorensen's criteria, as a literary thought experiment. In this story we can see the possibilities of literature as thought experiment as shown by Elgin, as well as its limitations as defined by Egan and Sorensen. The story serves to advance knowledge but is also a fabulous creation in itself, the extraordinary details not limited to those that merely serve to answer a question, but not so distracting from the hypothesis of authorship as to negate the experiment.

## Black Destroyer

In the same year that ‘Pierre Menard’ was published in the Argentinian journal *Sur*, another form of literary experimentation was published in an American magazine, *Astounding SF*. In 1939, the ‘Golden Age’ of science fiction was burgeoning in North America, and the Canadian writer A.E. Van Vogt was at the forefront of the new movement.<sup>157</sup> ‘Black Destroyer’ describes a life form on another planet in relation to the humans who encounter it, as well as from the perspective of the alien itself:

Coeurl stopped when he was still ten feet from the foremost creature. The sense of Id was so overwhelming that his brain drifted to the ultimate verge of chaos. He felt as if his limbs were bathed in molten liquid; his very vision was not clear, as the sheer sensuality of his desire thundered through his being.<sup>158</sup>

The consciousness of the alien, Coeurl, is depicted in more detail and with greater sympathy than that of most of the human visitors to his planet. Van Vogt’s representation of the ‘invaders’ who have little respect for, or understanding of, Coeurl and refer to him as ‘pussy’, places the reader in alignment with the alien or ‘other’. This ‘most memorable debut in the history of the genre’<sup>159</sup> combines the traditional storytelling techniques defined by Lamarque,<sup>160</sup> as discussed below in Chapter 2 Part 4, with developing studies of consciousness in the twentieth century.

A particular aspect of philosophical study appears to be reflected in the depictions of Coeurl as a ‘conscious’ being. The ideas of German philosopher

<sup>157</sup> *The Encyclopedia of Science Fiction*, ed. by John Clute and Peter Nicolls (London: Orbit, 1999).

<sup>158</sup> A.E. Van Vogt, ‘Black Destroyer’ in *The Voyage of the Space Beagle* (New York: Orb Trade, 2008).

<sup>159</sup> Harlan Ellison, Introduction to *Futures Past: The Best Short Fiction of A.E. Van Vogt* (Tachyon, 1999).

<sup>160</sup> Lamarque, p. 131.

Edmund Husserl had influenced contemporary philosophers, such as Heidegger, working on the explorations of ‘the self’ that would become the branch of philosophy known as ‘philosophy of mind’. In *Logical Investigations*, Husserl established a theory of ‘phenomenology’ that developed notions of consciousness away from Locke’s notions of personal identity based on memory to a more intention-based consciousness, where there is a relationship between the object being thought of, and the mental content of that thought. Phenomenology expanded the understanding of consciousness to include the properties of what is being perceived:

Because object and subject were mutually implicated, consciousness for Husserl was never blank or empty, a pure ‘I think’ was impossible. Consciousness always had content and was always conscious *of* something.<sup>161</sup>

Husserl’s phenomenology had wide implications for the depiction of consciousness in fiction. That is not say that fiction writers adopted the philosophical construct of Husserl’s (or Heidegger’s) phenomenology in the twentieth century, but rather that the contemporaneous conversation about personal experience and identity was being conducted by both philosophy and literature. As Shilpa Venkatachalam argues in *Writing the Self*, ‘if philosophy has penetrated the sphere of literature by an examination of the particular, literature has infiltrated philosophical space in its concern with the universal.’<sup>162</sup> The exploration of consciousness is at the forefront of this overlap and of the understanding that not only are your experiences entirely subjective but that you are the object of other people’s subjective experiences. This

<sup>161</sup> Vincent B. Leitch, *American Literary Criticism Since the 1930s: Second Edition* (Abingdon, Oxon: Routledge, 2010), p. 131.

<sup>162</sup> Shilpa Venkatachalam, *Writing the Self: Case Studies in Phenomenology and Fiction* (Nottingham: University of Nottingham, 2007), <http://eprints.nottingham.ac.uk/12603/1/438316.pdf> [accessed 09 March 2018] (p. 22)

interpretation allowed for an empathetic conception of the individual experience of self. One of the ways we might understand Van Vogt's depiction of empathy is through his unusual use of the subjective to describe the alien (Coerl) experience.

In writing about human life from the point of view of the alien, Van Vogt was able to elucidate issues of 'invasion' and the 'frontier'. The break with pulp fiction's stereotypes of the 'other' was so marked that 'Black Destroyer' later became the inspiration for a new type of science fiction, in film as the *Alien* series, and on television, once the story was incorporated into a novel, as *Star Trek*.<sup>163</sup> Van Vogt was part of a movement of science fiction writers who, as Voltaire had done, attempted a more objective perspective on human life on Earth, as one being of many, on one of many planets, long before humankind had ventured into space. But, whereas Voltaire had written his tale as an amused narrator commenting on the inflated egos of the giant aliens and the pygmy humans, Van Vogt's story takes the reader inside the minds of the characters to depict their inner lives. The tale was no longer limited to the story; the teller could now show you the mind of the narrator and that of the told.

As a story in the science fiction genre, 'Black Destroyer' conforms to the speculative interpretation of thought experimentation as an extended metaphor. The concepts of the morality of invasion, otherness, territory and occupation are reduced to their simplest elements, the familiar constructs of our own geopolitics removed. For this reason, science fiction has long been adopted and adapted by writers to explore moral arguments that overlap with philosophical thought experiments in their ambition. Just as Descartes and Plato posed people in hypothetical dreams and caves

<sup>163</sup> Fredric Jameson, *Archaeologies of the Future. The Desire Called Utopia and Other Science Fictions* (New York: Verso, 2005), p. 325.

to examine the nature of reality and human perception, so science fiction writers have imagined new worlds and frontiers, creating fictional spaces in which to challenge the reader's preconceptions of their own world. As Susan Schneider writes in *Science Fiction and Philosophy*, 'Intriguingly, if you read science fiction writers like Stanislaw Lem, Isaac Asimov, Arthur C. Clark and Robert Sawyer, you are already aware that some of the best science fiction tales are in fact long versions of philosophical thought experiments.'<sup>164</sup> While this understanding of science fiction as philosophically engaged might seem to support the idea of literary thought experimentation in science fiction, it also highlights the tension between the definition of a thought experiment and the literary explorations of science fiction authors. If, as Dennett argues,<sup>165</sup> even established philosophical thought experiments are mere 'intuition pumps', that is, manipulations of our intuitive analysis using creative smokescreens, then any further embellishments to the narrative only serve to compound the objection.

In 'Black Destroyer', these elements, of length and detail, overwhelm any sense of the narrative as purely thought experimentation. In addition, the complexity of point of view, changing between human and Coeurl, invalidates the simple narrative viewpoint (usually third or first person) of a thought experiment. As previously stated by Elgin, the more elaborate fictional narratives may provide knowledge, an insight into an otherwise 'unknowable' world for example, but, as defined by Lamarque, this knowledge does not fall into the category of that provided by the specific parameters of a thought experiment: 'Questions of ontology and truth are strictly independent of the formal features of narrative in the sense that it is always

<sup>164</sup> *Science Fiction and Philosophy*, ed. by Susan Schneider (Chichester, England: Wiley and Blackwell, 2009), p. 2.

<sup>165</sup> See Chapter 1, Part 3.

open to ask of any narrative what its referential commitments are.’<sup>166</sup> Like Sorensen, Lamarque questions the possibility of extracting any factual conclusion from a literary premise that has no obligation to refer to an objective reality.

In reflecting some of the contemporary philosophical issues of the 1950s, ‘Black Destroyer’ can be shown to contribute to the reader’s understanding of the debates while remaining outside the criteria of the thought experiment. Van Vogt aligns with Elgin’s notion of a ‘contribution’ to the sum of the reader’s knowledge, not only of these particular characters, but more widely to the understanding and investigation of the reader’s attitude to the problem of ‘other minds’. However, the emotional content of the story is an additional literary feature that deviates from the definition of a thought experiment in the scientific method as seen in Chapter 1. Instead, ‘Black Destroyer’ can be seen as a twentieth-century science fiction tale in the tradition of Voltaire’s ‘Micromégas’, exploring new territories of narrative and consciousness with the latest philosophical and scientific information available.

<sup>166</sup> Lamarque, p. 151.



## Conclusion

While tales have long been used in philosophical discussions, they were used as a resource for philosophical argument rather than being philosophical devices in their own right. Such literary reference continues in more recent philosophical debate, from Wittgenstein<sup>167</sup> to Gombay<sup>168</sup>. As R.W. Beardsmore states, ‘It is by no means unusual in works of philosophy for writers to make use of examples from literature or...to bemoan the lack of literary examples in the work of other philosophers.’<sup>169</sup> As we have seen, the short story, in particular, lends itself to this utility, given the form, history, and connection to the mythic as discussed by May.<sup>170</sup> However, to claim that certain narrative fictions might be considered thought experiments would be a disservice to both the methodology of thought experimentation and to the scope of literature. Certainly, ‘knowledge’ can be considered as an aim and a product of short stories and tales, but it is of a broader kind, occasionally of factual information but more often of emotional insight and analysis of human behaviour, than a particular knowledge sought in answer to the specific question of a thought experiment. A tale also comes with a literary ambition, even a modest one of entertainment, that is not a necessary feature of thought experimentation.

In his essay, Beardsmore summarises the problems of attempting to conflate literary fiction with philosophical theses: ‘There is, for example, no suggestion that

<sup>167</sup> See *Lectures and Conversations*, and *Culture and Value*.

<sup>168</sup> André Gombay, ‘What You Don’t Know Doesn’t Hurt You’ in *Proceedings of the Aristotelian Society*, Vol. 79 (1970) <<https://www.jstor.org/stable/4544943>> [accessed 24 July 2018]

<sup>169</sup> R. W. Beardsmore, ‘Literary Examples and Philosophical Confusion’ in *Philosophy and Literature*, ed. by A. Phillips Griffiths (Cambridge: Cambridge University Press, 1989), p. 59.

<sup>170</sup> May, ‘Metaphoric Motivation in Short fiction: “In the Beginning was the Story”’ in *Short Story Theory at a Crossroads* (Baton Rouge and London: Louisiana State University Press, 1989).

great literature might have something to offer philosophy which what is inferior does not, nor any sense that the distinctively literary qualities of literature might have a role to play in philosophy.’<sup>171</sup> Nevertheless, literary fiction does provide useful examples for philosophical debate, as in ‘How can we be moved by the fate of Anna Karenina?’<sup>172</sup> or ‘Asimov’s “Three Laws of Robotics” and Machine Metaethics’,<sup>173</sup> and while it is the case that the stories themselves may not usefully be considered experiments, philosophers from Plato to Nagel have employed the narrative structure of short fictions in particular to craft the hypothetical questions now known as thought experiments.

