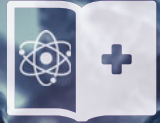




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# Contemporary Fiction and Science from Amis to McEwan

The Third Culture Novel

Rachel Holland

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*To Sheona*

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## CHAPTER 1

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# Introduction

The novel is a medium which is constantly adapting. It possesses the ability to absorb material from an array of sources, incorporating and modifying this material to suit its purposes. Perhaps more so than any other art form, the novel has roamed across discursive boundaries throughout its history, stretching, yet never quite undermining, the definitions which sustain it. Mikhail Bakhtin, in his work in the 1930s, famously outlined the impurity and omnivorousness of novelistic discourse. His concept of heteroglossia describes the ceaseless variety of different types of languages which circulate in culture—languages which are informed by diverse world views, values and meanings, always existing in dialogue with each other. The novel, for Bakhtin, allows this dialogue to take place within its pages, where the languages of heteroglossia ‘all may be juxtaposed to one another, mutually supplement one another, contradict one another and be interrelated dialogically’.<sup>1</sup> In contrast to this plurality, ‘the entire methodological apparatus of the mathematical and natural sciences is directed toward mastery over *mute objects, brute things*, that do not reveal themselves in words, that do not *comment on themselves*’ [italics in original].<sup>2</sup>

<sup>1</sup>M. M. Bakhtin, “Discourse in the Novel”, in *The Dialogic Imagination*, ed. Michael Holquist, trans. Caryl Emerson and Michael Holquist (Austin: University of Texas Press, 1981), 269–422 (p. 292).

<sup>2</sup>Bakhtin, “Discourse in the Novel”, 351.

This book will trace the emergence of a new phenomenon in contemporary Western fiction, one in which authors attempt to incorporate scientific conceptions of mute objects and brute things into the space of the novel, in a manner and to an extent not previously witnessed. What I am calling the third culture novel is, in part, a response to the upsurge in interest, most apparent in the last two to three decades, in popular science. Associated with the work of Martin Amis, William Boyd, Richard Powers, David Lodge, Michel Houellebecq, Jonathan Franzen, Margaret Atwood and Ian McEwan, this new strand of fiction engages with elements of popular science in a number of ways. These include: researching and relaying information gleaned from scientific publications; challenging or promoting ideas presented by science writers; exploring the moral and ethical implications of these ideas; and testing the limits and capabilities of the novel in relation to scientific discourse.

This study will argue that the status and significance of science have undergone a marked and ongoing process of change in the period under discussion, and that this change has impacted upon the novel, particularly the serious literary novel, to a large degree. As elements of science mutate and expand to trespass upon the territory of the novel, the novel conducts a form of counter-attack through its requisitioning of certain aspects of science. The third culture novel incorporates material from neuroscience, genetics, artificial intelligence, pharmacology, cosmology, mathematics and physics, but it also conducts a dialogue with a particular conception regarding the claims to certainty and objectivity associated with science, sometimes over-simplifying or subsuming all of science under this interpretation. The more radical concepts emerging from quantum theory in the twentieth century are largely overlooked or sidelined in the third culture novel, and instead, it is the more traditional truth claims of science which are of interest to these authors.<sup>3</sup> Dominic Head notes the presence in contemporary fiction of ‘an anxiety about the function of the novel that has been brewing for a significant period of time, through modernity and into postmodernity’.<sup>4</sup> I would suggest that this anxiety is intensified by the increasing and altering social significance

<sup>3</sup>Notable exceptions to this trend include Jeanette Winterson’s *Gut Symmetries* (1997), David Mitchell’s *Ghostwritten* (1999) and Scarlett Thomas’s *The End of Mr. Y* (2007), novels which all draw relativizing conclusions from the discoveries of quantum mechanics, and which will be discussed further in the conclusion.