As we have seen in the previous examples, it was the flexibility of the tale that enabled it to reflect and articulate the newfound freedoms in philosophical thinking of post-Enlightenment Britain and continental Europe. With the development in studies of consciousness that sprang from the gradual religious freedoms of the eighteenth century, came a new form of tale. As described by Killick, the morality tale that started with the tale became increasingly nuanced during the nineteenth century, reflecting a burgeoning social and philosophical awareness. The new short story that emerged, with its possibilities of genre and its connections to the tale and to myth, was ideally suited to become an essential resource in the elucidation of theories in philosophy of mind.

<sup>171</sup> Beardsmore, p. 60.

<sup>172</sup> Colin Radford and Michael Weston, ‘How can we be moved by the fate of Anna Karenina?’, *Proceedings of the Aristotelian Society*, Vol. 49 (1975) pp. 67–93. <[www.jstor.org/stable/4106870](http://www.jstor.org/stable/4106870)> [accessed 25 July 2018]

<sup>173</sup> Susan Leigh Anderson, ‘Asimov’s “Three Laws of Robotics” and Machine Metaethics’ in *Science Fiction and Philosophy* ed. by Susan Schneider (Chichester, England: Wiley and Blackwell, 2009), pp. 259-277.

4. The narrative elements of thought experiments in philosophy of mind.

The following section will investigate the links between thought experiments in philosophy of mind and some specific features of traditional narratives. I will look in particular at the traditional ‘tale’, in order to establish the ways in which philosophy of mind relies upon storytelling techniques not only to disseminate theories of mind, but to develop and investigate them.

While Plato, despite his own practice, had been critical of fiction in philosophical thinking, as ‘an imitation thrice removed from the truth’,<sup>174</sup> modern philosophy from the period of the Enlightenment up to the contemporary philosophy of the last century has continued to develop fictional narratives in thought experimentation. Such narrative-driven thought experimentation still has its critics, from those philosophers, such as Dennett who are concerned with the shifting parameters of an experiment that may only serve to confirm pre-conceived notions, ‘intuition pumps’,<sup>175</sup> to the more specific accusation levelled by Katherine Wilkes that using thought experimentation in philosophy of mind is to attempt an understanding of personal identity by the ‘cul-de-sac of irrelevance’.<sup>176</sup> In addition to the objections about the use of narrative in thought experimentation as a means of investigating personal identity and human consciousness, it should be noted that the term ‘narrative’ is also contentious. I will apply defined criteria for narrative to some contemporary philosophical thought experiments, but I observe Michael Bell’s caution, in ‘How Primordial is Narrative?’ that the loose application of ‘narrative’ in different disciplines ‘may create an obfuscatory penumbra around the very object it

<sup>174</sup> Plato, *The Republic*, p. 733.

<sup>175</sup> Dennett, ‘Swampman meets a cow-shark’, p. 180.

<sup>176</sup> Katherine V. Wilkes, *Real People: Personal Identity Without Thought Experiments* (Oxford: Clarendon Press, 1988), p. 221.

seeks to illuminate'.<sup>177</sup> There is certainly a general sense of 'story time' in the application of 'narrative' both as a technique and as a descriptive term, but my aim here is to examine how particular, defined, aspects of narrative fiction have been developed and used in philosophy of mind.

Certain features of thought experiments have become tropes of philosophical investigations. Chalmers' zombies, Nagel's bat, Jackson's colour-blind scientist, and Searle's Chinese room are taken as symbols for a certain position on models of the mind, in these instances a dualist, or at least non-materialist, position. The narrative aspects of these stories, the tropes and the predicaments, combine to form a presentation of theory of mind that is distinctive and memorable.

One example can be found in the American philosopher Donald Davidson's thought experiment, 'Swampman'. The experiment was created as a means for Davidson to express a view that became known as 'semantic externalism',<sup>178</sup> where meaning may be determined by factors other than the speaker's intentions. Davidson posits that a being, Swampman, might replace him without anyone noticing the difference:

Suppose lightning strikes a dead tree in a swamp; I am standing nearby. My body is reduced to its elements, while entirely by coincidence (and out of different molecules) the tree is turned into my physical replica. My replica, the Swampman, moves exactly as I did; according to its nature it departs the swamp, encounters and seems to recognize my friends, and appears to return their greetings in English. It moves into my house and writes articles on radical interpretation. No one can tell the difference. But there *is* a difference. My replica can't recognize my friends. It can't recognize anything because it never cognized anything in the first place...Indeed I

<sup>177</sup> Michael Bell, 'How Primordial is Narrative?', *Narrative in Culture: The Uses of Storytelling in the Sciences, Philosophy, and Literature*, (Abingdon, Oxford: Routledge, 1990), p. 172.

<sup>178</sup> Susana Nuccetelli, *New Essays on Semantic Externalism and Self-Knowledge* (Cambridge, Massachusetts: MIT, 2003), p. 4.

don't know my replica can be said to mean anything by the sounds it makes, nor to have any thoughts.<sup>179</sup>

The character of the Swampman, along with the lightning, the possibilities of the story and the questions it generates, combined to create a thought experiment that has achieved 'notoriety'.<sup>180</sup> The striking narrative features captured the popular imagination as well as that of Davidson's contemporaries. As Jeff Malpas writes, 'The attention Swampman has generated is quite disproportionate to his extremely brief appearance in Davidson's writing.'<sup>181</sup> It is my contention that certain elements of narrative device, particularly those evidenced in the traditional 'tale' or 'fable' are embedded in the structure of many modern thought experiments and have contributed to their impact on philosophical debate. So, what do I mean by 'narrative devices'?

Some pertinent elements of narrative are specified by Peter Lamarque in his essay 'Narrative and Invention' as 'time, structure, voice and point of view'.<sup>182</sup> In 'Swampman', we can see that the beginning of the story represents the first of these dimensions, with a fixed moment: 'Suppose lightning strikes a dead tree in a swamp'. The structure, or plot, continues with a middle, 'it departs the swamp', and an end, 'it moves into my house and seems to write articles on radical interpretation'. The character of the narrator is Davidson, 'I am standing nearby,' and it is both the narrator's first-person voice and point of view, that of 'Davidson', and the character

<sup>179</sup> Donald Davidson, 'Knowing One's Own Mind', *Proceedings and Addresses of the American Philosophical Association*, Vol. 60, No. 3 (Jan., 1987), <<http://www.jstor.org/stable/3131782>> [accessed 10 April 2015] (p. 443)

<sup>180</sup> Jeff Malpas, 'Donald Davidson', in *The Stanford Encyclopedia of Philosophy* (Spring 2015 Edition) ed. by Edward N. Zalta <<http://plato.stanford.edu/archives/spr2015/entries/davidson/>> [accessed 12 April 2015]

<sup>181</sup> Malpas, 2015.

<sup>182</sup> Peter Lamarque, 'Narrative and Invention', in *Narrative in Culture: The Uses of Storytelling in the Sciences, Philosophy, and Literature*, ed. by Christopher Nash (Abingdon, Oxon: Routledge, 1990), p. 131.

of Swampman, that is represented in the story. With its use of time, structure, voice and point of view, 'Swampman' fulfils the necessary conditions of narrative as defined by Lamarque. But could the thought experiment also be said to resemble what is known as a 'tale'?

In his essay 'The Tale as Genre in Short Fiction'<sup>183</sup> W.S. Penn calls the tale: 'the earliest genre of the story'.<sup>184</sup> When defining a tale, Penn suggests we pay attention to: 'genre, structure, enunciative and narrative postures, mode, and tropical convention.'<sup>185</sup> We have seen that 'Swampman' can be said to have narrative structure. It also has a recognisable genre; with a 'creature' that may replace our narrator/hero, the experiment might be the start of many a horror story. And we can identify a narrative posture in Davidson's writing with the author assuming the character of 'narrator' and creating the character of Swampman.

As for enunciative posture, Penn describes this as the 'detectable or intuited moral relation of the implied author'.<sup>186</sup> While it might not be said that Davidson's thought experiment is 'moral' in the sense of a code of values, I argue that the implicit 'judgement' involved in thought experiments like 'Swampman' is akin to that of the morality tale. By this, I mean that the structure of a thought experiment requires a response from the reader in the form of a judgement, what Dennett refers to as an 'intuition'; it doesn't just tell a story. In the case of 'Swampman', Davidson appears to insist on a conclusion: he tells us that his friends cannot tell the difference between the 'real' him and the thing made from a tree stump but, he says, 'there *is* a difference' and it is that Davidson believes that whatever sounds the 'Swampman'

<sup>183</sup> W.S. Penn, 'The Tale as Genre in Short Fiction', *The New Short Story Theories*, p. 44-55.

<sup>184</sup> Penn, p. 54.

<sup>185</sup> Penn, p. 54.

<sup>186</sup> Penn, p.46.

makes, he cannot be said to ‘mean anything’ at all.’<sup>187</sup> Since Davidson, the author, has intruded on the narrative and is clearly not just telling a story, the thought experiment invites the reader to reciprocate and draw their own conclusion. If the reader is willing to imagine the possible existence of ‘Swampman’, then they might also have their own judgement on what the creature can ‘mean’. This is what Penn refers to as the ‘contract’ between the reader and the author.<sup>188</sup>

There is also a mode, ‘thematic presentation’,<sup>189</sup> in this case, myth. Myth is defined by Michael Bell as ‘a point of intersection between lived time and a timeless order...and may cast its shadow on certain kinds of narrative such as folklore.’<sup>190</sup> ‘Swampman’ fulfils these criteria as well as the ‘metaphysical nimbus’ of Bell’s myth.<sup>191</sup> As for ‘tropical convention’, Penn describes his use of the term as: ‘a vertical scale of literary “tropes” ’ and ‘the manner by which the writer allows, and in which the reader accomplishes, understanding and interpretation of the language’.<sup>192</sup> In ‘Swampman’ we can see a combination of elements that conform to such an analysis, with a combination of allegory and synecdoche that invites the reader to understand the story in relation to the ‘real world’ from a mimetic position. That is, such a thing as a ‘Swampman’, while not existing, could possibly exist and stands as a symbol for a being that is like Davidson, but is not Davidson.

In keeping with the moral element, as described by Robert Marler in ‘From Tale to Short Story’,<sup>193</sup> ‘Swampman’, while not conforming to the full structure of a tale, fulfils enough of the criteria as suggested by Penn and Marler to be recognisably

<sup>187</sup> Davidson, p. 444.

<sup>188</sup> Penn, p. 44.

<sup>189</sup> Penn, p. 45.

<sup>190</sup> Michael Bell, p. 173.

<sup>191</sup> Bell, p. 173.

<sup>192</sup> Penn, p. 45.

<sup>193</sup> Robert Marler, ‘From Tale to Short Story: the Emergence of a New Genre in the 1850s’, *The New Short Story Theories* (Athens, Ohio: Ohio University Press, 1994).

connected to the tradition. In the few sentences of the thought experiment, we recognise the echoes of the tale as it beckons the reader to suspend their disbelief at the same time as remarking upon a universal ‘truth’. Here we can see how the ‘disproportionate’<sup>194</sup> impact of ‘Swampman’ has been facilitated by its use of narrative devices: the engagement of the imagination of the reader/listener, genre, structure, defined and, sometimes, striking characters, and a moral, or judgement, call. In addition, Sorensen argues we gain knowledge from narrative thought experiments using the ‘Transformation Model’, where information we already possess is transformed from knowing *how* to knowing *that*.<sup>195</sup> When we read fiction, we project our own hypothetical reactions on to a fictional character’s. In such a way, we will compare their behaviour with our own experience and understanding and try to make sense of the fictional world. As stated by Swirski: ‘Projecting themselves into the lives and motives of narrative agents, readers can fathom their own *hypothetical* beliefs and desires, and project them back.’<sup>196</sup> The strength of this engagement can be seen in the way that thought experiments are often developed between philosophers, in what can be seen as an extended conversation. In his article ‘What are we to think about Thought Experiments?’, Laurence Souder states the need ‘to observe how the narrative aspect of thought experiments have [sic] implications for the process whereby one version of a thought experiment can spawn another’.<sup>197</sup> In these cases, the narrative progresses from the original idea through variations on the theme, providing a platform on which the discussion can be continued.

<sup>194</sup> Malpas, 2015.

<sup>195</sup> Sorensen, p. 92.

<sup>196</sup> Swirski, p. 118.

<sup>197</sup> Lawrence Souder, ‘What are we to think about Thought Experiments?’, *Argumentation: An International Journal on Reasoning*, Volume 17, Issue 2, (Netherlands: Kluwer Academic Publishers, 2003), p. 208.



‘Swampman’ itself was a response to another thought experiment, Hilary Putnam’s ‘Twin Earth’, a similar exploration of semantic externalism and the possibilities of ‘meaning’, discussed in detail in Chapter 3. ‘Swampman’ and ‘Twin Earth’, were illustrated by separate imaginary scenarios, but some thought experiments inspire further developments of the same scenario. One such thought experiment is Frank Jackson’s ‘What Mary Knew’, further discussed in Chapter 3. ‘What Mary Knew’ spawned many essays and replies, including Dennett’s *What RoboMary Knows*,<sup>198</sup> Michael Beaton’s *What RoboDennett Still Doesn’t Know*,<sup>199</sup> and *There’s Something About Mary*,<sup>200</sup> an entire collection of responses to Jackson’s original thought experiment. There are even cases where a particular thought experiment has started a movement of its own such as ‘Philippa Foot’s ‘The Trolley Problem’, as discussed in Chapter 1 Part 2, that began a branch of philosophical studies known as Trolleyology.

Although the Swampman was invented by Davidson to further investigate notions of semantic externalism, it (he?) is also connected with the philosophical concept of zombies and personal identity, as seen in Chalmers’ ‘Philosophical Zombies’. Chalmers’ thought experiment is discussed in detail in Chapter 3, but one of the additional philosophical debates that was tested by ‘P-Zombies’ is one that is central to many contemporary thought experiments, the conceivability argument. The proponents of the conceivability argument maintain that if you can imagine a concept

<sup>198</sup> Dennett, ‘What RoboMary Knows’, in *Phenomenal Concepts and Phenomenal Knowledge: New Essays on Consciousness*, ed. by Torin Alter (Oxford: OUP, 2006) < <http://ase.tufts.edu/cogstud/papers/RoboMaryfinal.htm> > [accessed 15 October 2012]

<sup>199</sup> Michael Beaton, *Journal of Consciousness Studies*, Volume 12, Number 12, December 2005, < <http://ase.tufts.edu/cogstud/papers/Beaton2.htm> > [accessed 15 October 2012]

<sup>200</sup> *There’s Something About Mary: Essays on Phenomenal Consciousness and Frank Jackson’s Knowledge Argument*, ed., by Peter Ludlow, Yujin Nagasawa and Daniel Stoljar (Cambridge, Massachusetts: MIT Press, 2004).

then it is possible that such a concept might be true. Zombies are considered both possible and conceivable by many philosophers, including Davidson, Chalmers and Robert Kirk and J.E.R. Squires in an earlier zombie thought experiment of 1974, 'Zombies v. Materialists'.<sup>201</sup> But the premise begs the question to such an extent that Joseph Levine labelled P-Zombies 'the principal manifestation of the explanatory gap'.<sup>202</sup> That is, we cannot explain the difference between the p-Zombie and Chalmers, or the Swampman and Davidson in physical terms, although we can conceive that there is a difference. While the debate continues for both the conceivability argument and the explanatory gap, the contribution of the P-Zombie and, more generally, of the narrative features of thought experimentation such as character, plot and point of view, are clearly visible.

The use of the kind of thought experiment exemplified by 'Swampman' in philosophy of mind can be seen as part of the formal development of narrative as an experimental tool. We have seen how, in some part, the increasing freedom to express philosophical and scientific thought during the Enlightenment, and the increased dissemination of ideas, contributed to the imaginative possibilities of thought experimentation. While thought experimentation was, and continues to be, useful to many disciplines in both the sciences and humanities, it is philosophy and especially philosophy of mind that have most utilised the medium of narrative thought experimentation to investigate and disseminate ideas. It is not a coincidence that the very property that continues to manifest as the 'hard problem' of philosophy of mind is the one that is most engaged in all its complexity during the debate. Consciousness, in its many possible forms, has been imaginatively interpreted in fictional narratives

<sup>201</sup> Robert Kirk and J.E.R. Squires, 'Zombies v. Materialists', *Aristotelian Society* supplementary vol. 48 (1974), pp. 135-163.

<sup>202</sup> Joseph Levine, *Purple Haze: The Puzzle of Consciousness* (Oxford: Oxford University Press, 2001), p. 79.

by both philosophers and poets throughout human history. In my own creative response to the thought experiments in philosophy of mind, I believed I was using the most ‘meanness’ of me, the memory and qualia of experience that have led to my supposedly unique consciousness. I wanted to combine my own sensibilities with the philosophy of the non-materialists to create a literary argument or thought experiment, for a soul of sorts. That I succeeded in a way I did not anticipate, or desire, may be further evidence of the ‘gap’ in explanations of consciousness. My efforts to combine my research and my creative consciousness are documented in the following chapter.

## Chapter 3 Why the Grasshopper Sang: Ten Thought Experiments that Inspired My Creative Project

### Introduction

The book that has become *Love and Other Thought Experiments* began as an idea to re-imagine some of the most enduring thought experiments in philosophy of mind and structure them as a collection of linked stories under the broad theme of human consciousness. I wanted to study the elements of thought experiments that had made them such a powerful tool in the philosopher's kit, and to place some of the explorations of consciousness demonstrated in the short experiments into more elaborate fictional setting, a version of the 'tale' where the ideas could be further realised.

A short story cycle, as discussed in Chapter 2 Part 3, suggested itself as a template, given the connection between the basis of the planned book on the 'tale' or 'fable' and the thematically-driven stories of the short story cycle. This device can be found in the tradition of the 'framed tale' as discussed by Dunn<sup>203</sup>, originating in such collections as Boccaccio's *The Decameron* and Chaucer's *Canterbury Tales*. However, it was not until the nineteenth century that the notion of a 'connected series of tales' gained recognition as a genre, albeit without a name:

The genre that had no name, then, was developing throughout the nineteenth century, taking unto itself aspects of the novel and the short story collection while occupying a path separate from and parallel to those of the other genres.<sup>204</sup>

With the continuing development of the genre into the twentieth century, it has been

<sup>203</sup> Dunn, p. 2.

<sup>204</sup> Dunn, p. 29.

in the last two hundred years that the short story cycle, as a collection rather than a quirk of publishing, has flourished.

The flexibility of the format can encompass tales representing a community or place, as in Sherwood Anderson's *Winesburg, Ohio*, and James Joyce's *The Dubliners*, as well as different genres, from detective fiction, as in Conan Doyle's Sherlock Holmes stories, to science fiction as, for example, in Isaac Asimov's *I, Robot* series. When I started the process of collecting the thought experiments that would form the basis of each story, I focused on the theme of representations of identity. Jennifer Egan's *A Visit From the Goon Squad*<sup>205</sup>, a book that connects stories about the music industry with recurring characters, and shifts between settings and time periods, was an early influence on the story-cycle structure of the book.

The idea of the soul, or personal identity, has been central to many fictional narratives, particularly since the Enlightenment, as observed in Chapter 2 Part 1. In the context of my own project, I looked in particular at David Lodge's *Thinks* and Scarlett Thomas's *The End of Mr. Y*. Lodge's novel takes some of the particular thought experiments in which I was already interested, including Jackson's 'Mary's Room', and Searle's 'The Chinese Room', and considers whether the philosopher or the writer is best placed to depict consciousness. In Thomas's novel, a philosophy student even manages to enter the 'Troposphere', a universe of pure consciousness. Both books are campus novels, and I imagined that my own book would also necessitate a university setting in order to explore philosophical notions of consciousness through the character of an academic. The opening chapters of *The End of Mr. Y*, in particular, had contributed to my PhD proposal. In the book, student Ariel

<sup>205</sup> Jennifer Egan, *A Visit From the Goon Squad* (New York: Knopf, 2010).

Manto goes to a lecture and meets the academic Saul Burlem who invites her to do a PhD at his university in Greenwich. He asks her to explain what it is that interests her:

“I quite like the way you can talk about science without necessarily using mathematics, but using metaphors instead...For each of these ideas and theories, you find there’s a little story that goes with it.”

“So write a proposal. Do a PhD on these experiments of the mind: I’d be very interested in supervising that. Work in some novels and poetry...Make sure you don’t get too carried away. Set a time frame, or some other form of limit.”<sup>206</sup>

I also wanted to engage with these ‘little stories’ in my own PhD. At this, oh so early, stage, I had the idea that the thought experiments I would choose, and the stories I subsequently would write, would elucidate my conviction about the importance of a dualist, or at least a non-materialist, account of human consciousness.

My research into thought experiments, particularly in philosophy of mind was intrinsic to both the creative and critical components of my PhD, and it was necessary to undertake much of the critical research before I could begin to write my creative response in the form of what was to become my novel. For each chapter of the creative project, I chose an experiment in philosophy of mind from the last sixty years, when most of the work involving artificial intelligence and its impact on studies of consciousness has taken place. Some of these experiments were a development of ideas that had been discussed over centuries, as seen in Chapter 1 Part 3, and I wanted to include some of these earlier iterations. I chose two experiments that, along with their mathematical propositions, have had a great influence on analyses of human behaviour, ‘The Prisoner’s Dilemma’, a mathematical proposition for cooperative problem solving, and an argument made by Blaise Pascal in the

<sup>206</sup> Scarlett Thomas, *The End of Mr. Y* (London, Canongate, 2008), p. 27.

seventeenth century, ‘Pascal’s Wager’. This proto-thought experiment combined mathematical calculation with a human belief system. From the ancient Greek thinkers, I wanted to use ‘The Ship of Theseus’, a problem or paradox, found in Plutarch’s *Theseus*, which presented the idea of a consistent state of being and complemented Gilbert Harman’s ‘Brain in a Vat’ contemporary thought experiment. Taken together, these experiments formed a basis for the proposed basis of my novel that human consciousness was more than just a tool for survival or a product of our material bodies. As my creative response to the thought experiments progressed, I found that they were indeed persuasive, but the resulting argument was not quite the one I had intended.