<sup>4</sup>Dominic Head, *Ian McEwan* (Manchester: Manchester University Press, 2007), 5.

of science, which, while on the one hand offering creative opportunities for writers, threatens to appropriate the traditional concerns of the novel on the other.<sup>5</sup>

The term ‘third culture’ is one which originates, it seems, with C. P. Snow as a response to criticism of his lecture, outlined below, on the lack of understanding between the two cultures of science and the humanities as they stood in 1959. The social sciences, for Snow, represented an opportunity for combining aspects of what he had previously characterized as two cultures. The term did not, despite Snow’s wishes, become associated with the social sciences, and since Snow’s initial postulating of it, the label ‘third culture’ has resurfaced numerous times as something of a utopian ideal, in which a discourse is imagined based on combining the strengths and capabilities of the traditional two cultures. The term has been used by Charles Davy, John Brockman, E. S. Schaffer, Kevin Kelly and Curtis D. Carbonell, in each case as a title for a book or essay, and in each case also as a label designed by these writers to describe a vision of a future direction (perhaps already in its nascent stages) which will, in their view, benefit our too-rigidly binary culture. The novelists studied here do not consciously or intentionally ally themselves with these various attempts at achieving and labelling a third culture, yet the urge to create a new, less-restricted discourse, one that draws on elements of science and the humanities, is the same.

The third culture novel is engaged in a discursive tussle with certain aspects of science, which are in turn competing with elements of humanities culture. The prize for both disciplines is what they perceive to be a third space which encompasses important ideas from both cultures, yet transcends the limits associated with either one in isolation. Third culture novels attempt to constitute this separate, omniscient space, asserting their belief in the unique capabilities of literature in the process. This introduction will provide an outline picture of some important aspects of the relationship between science and humanities culture as it stands at

<sup>5</sup>David Shields’ *Reality Hunger: A Manifesto* (London: Penguin, 2010) provides some interesting comparisons in this context. Shields expresses frustration at what he terms the ‘predictable, tired, contrived, and essentially purposeless’ nature of literature that follows a fictional model (p. 118). He advocates the blurring of the lines between fiction and non-fiction in order to better represent the nature of the contemporary world. Shields is not particularly interested in scientific conceptions of reality, but he shares with third culture novel a desire to make literature more *real*, albeit through a different set of processes and priorities.

present, revealing the ways in which this relationship informs the themes and concerns of the third culture novel. It will also interrogate and problematize some of the ways in which the term ‘science’ is being used, and some of the uses to which the term is being put, in contemporary culture.

## TWO CULTURES REVISITED

The sciences and the humanities have not always been conceived in terms of the binarism to which we have now become accustomed. Various cultural commentators date the commencement of tensions between the two cultures at differing times, but what they agree upon is, in Stefan Collini’s words, that ‘throughout the Middle Ages and Renaissance the interpretation of nature was generally regarded as but one element in the all-embracing enterprise of “philosophy”’.<sup>6</sup> In fact, the term ‘scientist’ was not a part of common usage until as late as the 1830s or 1840s, when it came to represent specialized practice in the natural sciences. John Cartwright and Brian Baker focus on the relations between science and literature in particular, suggesting that ‘the very boundaries between [the two] shift and weaken as we travel back earlier than the eighteenth century’, when both disciplines operated under a broader conception of knowledge.<sup>7</sup> Most commentators mirror Cartwright and Baker’s approach, which is to posit the existence of several ‘episodes’ in which ‘the sense of a fundamental opposition’ between the two cultures has been ‘felt and aired’ (p. 265). The five most important of these episodes can be summarized, in very simplified terms, as follows:

- The Quarrel of the Ancients and the Moderns in the late seventeenth century, which Jonathan Swift satirized in his 1704 *Battle of the Books*. Swift depicted a tale of anthropomorphized tomes in St. James’s Library, which he set at war with one another in order to represent the opposing viewpoints of the scientifically minded ‘moderns’, such as Francis Bacon, who championed new discoveries

<sup>6</sup>Stefan Collini, “Introduction” to C. P. Snow, *The Two Cultures* (Cambridge: Cambridge University Press, 2008), para 4. ACLS Humanities ebook.

<sup>7</sup>John Cartwright and Brian Baker, *Literature and Science: Social Impact and Interaction* (Santa Barbara: ABC-CLIO, 2005), 265.

and the power of reason, versus the classically trained ‘ancients’ who stood for the wisdom and insights of the past.