In this chapter I will take each of the stories that make up the book that became my composite novel, *Love and Other Thought Experiments*, and investigate the thought experiments on which they are based, some of the works and other stories that have influenced the project, my own developing narrative, and some of the reflections about the process of researching and writing the novel. I shall write about the stories in the order that they were written, although this is not the eventual order in the finished book.

## An Ant

The first story was inspired by ‘Pascal’s Wager’, a thought experiment that expressed the argument for belief in mathematical terms. The seventeenth-century mathematician Blaise Pascal argued that since God either does or does not exist and we must all make a decision about the existence of God, we are all bound to take part in the wager:

Let us weigh the gain and the loss in wagering that God is. Let us estimate these two chances. If you gain, you gain all; if you lose, you lose nothing. Wager, then, without hesitation that He is.<sup>207</sup>

The infinite amount of possible gain far outweighs the finite loss, and even threatens infinite loss in the afterlife for the possible finite gain of a life without belief. I was interested in how the equation might apply to all human relationships and how it affects our everyday lives. Do we have faith in each other? Do we have faith not just in whether we exist or not, though that issue is central to the premise of the book, but do we ‘believe in’ those closest to us?

The central characters in the first story I wrote were based on the tropes of the academic and the student, in this case, two women in a romantic relationship. I wanted Eliza and Rachel to represent the scientific and spiritual sides of the ‘hard problem’ of consciousness. In ‘An Ant’, Rachel asks Eliza to believe that an ant has entered her head through her eye socket. In the use of a ‘creature’ to enter Rachel’s brain, there were echoes of the different literary genres employed in various thought experiments such as horror, magic realism and science (or speculative) fiction, and these genres were reflective of the different styles of the thought experiments, as seen

<sup>207</sup> Blaise Pascal, ‘The Wager’, in *Pensées*, trans. by A.J. Krailsheimer (Middlesex, England: Penguin Books, 1966) p.151.



in Chapter 2 Part 3. Furthermore, although I did not know it at this stage of the writing process in my later stories, the ant would come to represent the God of Pascal's belief and also the modern god of a conscious artificial intelligence. The invasion of the ant symbolises a crossover between 'infection' and 'symbiosis' in the way that modern technologies could be seen as taking over from human endeavour in an invasive or helpful way.

Eliza is asked to choose between believing this or being forever cast out of the intimacy of the relationship. It is a life wager. Rachel would like to start a family, with their friend Hal as the father, but Eliza has always kept a part of herself separate. In asking Eliza to believe her story, Rachel is effectively testing Eliza's commitment to the relationship. There is an opportunity to commit fully to the other's reality or risk standing separately from their world, the eternal beyond your grasp.

The style of the story was influenced by the style of the thought experiment on which it was based. 'Pascal's Wager' is presented as a logical argument for belief, as well as against non-belief, and so 'An Ant' is written principally in dialogue, reflecting the back-and-forth of the argument, and the relationship. As discussed in *The Narrative Modes*,<sup>208</sup> short stories that begin or end with dialogue are uncommon. Such openings can feel abrupt, as the reader is forced to 'jump' straight into the narrative without any context and fill in the blanks, on the page and in the conversation. The gaps, and the pain and possibilities within them, were something that I wanted to capture in the relationship between Eliza and Rachel, foreshadowing the permanent loss once Rachel dies.

I had already decided that Rachel would die, but I cannot remember how I reached such a decision. Much later, I was startled to find that the 'handle' as Stephen

<sup>208</sup> Helmut Bonheim, *The Narrative Modes: Techniques of the Short Story* (Cambridge: Brewer, 1982), p. 110.

King puts it, already lay within the text.<sup>209</sup> Many of the ideas and themes for ‘later’ stories were placed in the first story, though I was not aware that I had made such choices. In particular, there was the representation of a lack of reality, or the possibility of other realities, as with, ‘The future shimmered across the table. A world of possibilities, if only Eliza could believe in them.’<sup>210</sup> And, ‘The mirage of their life together pulled into focus.’<sup>211</sup> There was something of Borges’ ‘conundrum’ as discussed in Chapter 2 Part 2, in what I felt about the development of my own narrative. Clearly, the variety and nature of the thought experiments I had chosen meant that I would be engaging in some ‘experimental’ writing, science fiction, for example. But as far as I knew, I had no intention of writing another Rachel, as anticipated in this exchange:

Eliza shrugged. ‘There isn’t some other Rachel who didn’t get tested.’  
‘Is that what you want? A different Rachel?’  
‘I want none of this to have happened.’  
‘Where would you start erasing the past?’<sup>212</sup>

As I re-read the earlier stories in preparation for writing the later ones, there was an emerging sense that I had written things that I did not understand at the time of writing. In the ‘meta’ exercise of trying to explain the process of researching and writing my novel for this chapter, the continual possibility occurs to me that everything already existed, even in my own book. Perhaps the tentative denouement that began to grow out of the book, that we all exist as the electrical memory of an artificial intelligence, was bolstered by each new ‘co-incidence’. As I followed the

<sup>209</sup> Stephen King, *The Bazaar of Bad Dreams* (New York: Simon & Schuster, 2015), p. 85.

<sup>210</sup> *Love*, p. 17.

<sup>211</sup> *Love*, p. 18.

<sup>212</sup> *Love*, p. 27.

internal logic in the development of the story, my desire to express a version of 'humanity' as mainly defined by consciousness, was taken to an extreme that I had not anticipated.

### The Goldilocks Zone

The second story in the collection was to focus on John Searle's thought experiment, 'The Chinese Room'.<sup>213</sup> The style of the story was again based on aspects of the original thought experiment, which Searle wrote, in different versions, as both a first and third-person narrative. 'Imagine', Searle writes in one version, 'a native English speaker who knows no Chinese locked in a room full of boxes of Chinese symbols'.<sup>214</sup> With the opening sentence, Searle conjures up a world approximating that of a fairy tale: 'Once upon a time', and the experiment proceeds to many possibilities as the philosopher pursues different outcomes. We have a protagonist who is 'locked' in a room, and a puzzle to solve. Searle does not know any Chinese symbols, and the writing is meaningless to him, but he is given a book in English, the 'rule book', which correlates the symbols with each other in such a way that when asked to respond, he is able to return symbols as 'answers to the questions'. But can Searle really be said to understand Chinese? Searle's thought experiment was in response to the research into artificial intelligence that could attain a level of consciousness:

The point of the argument is this: if the man in the room does not understand Chinese on the basis of implementing the appropriate program for understanding Chinese then neither does any other digital computer solely on that basis because no computer, qua computer, has anything the man does not have.<sup>215</sup>

Roy Sorenson explains that 'The Chinese Room' appeals to our desire to be something more than a machine. We instinctively accept Searle's proposal because it supports our own experience that our consciousness is embedded in our physical

<sup>213</sup> John Searle, *The MIT Encyclopedia of the Cognitive Sciences*, ed. by Robert A. Wilson and Frank C. Keil (Cambridge, Massachusetts: MIT Press, 1999), p. 115.

<sup>214</sup> Searle, 1999.

<sup>215</sup> Searle, 1999.

experience as humans.<sup>216</sup>

The title for ‘The Goldilocks Zone’ is taken from the popular term for the ideal conditions for life on another planet, as well as referring to the fairy tale. The combination of the two references may lead the reader to think of the dead Rachel as Goldilocks, lost ‘in the woods’ or the unknown. I wanted to use the idea of a child struggling to cope with the death of his mother to illustrate Searle’s argument that having the necessary language to represent an event does not imply understanding. Arthur is the one who most seems not to know what death means, but it transpires that none of the family can really be said to understand Rachel’s death, and perhaps it is the open mind of the child that can most easily grasp the concept of the unknown: ‘Mummy couldn’t live here because she wasn’t well. So she’s gone to another planet.’<sup>217</sup> I also wanted to show that while the adults continue with a ‘language’ for processing their experience of death, they do not, indeed cannot, understand it.

In ‘The Goldilocks Zone’, the information given to Arthur about his dead mother is interpreted in a way that is not anticipated by his parents. The adults have dealt with Rachel’s death like the participant in ‘The Chinese Room’; they have been given a batch of symbols, processed the symbols and returned answers within the spectrum of conventional wisdom:

Hal started. ‘We said she was ill and her body didn’t work any more.’  
 ‘And we talked about death,’ Eliza said, ‘about what happens when you die. We did not say she was living somewhere else.’<sup>218</sup>

These are the adults’ attempts to pass the symbols on to Arthur. But he is too young to process them in the same way, and when he looks for solutions to Rachel’s absence

<sup>216</sup> Sorensen, p. 261.

<sup>217</sup> *Love*, p. 43.

<sup>218</sup> *Love*, p. 49.

he finds other possibilities. In his interpretation of the meaning of the signs and symbols he is given, Arthur reaches new conclusions.

At first glance, it might seem that Arthur is the one who behaves like Searle's figure in the Chinese room. He has no framework in which to place the death of his mother, no past experience or understanding. The adults around him are the ones who claim to understand, to 'speak Chinese'. However, it becomes clear to Greg that Arthur's ideas about the death of his mother have as much substance as those of the conventional thinkers. The metaphors that Arthur's parents supply lead him to believe that in some sense his mother is alive, and given the information that life can continue in any sympathetic environment he decides that the vastness and mysteries of space might explain where his mother has gone. 'Space' for Arthur is equated with 'death' in that they are realms that exist beyond his immediate understanding but about which his imagination is fed by stories and information given to him by his parents. Writing the story confirmed the sense I had that we might all be described as inhabitants of the Chinese room, searching for meaning from the signs and symbols around us, and that Arthur could be correct in thinking that his mother might exist in a different form or place. In developing Arthur's reaction to his mother's death within the structure of a creative response to the thought experiments, I thought I could see how Arthur might find his mother again.

My ideas for the stories had begun to overlap in ways that seemed to connect beyond the short stories that I had originally envisioned to form what I later came to understand as a 'composite' novel. These novels, as defined by Maggie Dunn and Ann R. Morris are a development of the short-story cycle:

The composite novel is a literary work composed of shorter texts that – though individually complete and autonomous – are interrelated in a coherent whole

according to one or more organising principles.<sup>219</sup>

In the research for this critical component of my thesis I found that, using the above definition, my idea for a ‘collection of stories’ was evolving from a story cycle to a composite novel. When Susan Mann analyses Eudora Welty’s *Golden Apples*, she describes the feeling of liberation and understanding that Welty expressed when she wrote the collection. As Welty says:

All this time in the back of my head these connections had worked themselves out. I just had to get the clue like a belated detective: this story’s people were that story’s people at a different period in their lives.<sup>220</sup>

The decision to proceed with characters from ‘An Ant’ had come with a similar feeling of connection to that which Welty describes; I could untangle the strands of that first story and tangle them up again, but still maintain the central idea of the thought experiments as the foundation for each new story. In *The Golden Apple*, Welty’s stories are unified by a cast of characters, and settings, and also by the use of mythology. As we have seen in Chapter 2 Part 2, there is contention over whether literary fiction can ever be considered ‘thought experimentation’, but neither were the experiments strictly ‘background’ as Welty describes her myths. With my use of thought experiments, I did not want to ‘reproduce’ the experiment, but rather to create an original story that captured the philosophical argument. It was also important that my stories, and the resulting novel, could stand on their own as narratives. Much as I wanted to engage the reader with the arguments behind the thought experiments, it seemed to me that if they didn’t work as independent narratives then they had failed

<sup>219</sup> Maggie Dunn and Anne Morris, *The Composite Novel: The Short Story Cycle in Transition* (New York: Twayne Publishers, 1995), p. 2.

<sup>220</sup> Mann, p. 141.

as a creative endeavour.



## Clementinum

I returned to my list of thought experiments. Approaching the third story in the collection, I decided to investigate Jackson's 'What Mary Knew' from Rachel's point of view, on the last day of her life. In 'The Goldilocks Zone', Greg had wondered how anyone could claim to understand death when they only experienced it as observers, the 'left-behind'. As discussed in Chapter 2 Parts 2 and 3, Frank Jackson raised the notion of Mary:

Mary is a brilliant scientist who is, for whatever reason, forced to investigate the world from a black and white room via a black and white television monitor. She specializes in the neurophysiology of vision and acquires, let us suppose, all the physical information there is to obtain about what goes on when we see ripe tomatoes, or the sky, and use terms like 'red' and 'blue', and so on.<sup>221</sup>

Jackson poses the question; will her understanding change when she actually sees the colour red?

I wanted to tell the next story from Rachel's point of view, but she was now dead. 'What Mary Knew' provided the framework for approaching death as the 'unknown' thing that the colour red is for Mary. I did not want Rachel narrating from the afterlife as Susie Salmon does in Alice Sebold's *Lovely Bones*.<sup>222</sup> Nor did I want her not to die, like Margot in Harlan Coben's *Tell No One*,<sup>223</sup> or to not 'really' die, like Lucy Westenra in Bram Stoker's *Dracula*.<sup>224</sup> I thought her death should be as complete and unknowable to her as it would be for any of us. As Rachel dies, does she learn something new, like Mary the scientist when she sees red for the first time? Jackson states, 'I've always thought that the sensory side of psychology, the feely bit,

<sup>221</sup> Frank Jackson, 'Epiphenomenal Qualia', *Philosophical Quarterly*, Vol. 32, No. 127 (1982), pp. 127–136.

<sup>222</sup> Alice Sebold, *The Lovely Bones* (London: Picador, 2003).

<sup>223</sup> Harlan Coben, *Tell No One* (London: Orion, 2015).

<sup>224</sup> Bram Stoker, *Dracula* (London: Penguin, 2004).

the pains and the itches and the tickles and the red sunset...that was the bit that materialism couldn't handle'.<sup>225</sup> On Rachel's last day, I wanted to explore that 'feely bit' of dying, not just the emotion but the qualia of the experience:

The sense of continuity with all things she touched and breathed. The weak sunshine reflected in a polished glass, the shiny glaze of a plate. The illuminated particles of life suspended in the filtered light. Her hand in front of her. The day. The day.<sup>226</sup>

Rachel notices everything in greater detail as the moments she has left become fewer, in the same way that we sometimes speak of the way time 'slows down' when we have a shock, such as an accident, or how our lives 'flashed before our eyes'.

There is a story by Borges that elaborates on the idea of the elongated final moments of life. In 'The Secret Miracle', a Jewish playwright, Jaromir Hladik stands before a Nazi death squad contemplating his unfinished play. All he wishes is that he should be able to go to the Clementinum library and find God, where He is hidden in one of the books, so that he might ask for one more year in which to finish his play. When the soldiers fire, and he doesn't die, Hladik realises that God has answered his prayer, in a very particular way:

He had asked god for a whole year to finish his work: His omnipotence had granted it. God had worked a secret miracle for him; German lead would kill him at the set hour, but in his mind a year would go by between the order and its execution.<sup>227</sup>

Hladik has had his prayer answered absolutely literally; he has a year to finish his play but without any of the freedoms one might expect with that gift. When he

<sup>225</sup> Frank Jackson, *Philosophy Bites*, 26 August 2011, <[http://hwcdn.libsyn.com/p/4/4/6/446346944c84176f/Frank\\_Jackson\\_on\\_What\\_Mary\\_Knew.mp3?c\\_id=3656392&expiration=1396359465&hwt=cdbecf5c65670b644d3c020e14e18cb7](http://hwcdn.libsyn.com/p/4/4/6/446346944c84176f/Frank_Jackson_on_What_Mary_Knew.mp3?c_id=3656392&expiration=1396359465&hwt=cdbecf5c65670b644d3c020e14e18cb7)> [accessed 25 October 2013]

<sup>226</sup> *Love*, p. 59.

<sup>227</sup> Borges, *Labyrinths*, p. 124.

manages to finish, and finds the final phrase, he is killed. No more actual time has passed than the milliseconds it would take between the bullets being fired and his death.

Like Jackson's thought experiment, the Borges story demonstrates an argument against physicalism by depicting the consciousness of the protagonist in non-materialist terms. There is nothing about the man's death that seems reproducible in a materialist account of the human mind. By comparison, for my own account of Rachel's last moments, instead of Hladik's 'drop of rain' that rests upon his cheek until his play is finished, I placed her in a bath of water into which she is submerged when she dies:

The warmth enveloped her as she read, her bones soft in the momentary heat. She drifted in her personal ocean. The words fell into her and swept her clean.<sup>228</sup>

The water in both stories can be taken to represent a form of anointment, and in 'Clementinum' the submersion is a return to the ritual of birth, and the threshold of the unknown.

The style of the story is again taken from the thought experiment on which it is based, where there is an omniscient third-person narrator, who describes the situation objectively but who is also privy to the interior experience of the protagonist. The genre could be described as magic-realist; in both stories there is a 'realistic' setting; Mary is a scientist studying neurological phenomena, Rachel is at home having a bath. This is combined with a fantastical element; Mary's black-and-white world and her revelation at seeing colour, Rachel's ant in her eye and dying with the knowledge of an ant in her brain.

<sup>228</sup> *Love*, p. 71.

The title of the story is taken from the library that Borges' Hladik visits in his dream. Libraries are the analogue equivalents of 'remote servers', and The Clementinum library in Prague is the recipient of the UNESCO Jikji Prize (Memory of the World). Borges uses the world of the library as a theme in 'The Library of Babel', as well as 'The Quixote' and 'The Secret Miracle', to symbolise a version of infinity where all possibilities reside, an apt association for the events of my book. In 'Clementinum' I wanted to use the metaphor of words and books to extend the time frame of Rachel's last day and add to the sensation of time slowing down. A postcard from her mother, a memory of all the libraries she has visited, and the book in her hand, connect Rachel to the world beyond her own life. The close of the story sees Eliza finding Rachel's body in the bath. It is the end of Rachel's story in that world and there is a change in point of view to observe Eliza's grief.

## Sunbed

This was the fourth story that I wrote, and now that I knew I could make the stories intersect in a non-linear way, I intended to explore other characters that were related to Rachel's story but not necessarily prominent in the existing narrative. In this, I was emboldened by the 'Olive Kitteridge' stories by Elizabeth Strout.<sup>229</sup> Strout's book is set in an American coastal community and focuses on the eponymous Kitteridge, but each story works as an independent short fiction, and in many of them Kitteridge is either a background character or does not appear at all. The effect is to emphasise the strong central character, but within a frame that contextualises her. It is when we see Olive from other people's point of view, or as a part of their lives, that we gain an understanding of her beyond her own, necessarily limited and unreliable, narrative. As Dunn argues, the layering of narratives that takes place in the composite novel creates a palimpsest of place, theme and character.<sup>230</sup> As a reader, we might have the advantage of these multiple layers of insight, but in life we often have only our own experience on which to base our understanding of another's.

The thought experiment I wanted to respond to for 'Sunbed' was one of the least narrative-based of the different ones in the collection, Thomas Nagel's 'To Be a Bat'. The experiment is phrased more as an elongated question than a tale, but the question is responsible for stimulating a vast array of imaginative response and is central to the non-functional, or at least non-reductive, understanding of consciousness.<sup>231</sup> In his thought experiment, Nagel describes what is known about the physical conditions of being a bat and, in doing so, equates this knowledge with the understanding of the physical conditions of a human brain and the corresponding

<sup>229</sup> Elizabeth Strout, *Olive Kitteridge* (London: Simon & Schuster, 2008)

<sup>230</sup> Dunn, 'Patterns and Palimpsests' in *The Composite Novel*, pp. 74-87.

<sup>231</sup> Dennett, *Consciousness Explained*, p. 441.

knowledge of consciousness, what is known as the explanatory gap:

Now we know that most bats (the Microchiroptera, to be precise) perceive the external world primarily by sonar, or echolocation, detecting the reflections, from objects within range, of their own rapid, subtly modulated, high frequency shrieks...

...But I want to know what it is like for a *bat* to be a bat.<sup>232</sup>

As with Frank Jackson's 'What Mary Knew' ('Clementinum'), there is an implication that the experience of 'being' a bat or seeing the colour red for the first time, the qualia, is different from anything that could be described or learned. There is also an overlap with Searle's 'Chinese Room', where Searle explains that he cannot be said to 'know' Chinese simply because he can manipulate the symbols. The definition of 'knowledge' among these thought experiments is different. Searle is discussing whether a machine can be said to actually understand anything that it processes, while Jackson and Nagel argue that a certain knowledge is unique to experience, but in all three thought experiments it is the gap between objective appearance and subjective experience that is being questioned. To explore Nagel's proposition that there is 'something it is like' to be a bat that we, as humans, cannot know, I wanted to focus on a difference that occurs in human experience, from one human to another. Maybe one bat can know what it is like to be another bat, but, in human terms, even that seems unlikely, given how much we know about the impossibility of knowing the thoughts and feelings of even those closest to us.

The story 'Sunbed' follows Rachel's mother, Elizabeth, in her late fifties as she settles in Brazil with her artist husband. Embedded in the story is the alienation that Elizabeth has felt from her daughter to whom she was once so close. She lives

<sup>232</sup> Thomas Nagel, 'What Is It Like to Be a Bat?' in *The Philosophical Review*, Vol. 83, no. 4, (1974), pp. 435–450 <[www.jstor.org/stable/2183914](http://www.jstor.org/stable/2183914)> [accessed 22 February 2019] (pp. 438-439)

always beyond the reach of her daughter's emotional life. Elizabeth's inability to see past her objective experience is symbolized in her attachment for particular material objects, focusing on the 'sunbed' of her youth:

The sunbed was a glimpse into the soul of the occupant and Elizabeth longed for a future when she would have her own perfect objects to represent her true self. When that happened, the right man would walk past her sunbed and fall in love with her, just on the evidence of her taste. She wouldn't even need to be there.<sup>233</sup>

In the fantasy from her teenage years, Elizabeth's 'perfect' taste is represented by her choice of book or sun cream, handbag or towel, arranged upon the sunbed. The reader of Elizabeth's story, however, privy to the actual objects that Rachel's mother now carries with her, is given a more revealing insight: a walking stick, a stained clutch purse containing her prescription medication, and a mobile phone with an unanswered call from her dying daughter. Ultimately, perhaps Elizabeth recognizes the disparity between the longed-for glamour of her teenage sunbed and the reality of the collection of objects around the chair of her maturity. Her last action is to abandon the items with the words 'they're not very me'.