- The Romantic revolution of the late eighteenth and early nineteenth centuries, wherein a cultural anxiety could be detected regarding the growing influence of the utilitarian preference for measurement and practicality, perceived as being the enemy of imagination and natural morality. A certain romantic concern about science is expressed by Wordsworth’s description of ‘our meddling instinct’ which would ‘murder to dissect’ in his poem “The Tables Turned” (1798).
- The debate between Matthew Arnold and T. H. Huxley concerning the relative value of an education focussed on the sciences or the humanities in the second half of the nineteenth century. Arnold responded to assertions from the well-known biologist that training in the sciences was more desirable for society than the prevailing classicism which he saw Arnold as representing by claiming that all of the most worthwhile scientific texts fell under the rubric of literature.
- The Snow/Leavis controversy of the late 1950s and early 1960s, which, for most, encapsulates the major issues surrounding any historical or ongoing debate between the two cultures. C. P. Snow, a physical chemist as well as a novelist, sparked an unintended row with the literary critic F. R. Leavis when he bemoaned, in a public lecture at Cambridge in 1959, the lack of communication and understanding between the sciences and the humanities. Snow and Leavis both made exaggerated and, at times, inaccurate claims in a series of lectures and essays, but, as the first chapter of this study will outline, their debates struck a cultural chord which continues to resonate.
- The Science Wars of the 1990s in which a small number of the scientific community took issue with what they regarded as the fashionable but risible claims of a small number of scholars from the broadly postmodern humanities, which would relegate the truth claims of science to an equal (and equally constructed) status with all other forms of discourse. In a similar manner to the Snow/Leavis controversy, the significance of the science wars has tended to become over-inflated, and the viewpoints from either side of the two cultures divide over-simplified.

What all of the above examples reveal is best described by Patricia Waugh's assertion that relations between the two cultures have, historically, been the most strained when 'one form of knowledge lays claim to the exclusive title to all knowledge'.<sup>8</sup> Each of these 'episodes' is undergirded by fear on the part of representatives of one or both of the two cultures concerning what they perceive to be the imperialist ambitions of their counterparts. This book will argue that the contemporary moment is witnessing a further such episode, in which members of the scientific community are appropriating methods and concepts more traditionally associated with humanities culture in order to aid the creation of a system of values and beliefs based on the ennoblement of science.

### TRANSCENDENTAL SCIENTISM

When asked by the *Guardian Weekend Magazine*, in an interview carried out in October 2014, what his chosen superpower would be, the physicist and media don Professor Brian Cox replied that he would wish 'to make everyone think rationally'.<sup>9</sup> The most cursory interrogation of this statement serves to highlight the many ethical and practical issues raised by Cox's choice (a Marxist, e.g., might suggest that it would be rational for the successful television presenter to redistribute his wealth amongst the masses, and a neo-Nazi might argue that it would be rational to adopt eugenics in order to rid the world of its weaker members), so that it is worthwhile to consider what it is that Cox actually has in mind when he envisages a society based on 'rational' thinking. A clue may lie in the fact that Cox is also a distinguished supporter of the British Humanist Association, one of the central tenets of which is to 'look to science instead of religion as the best way to discover and understand the world'.<sup>10</sup> Cox's rational thinking is one which is linked in some way to the scientific method, and it also sets itself in opposition to religious practice and thought. It might seem quite natural for a physicist such as Cox to privilege scientific understanding over any other discourse, yet what is interesting about his stance is not just the dogmatism that

<sup>8</sup>Patricia Waugh, "Revising the Two Cultures Debate: Science, Literature, and Value", in *The Arts and Sciences of Criticism*, ed. David Fuller and Patricia Waugh (Oxford: Oxford University Press, 1999), 33–59 (p. 34).

<sup>9</sup>Brian Cox in *The Guardian Weekend Magazine*, 11 October 2014, p. 12.

<sup>10</sup>"Humanists UK", <https://humanism.org.uk/>, accessed 19 November 2014.

it implies, but the fact that the desire to instate a particular, startlingly simplistic, version of reason as the only acceptable model of thought is becoming representative of a small but vocal (and influential) number of the intellectual community.