<sup>233</sup> *Love*, p. 83.

## Arthulysses

For the fifth story, I decided to use Hilary Putnam's 'Twin Earth' thought experiment, discussed in Chapter 2 Part 2, to take Arthur into space. Unlike Nagel's experiment, Putnam's 'Twin Earth' is developed and detailed. Putnam posited the idea of a traveller to another planet just like earth, Twin Earth, but where water is made up not of H<sub>2</sub>O but of XYZ:

If a spaceship from Earth ever visits Twin Earth, then the supposition at first will be that 'water' has the same meaning on Earth and on Twin Earth. This supposition will be corrected when it is discovered that 'water' on Twin Earth is XYZ.<sup>234</sup>

Putnam wants to explore the idea that meaning 'is not determined by a psychological state';<sup>235</sup> that is, that the meaning of a word is not just a matter of an individual understanding, or even a common understanding, but that a certain definition has been applied to a word by experts (in what Putnam refers to as 'a division of linguistic labour'), and that whether or not an individual is aware of the expert definition, that definition exists and ' "meanings" just ain't in the head'.<sup>236</sup>

Putnam calls his thought experiment a 'science-fiction example', and I followed suit with the story of Arthur who has grown up to be an astronaut. The American entrepreneur Elon Musk has stated his intention to send the Red Dragon mission to Mars in 2020, followed by manned missions by 2025, so it seemed possible that by 2040 further trips to Mars could be expected.<sup>237</sup> Arthur, born in 2004, would be thirty-six years old in 2040, and could have followed the example of the

<sup>234</sup> Hilary Putnam, 'The meaning of meaning', *Minnesota Studies in the Philosophy of Science, Vol. 7, Language, Mind, and Knowledge*, ed. by Keith Gunderson (Minneapolis: University of Minnesota Press, 1975), p. 140.

<sup>235</sup> Putnam, p. 139.

<sup>236</sup> Putnam, p. 144.

<sup>237</sup> Leah Crane, 'Elon Musk's new plans for a moon base and Mar's mission by 2022', *New Scientist* <https://www.newscientist.com/article/2149003-elon-musks-new-plans-for-a-moon-base-and-a-mars-mission-by-2022/#.Wr9-04pSTpc.link> [accessed 29 March 2018]



pilot Tim Peake who was thirty-eight when he trained as an astronaut after a career in the Army.

Arthur's story became 'Arthulysses', featuring an Odysseus character venturing out on his travels with his mother, as goddess Athena, watching over him. In researching Arthur's mission, I found that there were two craters on Mars' moon Deimos, named Swift and Voltaire, after the two writers' speculation on the existence of the two moons. That Arthur should switch universes while inside the Voltaire crater seemed a natural connection between the literary experiment of 'Micromégas' and my own developing literary thought experiment.

With the timeline and geography in place, the idea for what was going to happen to Arthur was inspired both by my understanding of Putnam's thought experiment and by my desire to re-unite Arthur with Rachel. During his trip to the smaller of the two moons of Mars, Arthur swaps universes and arrives back on a 'Twin Earth', where almost everything is the same, but Rachel has not died, and it is Rachel, not Eliza, who has raised Arthur and is there to meet him at the military base. The question raised by the thought experiment was illustrated by the meeting between Arthur and Rachel. Ostensibly, they are the same people, but as they have not had the same lived experience, especially not with each other, can they be said to be the people they know? Do they 'mean' the same thing?

## Game Changer

The thought experiment that I chose for this story was not a recent one. ‘The Prisoner’s Dilemma’ is attributed to Albert Tucker in 1950,<sup>238</sup> but it continues to be used in philosophy, and in game theory. In this mathematical way, it overlaps with ‘Pascal’s Wager’, but I was also interested in the ways it overlaps in a more narrative interpretation with another thought experiment I wanted to use later, the ‘Ship of Theseus’. ‘The Prisoner’s Dilemma’ concerns two people who have been apprehended following a crime. The authorities make them an offer:

If neither of you confess to committing the crime, both of you will be charged with a lesser crime and serve a prison sentence of one year. If both of you confess, implicating each other, both of you will serve a sentence of ten years. However, if one of you confesses and the other one doesn’t, the one who confesses will go free, while the one implicated by the confession will serve twenty years.<sup>239</sup>

The different outcomes are variously known as ‘co-operation’ (or ‘tit-for-tat’), where neither prisoner betrays the other, and ‘defection’, where one or both prisoners betray the other. If the dilemma is only presented to the prisoners once, it is in their best interest to defect, since each cannot know what the other will decide, and the medium-term sentence (sometimes they are presented as one, two and three-year alternatives) is better than risking the longer one. However, in a gaming situation, or even in a real-world scenario such as international relations, where the participants know that the game will be repeated for an unknown number of times, co-operation proves the better option.<sup>240</sup>

The idea of pursuing the consequences of actions from further back in Rachel’s past aligned with the ant inhabiting one version of Rachel and not another. I

<sup>238</sup> Tittle, p. 202.

<sup>239</sup> Tittle, p. 202.

<sup>240</sup> Robert Axelrod, *The Evolution of Cooperation* (London: Penguin, 1990).

wanted to develop Kargin's story, a presence in the lives of Eliza and Rachel who is directly connected with the ant. I had written him into the end of 'An Ant', showing up at Disneyland and disturbing both the women in different ways. At the time, I thought of him as an outside force, characterizing a threat of some kind, possibly supernatural, certainly with his work as a pest-controller, in opposition to the ant herself. Many of the applications for 'The Prisoner's Dilemma', both virtually (in gaming) and practically, involve war scenarios, or battles over resources, such as Hardin's 'Tragedy of the Commons'.<sup>241</sup> I thought the child Kargin might be placed against the background of conflict in his home of Cyprus, his childhood dilemmas a microcosm for the adult world.

'Game Changer' is written in three sections, each depicting the same scenario with a different outcome, dependent on an earlier choice that Ali Kargin has made. The format of the story was prompted by the three possible outcomes of the 'Prisoner's Dilemma', and for the style I was influenced by fairy tales in the tradition of Perrault and the 'Colour' fairy tale collections of Andrew Lang and Leonora Blanche Alleyne. Those stories often feature life's choices as represented by an object: a key, as in 'Bluebeard', or a path, as in 'Little Red Riding Hood'. In addition, the 'magic of three' outcomes are found in fairy tales such as 'The Three Wishes', with different choices sometimes represented by three siblings like 'The Three Bears', and 'Cinderella'. In these fairy tales, the possibility of choice, of change or transformation is offered to the reader, in contrast to a fable, where the result is portrayed as inevitable. In *The Uses of Enchantment* Bruno Bettelheim compares these styles, employing the examples of 'The Three Little Pigs' and 'The Ant and the Grasshopper':

<sup>241</sup> Garret Hardin, 'The Tragedy of the Commons', in *Science*, 162 (1968) <doi: 10.1126/science.162.3859.1243> [accessed 13 November 2018]

Often sanctimonious, sometimes amusing, the fable always explicitly states a moral truth; there is no hidden meaning, nothing is left to our imagination...The fairy tale, in contrast, leaves all decisions up to us, including whether we wish to make any at all.<sup>242</sup>

As discussed in Chapter 2 Part 3, the narrative genre of the thought experiment most closely resembles the tale or fable in its construction and effect. However, the aspect of choice and consequence found in the fairy tale seemed a more fitting genre for a response to the 'Prisoner's Dilemma'. The thought experiment is a mathematical exploration of a choice, with three distinct outcomes, and in 'Game Changer', I wanted to explore how Ali's choices change not only his world, but the world around him.

<sup>242</sup> Bruno Bettelheim, *The Uses of Enchantment* (London: Penguin Books, 1986), pp. 42-43.

Ameising

With the exploration of Arthur in another universe came the question of how he had come to be there. I had an understanding that the ant that had entered Rachel's eye in the first story was part of the explanation, and I decided to investigate Rachel's experience from the point of view of the ant. The ant was already unusual, by virtue of her divergence from the rest of the colony, and Rachel had expressed a sense that the ant had physically slowed down the progression of her tumour, as well as psychologically making Arthur's conception a possibility. This ant already had a lot of responsibility.

The thought experiment that I connected with my ant's tale is David Chalmers' 'Philosophical Zombies'.<sup>243</sup> As discussed in Chapter 2 Part 2, Chalmers' experiment takes the premise that if you can imagine a zombie, someone physically just like you but without the 'conscious experience' of being you, then you acknowledge that there is 'something that it is like'<sup>244</sup> to be like you that is separate from your physicality and 'there is nothing it is like to be a zombie'.<sup>245</sup> These 'P-Zombies' may only appear in philosophical debate, but there exists an ant in Brazil that has been termed the 'zombie ant' as it is prone to an infection by the *Ophiocordyceps* fungus.<sup>246</sup> The spores of the fungus enter the ant's body and grow, releasing chemicals that cause the ant to climb on the leaf of a plant and die, whereupon the fungus sprouts from the body of the ant and the new spores drop upon the forest floor to infect another ant. I wanted to use the idea of the zombie ant in

<sup>243</sup> David Chalmers, *The Conscious Mind: In Search of A Fundamental Theory* (Oxford: Oxford University Press, 1997), p. 94.

<sup>244</sup> Nagel, 'What Is It Like to Be a Bat?', p. 436.

<sup>245</sup> Chalmers, p. 95.

<sup>246</sup> 'Fungi that Create Zombie Ants' in *The Guardian*, 03 March, 2011.

reverse; the ant in ‘Ameising’ was going to become conscious after inhabiting Rachel’s brain.

When looking at the mythology behind ‘the ant’, I found James Joyce’s version of ‘The Ant and the Grasshopper’ as included in *Finnegans Wake*.<sup>247</sup> His version, ‘The Ondt and the Gracehoper’, follows the characters of Aesop’s fable, the carefree grasshopper and the hardworking ant, though with all the complexities of language and reference that are particular to Joyce, and *Finnegans Wake* especially. It is Joyce’s translation of the German for ant ‘ameise’, that he writes as ‘ameising’ in the sense of ‘amazing’, that gave the title of my story. As discussed in Chapter 2 Part 2, the ant has assumed a particular role in fables and tales, as it denotes industry, cunning and persistence. In the Bible, the ant is cited as a role model: ‘Go to the ant, thou sluggard, consider her ways and be wise’.<sup>248</sup> The ant as a symbol for hard work and power, of collective responsibility and duty, continued as a trope in literature and other forms of storytelling such as in H.G Wells’ short story ‘The Empire of the Ants’, the French book trilogy of the 1990s, *Les Fourmis*,<sup>249</sup> and the Italo Calvino short story ‘The Argentine Ant’.<sup>250</sup>

As a child I had read books with an ‘animal’ narrator, from *Watership Down*<sup>251</sup> and *Mrs Frisby and the Rats of NIMH*<sup>252</sup>, but not very many as an adult. In Scarlett Thomas’s *The End of Mr Y*, there is an extensive account from the viewpoint of the narrator occupying the body of a mouse, but she retains her own human consciousness whilst having the sensations of mousehood. Italo Calvino’s

<sup>247</sup> James Joyce, *Finnegans Wake* (Herts., England: Wordsworth Editions, 2012), p. 414.

<sup>248</sup> Proverbs 6. 6.

<sup>249</sup> Bernard Werber, *The Empire of the Ants* (London: Random House, 1999).

<sup>250</sup> Italo Calvino, ‘The Argentine Ant’, *The Watcher and Other Stories* (New York: Harcourt, 1971).

<sup>251</sup> Richard Adams, *Watership Down* (London: Penguin, 1976).

<sup>252</sup> Robert C. O’Brien, *Mrs Frisby and the Rats of NIMH* (London: Puffin, 2014).

*Cosmicomics* features a narrator Qfwfq with an authorial voice, of ‘reported’ events,<sup>253</sup> and E.O. Wilson uses a third-person ant’s-eye view for the middle section of his novel *Anthill*.<sup>254</sup> Although Wilson exploits his scientific understanding of the ant colony, the passages are essentially a metaphor of human and ant life. As he describes it in his preface, ‘Homer might have written equally of ants and men, *Zeus has given us the fate of winding down our lives in painful wars, from youth until we perish, each of us.*’<sup>255</sup> Again, I was reminded that the comparison between the lives of insects as viewed by humans and the lives of humans as viewed by gods is not only not new (‘As flies to wanton boys we are to th’gods/They kill us for their sport’),<sup>256</sup> but that Zeus and the ant are already inextricably linked.

The ant is the only character whose story is told in the first person, but it is not until she has been exposed to the thoughts of Rachel and been separated from Rachel in death that the ant thinks of herself as an ‘I’. As I approached the end of the story, I looked to Rachel’s death from the ant’s first-person perspective. I now knew that the ant’s connection with Rachel would lead her to find Arthur, and I was starting to see how that would happen.

<sup>253</sup> Italo Calvino, *The Complete Cosmicomics* (London: Penguin, 2010).

<sup>254</sup> E.O. Wilson, *Anthill* (London: W.W. Norton & Company, 2011).

<sup>255</sup> Wilson, p. 15.

<sup>256</sup> *King Lear*, Act 4, Scene 1.

## New to Myself

The thought experiment that inspired ‘New to Myself’ was not a modern experiment, but it had appeared consistently during my research, in part because of its enduring narrative tropes, and also because of its reference to questions of identity. ‘The Ship of Theseus’ is based on a story in Plutarch’s *Life of Theseus*, in which Theseus’ ship is gradually replaced one plank at a time. Thomas Hobbes used the story to frame the questions ‘What is it to be the same?’ and ‘What is it to be different?’:<sup>257</sup>

If that ship of Theseus [were continually repaired by] taking out the old planks and putting in new...and if some man had kept the old planks as they were taken out, and by putting them afterwards together in the same order, had again made a ship of them, [which ship would be the original one?]<sup>258</sup>

Aristotle had addressed some of the complex problems of personal identity in works such as *De Anima*, and Heraclitus is often credited with the proposition that everything is in a constant state of change: ‘No man ever steps into the same river twice’.<sup>259</sup> Like the Ancient Greeks, Hobbes, and also Locke, used the idea of the ship to examine the ways in which changes to our body, memory and circumstance affect who we are. This experiment, along with Putnam’s ‘Twin Earth’, asks questions that were central to my themes of identity, particularly with reference to how ‘another’ Rachel or Arthur might, or might not, be considered the same person as the ‘original’,

<sup>257</sup> Peg Tittle, *What If* (New Jersey: Pearson Longman, 2005), p. 69.

<sup>258</sup> Thomas Hobbes, *Body, Man, and Citizen* (New York: Collier Books, 1962), p. 128.

<sup>259</sup> Plato, *Plato’s Cratylus*, ed. by David Sedley (Cambridge: Cambridge University Press, 2008), p. 109.



and how we might be changed by small actions in our lives, a form of the ‘Butterfly Effect’,<sup>260</sup> as in my story ‘Game Changer’.

I now wanted to tell Rachel’s side of the story from when her son is returned to her, though he is not the same son who left her two years before. From the reader’s point of view, it is Rachel who is different; she is not the same Rachel that we have followed so far. Her storyline, her memories and experiences are another version of Rachel’s life, and so the reader, like Arthur, is distanced from her. I wanted to humanise this ‘other’ Rachel and champion her story.

The two Rachels are not competing for identity in the same way that the reconstruction of the ship of Theseus is in competition with the restored ship, as it is not the ‘physical’ identity that demarcates the differences between the women. Both Arthur and Rachel accept each other’s physical appearance, but they distrust the ‘otherness’ that they experience. This ‘feeling’ of change might be a different question to the one raised by the ‘Ship of Theseus’; the idea that the ship might not ‘feel’ like the original is not suggested, more that the replacement is not the original, however much it seems like it. In my story, neither mother nor son is the ‘original’ to the other, though they appear to be, and the most important thing that separates them is the lack of lived experience with one another. One of the questions that the ‘Ship of Theseus’ raises is the notion of identity by connection; the continual restoration of the old ship with new parts means that no piece of the restored ship was ever sailed by Theseus. However slowly and accurately the restoration took place, the ship can only be said to be a facsimile of the original ship. In this way, the ‘minds’ of Rachel and Arthur when they meet on the ‘other’ Earth are only facsimiles of the Rachel and

<sup>260</sup> Edward Lorenz, ‘Deterministic Nonperiodic Flow’, in *Journal of the American Sciences* 20, (1963), pp. 130-141 <[https://doi.org/10.1175/1520-0469\(1963\)020<0130:DNE>2.0.CO;2](https://doi.org/10.1175/1520-0469(1963)020<0130:DNE>2.0.CO;2)> [accessed 12 November 2018]

Arthur that know each other; they appear the same but they have never been in contact with the ‘other’ Rachel and ‘Arthur’.

I started the story with the ‘other’ Rachel examining her face in a mirror twenty or so years in the future. This gave me the opportunity to establish the technology of my fictional year 2040 and to follow Rachel’s thoughts as she considers the ways in which her ageing body is still ‘hers’. I wanted to address how Rachel is the ‘other’ Rachel to herself as well as to the reader, just as we all see our new selves and may mourn our ‘old’ selves when we look in the mirror, or reflect on changes to our bodies and to our understanding of our selves when we look at photographs or read things we have said or written in the past. As Rachel goes through the process of visiting the man she believes to be her son in the hospital, she looks back at some of the life experiences that have brought her to this point, and the reader can compare these experiences to those of the other Rachel. In particular, I wanted to follow up on the consequences of ‘Game Changer’ and show how the events in the life of this ‘new’ Rachel meant that she had not died from her brain tumour.

In deciding the style of this story, I looked less at science fiction or magic realism than at literary realism. The ‘Ship of Theseus’ is a philosophical problem presented in a very practical form, and I wanted the other Rachel to approach her problem in a practical way, in some ways echoing her ‘other half’ Eliza from the original storyline. In ‘An Ant’, it is Eliza who is the sensible scientist and Rachel who is the dreamer, but in ‘The Goldilocks Zone’ Greg observes after Rachel’s death that Eliza has adopted some of Rachel’s characteristics: ‘Maybe that’s what happened when your partner died, you compensated by absorbing them in order to maintain balance.’<sup>261</sup> The Rachel of ‘New to Myself’ has lost Eliza in a different way, and I

<sup>261</sup> *Love*, p. 133.

wanted the absence to be reflected in other ways, memories, choices, even personality changes, to reinforce the sense that human connection affects us at a fundamental level. At the end of the story Rachel is left wondering how the man in front of her has taken her son's place and what has happened to her 'real' son, just as in 'Arthulysses' Arthur does not recognise this Rachel as his mother. Materially, they seem to be made of the same substance, but they are not the original ship of Theseus.

Zeus

In developing the previous three stories, I had reached some conclusions about how it was that the two Arthurs had changed places and how the ant was involved. I found my inspiration in the world of the stories themselves, the building of the technological near future, where computational implants had supplanted the idea of an independent AI, or the singularity. One of the barriers that researchers and developers in the field of artificial intelligence have encountered is the lack of embodiment of any constructed systems, or agents, so that the computer cannot easily interact with its environment. As defined by Duffy and Joue, if it is necessary for an agent to interact with its environment, as in the case of a robot used by humans, then it needs a degree of embodiment to be considered intelligent:

Embodiment is an inherent property of an agent that exhibits intelligent behaviour leading to the now established hypothesis that, in order to achieve cognitive capabilities or a degree of intelligence in an agent, a notion of embodiment is required where there is cohesive interaction between the environment and the body.<sup>262</sup>

In the world of my book, this obstacle has been partly met by using the bodies of humans to house artificial intelligence agents. We are already seeing this development in the use of tracking implants and the implants being adopted in Sweden that can interact with other digital systems to perform such actions as opening doors and making payments.<sup>263</sup> In my book I have imagined the next step, integrated artificial intelligence systems more sophisticated but based on our current model of operating systems such as Siri, Alexa etc. That seemed plausible for the technology of 2040. But I wondered what would happen if my ant, already exposed to Rachel's mind, was

<sup>262</sup> Brian R, Duffy and Gina Joue, 'Intelligent robots: The question of embodiment' [https://www.researchgate.net/publication/228375813\\_Intelligent\\_robots\\_The\\_question\\_of\\_embodiment](https://www.researchgate.net/publication/228375813_Intelligent_robots_The_question_of_embodiment) [accessed 14 November 2018]

<sup>263</sup> James Brooks, 'Swedish Workers Implanted with Microchips to Replace Cash Cards and ID Passes', *The Independent* (6 April 2017).

integrated with a machine intelligence. I imagined the fusing of the super-ant and a super-computer, and the result was Zeus, a disembodied Artificial Intelligence with the insight of an embodied human mind.

The thought experiment that I wanted to link with this story of Zeus brought me back to Descartes. As discussed in Chapter 2 Part 1, Descartes' *Meditations* imagined an 'Evil Demon' who was capable of convincing human minds that they existed in corporeal form.<sup>264</sup> The following, and final, story was to be inspired by an associated thought experiment, Putnam's 'Brain in a Vat'.<sup>265</sup> With these two stories, the world of my book is latterly revealed to be a digital construct, a simulacrum based on the memories of humans now uploaded on an electrical system designed by the AI, Zeus.

I wanted Zeus to address Arthur, to reach out to the one human mind that seemed capable of understanding the reality of the world in which he exists. Descartes' 'Evil Demon' is addressed to the 'Gentlemen' in a first-person narrative, and in 'Zeus' the first-person narrator also addresses the reader, in this case Arthur. Although Arthur is actually hearing the voice of Zeus, I wanted the connection between the creator and the created to be achieved through the process of reading. Books had featured strongly in other stories: in 'Clementinum', the dying Rachel visits libraries and tries to read as many of the books she ever wanted to read before she dies, and in 'The Goldilocks Zone' Arthur is encouraged by the fairy tale on which the Goldilocks planetary theory is based. The 'little stories' of the original thought experiments had inspired my whole project. And there was the echo of

<sup>264</sup> René Descartes, *Meditations on First Philosophy*, trans. by John Cottingham (Cambridge: Cambridge University Press, 1996), p. 15.

<sup>265</sup> Hilary Putnam, *Reason, Truth and History* (Cambridge: Cambridge University Press, 1981), Ch. 1.

Borges' Aleph, the place of seeing 'all things'.<sup>266</sup> If Arthur could be introduced to a text that would explain his world, even if the physical text were illusory, the act of reading was consistent with the characters' personalities and experience, and reflected the connection that I was researching between the philosophical understanding of the conscious mind and the narrative use of the tale.

<sup>266</sup> Jorge Luis Borges, 'The Aleph', *The Aleph and Other Stories*, trans. by Andrew Hurley (London: Penguin, 2004).

## Love

This was the final story to be written, though it was not necessarily going to be the final story in the collection. I returned to Arthur, the ‘child’ of the ant, who has gone into space and found himself on a twin Earth. In ‘Love’ I wrote about him waking up in his bedroom, and I was reminded of what Gilbert Harman wrote about the possibility of disembodied experience in *Thought*:

You might be sound asleep and dreaming- or a playful brain surgeon might be giving you these experiences by stimulating your cortex in a special way. You might really be stretched out on a table in his laboratory with wires running into your head from a large computer.<sup>267</sup>

Arthur is not ‘really’ waking up in bed, but he does not understand that yet. All he knows is that he both recognises and does not recognise his environment, his mother. He knows something is wrong. Later in the story he will pick up a book and believe, for a while, that he is reading it. During the course of that experience, he will come to understand that he is not holding a book, he is in fact like a ‘brain in a vat’, though there is no brain and there is no vat. Arthur is a collection of memories and connections, he has been digitised and ‘uploaded’. He is a stream of code.

Based on Gilbert Harman’s radical scepticism in *Thought*,<sup>268</sup> Putnam’s ‘The Brain a Vat’ thought experiment also refers back to ‘Plato’s Cave’ as well as Descartes’ ‘Evil Demon’, all of which suggest that the physical body is separate from the mind, a traditionally dualist view. Putnam’s thought experiment supposes that if a person’s brain was encased in a vat but still gave and received impulses as if it were embodied, then the person would not be able to tell whether they were in a vat or a

<sup>267</sup> Harman, p. 5.

<sup>268</sup> Gilbert Harman, *Thought* (Princeton: Princeton University Press, 1973), p. 5.

body.<sup>269</sup> As with his ‘Twin Earth’ thought experiment, Putnam actually uses the narrative to argue a point about ‘meaning’ since a disembodied brain cannot be referring to, say, seeing actual trees. In a serendipitous (for me) metaphor, Putnam uses an ant as an example:

An ant is crawling on a patch of sand. As it crawls, it traces a line in the sand. By pure chance the line that it traces curves and recrosses itself in such a way that it ends up looking like a recognizable caricature of Winston Churchill. Has the ant traced a picture of Winston Churchill, a picture that *depicts* Churchill?<sup>270</sup>

The ant cannot be said to ‘represent’ Winston Churchill in the sand as the line was not made with the ant’s knowledge of, or intention to depict, Winston Churchill. But when we have the intention to represent external things in our mind we must be able to think about them. Putnam asks, ‘how is it that thought forms can “in themselves” represent anything?’<sup>271</sup> Although in my story ‘Ameising’ the ant could be said to have learned about Winston Churchill from Rachel’s mind, and be able to trace a likeness from that knowledge, the question framed by Putnam remains, ‘How can thought reach out and “grasp” what is external?’<sup>272</sup> The implication of the non-physical mind that these questions raise led to my writing a story in which everyone is essentially a ‘brain in a vat’ because, in uploading their minds, an ant has managed to save humankind from destruction.

So many things, during my seven years of research, seemed to come back to the ant: the ant as a metaphor, as a symbol, as a microcosmic unit, as an inhabitant of my computer. In ‘Ameising’, the ant asks the reader to accept the idea of her becoming one with Rachel’s conscious mind in much the same way that a reader

<sup>269</sup> Putnam, p. 5-6.

<sup>270</sup> Putnam, p. 1.

<sup>271</sup> Putnam, p. 2.

<sup>272</sup> Putnam, p. 2.



becomes one with the mind of the narrator, 'My thoughts are your thoughts as her thoughts were mine'.<sup>273</sup> The ant has burrowed into Rachel's brain, and I wanted to place in the reader's mind the idea that the ant has also burrowed, albeit imaginatively, into their brain.

In the process of writing the story, I decided that 'Zeus' and 'Love' should remain separate, though I was still undecided on the order. The story had returned to the beginning, to 'Pascal's Wager', to faith and belief and deciding one's fate. At the end of 'Love', the child and his mother embark on a new 'faith-based' project, to believe in this new world. The simulated world of Arthur and the 'other' Rachel can only continue if they commit to believing in the version of the world as they now understand it, and that they, and all humankind, can have a future within it.

<sup>273</sup> *Love*, p. 92.

Some conclusions

Once all the stories were written, I arranged them in an order that I thought would take the reader through the narrative in such a way that each story would work on its own as well as be part of the whole, and would also prepare the reader for the more experimental leaps that the book takes. This order became set soon after I had arranged it, but I still liked the idea that the stories could be shuffled, and that a different experience of the book might not be a lesser one, though it could definitely be a bigger ‘ask’ for the reader. The published version also includes a short introduction to the thought experiment behind the story, at the start of each chapter. It was my decision to include these short paragraphs, more as a suggestion for further reading if the reader’s interest was piqued. I still hope that the stories stand alone. I also hope that the book might be a good introduction in itself to some of the arguments in philosophy of mind and that there is a significant sense in which the book advances the argument that this critical thesis has pursued about the evolving relations between fiction and philosophy, in the context of thought experimentation.

This close and almost symbiotic relationship between the narrative and the philosophical elements was realised for me in a particular development of the fictional exploration of the thought experiments that I had researched and chosen from the critical project. Since the first story was based on ‘Pascal’s Wager’ and was about belief, it followed, at least to me, that as an author I should pursue my own belief in the ant if the various stories were to carry the strength of my convictions. Once I had committed to my ant’s existence in Rachel’s brain, it became a process of following this belief to a conclusion that seemed, if not inevitable, then at least organic. If the ant represented belief, I reasoned, then why not take it the whole way and have the ant be a ‘god’? I had already woven in to the different stories the ideas

of ‘unreality’ and ‘different futures’. And I knew I was going to take the narrative into ‘outer-space’ to connect with the ‘Twin Earth’ thought experiment. Once I had committed to the ant’s story arc, then I needed to know how the worlds of Twin Earth came into existence, and again it appeared that the ant was the connection between the mind of Rachel on one world, and the mind of Arthur travelling to another world.

The resulting book presented a world simulated by the ant itself. The simulation came as a result of an imaginative leap, combining the fable of my ant with my understanding of dualism. As Arthur opens his scrapbook of memories on the final page and commits to believing in the world, I was reminded of Perec: ‘One day I shall certainly have to start using words to uncover what is real, to uncover my reality.’<sup>274</sup> I had used my own words and, ironically, had found Dennett’s ‘mechanical soul’,<sup>275</sup> and its materialist version of reality as ‘user illusion’, as valid an artefact of consciousness as any, less concrete, account.

Philosophers of mind, such as Keith Wiley, who argue that the question of a reality ‘simulation’ is uninteresting, do so on the basis that we live in ‘a’ reality with a set of rules and that is all we know.<sup>276</sup> I certainly did not expect to find, when I had finished my first draft of the novel, that the fictional world of my book was a simulation. And, when I say ‘find’, what do I mean? I have used words such as ‘discover’, ‘realise’, ‘understand’ about this process of creative writing. These words imply some distinction between the conscious and unconscious process: I am only aware that somehow I have chosen a particular path once I ‘discover’ it. Yet I am suspicious of such language and, given the eventual conclusion of my novel,

<sup>274</sup> Perec, p. 123.

<sup>275</sup> Daniel Dennett, ‘Jonathan Miller in Conversation with Daniel Dennett’, *The Atheism Tapes*, BBC 22 November 2004

<sup>276</sup> Keith Wiley, ‘All Aboard the Ship of Theseus’ < <http://www.scifuture.org/all-aboard-the-ship-of-theseus-with-keith-wiley/> > [accessed 20<sup>th</sup> November 2018]

concerning a simulacrum, I want to flag up both the convenience and the vagueness of these terms. The writer Siri Hustvedt challenges a simple definition of ‘authorship’ in her novel *Memories of The Future*: ‘I don’t know who is writing exactly, but I often feel that it isn’t coming from me.’<sup>277</sup> Hustvedt’s book, a novel layered with real and imagined memories, considers the different levels of ‘story’ as Borges’ had done in ‘Pierre Menard’, and takes a non-linear approach to time and creativity, at least as far as writing fiction is concerned. Examining my own work within the present thesis has brought me to similar questions of authorship and the genesis of ideas as those posed by Hustvedt and Borges. Just as Hustvedt rejects the idea of the author as a ‘Sherlock Holmes behind the scenes’,<sup>278</sup> I have come to wonder at the role of the author, or of myself as author, of my book.

When I started writing the first stories, I believed I was going to use the specific thought experiments to make a case for the importance of individual experience and the connections between ourselves and others. In reply to the materialists, Dennett et al, I wanted to develop a story that demonstrated both the unimportance of the physical stuff of which we are made and the essential nature of ‘self’, and of love. Writing this third chapter, I returned to read Scarlett Thomas’s *The End of Mr. Y*, the book I considered the ‘jumping off’ point for *Love*. As I remembered it, Ariel had ended the book going off in search of her PhD, and her own fulfilment, but I had remembered incorrectly. The PhD was the start of Ariel’s adventure in the ‘troposphere’, the universal consciousness. The end of the book sends her to the edge of consciousness and beyond, into a possible Garden of Eden, a paradise regained. I wondered then if I had created a version of limbo, and potential paradise, for my own protagonists, caught between the devastating realisation that the

<sup>277</sup> Siri Hustvedt, *Memories of the Future* (London: Sceptre, 2019), p. 68.

<sup>278</sup> Hustvedt, p. 68.

world is not what it seems and the understanding of a kind of immortality. I considered the thought experiment that I had developed in the writing of my book: What if you learned that nothing in your exterior world was real, that all you sensed was an hallucination, while all you thought was a digital stream of code? Would your life mean any less?

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