From Richard Dawkins extolling children and young adults to find wonder in ‘The Magic of Reality’<sup>11</sup> to Alan Sokal requesting that society recognize the importance of ‘the *scientific worldview* [...] in humanity’s collective decision making’ [his italics], there is a growing sense that science is viewed, in certain quarters, as being a vehicle through which to shape beliefs rather than simply a method and a discipline.<sup>12</sup> The pervasiveness of popular science books, programmes and websites suggests that this shift is also reflected in broader society. The ‘I fucking love science’ web page, for example, created by blogger Elise Andrew while studying for a degree in biology in 2012, has over 19 million followers on Facebook at the time of writing. Andrew, in a reflection of the success of her site, has recently been made curator of The Science Channel’s new digital television channel Sci2, as well as collaborating with the online branch of Discovery Channel to create a video series based on her page. IFLScience provides links to articles relating to new scientific discoveries or research, but it also displays inspirational quotations from eminent figures in science, intended to show that ‘science’ can be beautiful. An exemplary recent post shows a quotation from Carl Sagan’s science fiction novel *Contact* (although the website does not reveal the source of the quote, merely the name of its author), which reads: ‘You’re an interesting species. An interesting mix. You’re capable of such beautiful dreams, and such horrible nightmares. You feel so lost, so cut off, so alone, only you’re not. See, in all our searching, the only thing we’ve found that makes the emptiness bearable, is each other’ and is prefaced by the words, ‘Whoever said science can’t be romantic?’<sup>13</sup> The fact

<sup>11</sup>The phrase is taken from the title of Dawkins’ 2011 book which aims to inform youngsters of the scientifically observable facts underlying phenomena which have previously been explained in mythical terms. Dawkins also preaches about the wonder he finds in science in his 1998 book, *Unweaving the Rainbow: Science, Delusion and the Appetite for Wonder*, whose title is intended to serve as a rebuff to Keats’s claim in his 1820 poem “Lamia” that science, under its commonly used title of the time ‘philosophy’, will destroy the ‘mysteries’ of the natural world.

<sup>12</sup>Alan Sokal, *Beyond the Hoax* (Oxford: Oxford University Press, 2008), xi.

<sup>13</sup>“IFL Science”, [https://www.facebook.com/IFeakingLoveScience?hc\\_location=timeline](https://www.facebook.com/IFeakingLoveScience?hc_location=timeline), accessed 21 November 2014.

that Carl Sagan was a practising scientist as well as an author is the only possible link to science that the website can claim for these words, yet in the same way that Brian Cox appears to find no contradiction in, on the one hand, rhapsodizing, to a backing track of emotive music, about the ‘amazing’ and ‘beautiful’ nature of the cosmos as it is explained by science in his television series *Wonders of the Universe*, and, on the other, demanding rationality from all humankind, ‘I fucking love science’ seems unconcerned about the problematic nature of the attempt to conflate Sagan’s fictional writings with the practices of his scientific career. Of course, Andrew is a scientific popularizer where Cox is also a practising scientist, but the rhetorical sleight of hand utilized by both of these public figures, whereby science is venerated as being somehow magical and worthy of reverence at the same time that it is used to promote evidence-based reason, is similar in each case.

Sharon Ruston notes, in her introduction to a collection which explores the interfaces between literature and science from the middle ages to the present day, that ‘popular science writers have made it their career to enthuse the public with a sense of wonder at the natural world’, and that they approach this task without the healthy self-interrogation which characterizes academic English studies in particular.<sup>14</sup> I would suggest that, in some cases, as illustrated by the above examples, this sense of wonder is being directed at the ways in which science conceives of the natural world, or even that science and the natural world are conflated into an all encompassing framework which is then lauded as deserving wonder. Patricia Waugh highlights the ‘oracular’ nature of much recent popular science writing, arguing that biology in the 1990s took a ‘creationist turn’ whereby scientists ‘had come to regard themselves as approaching the last frontiers of knowledge, empowered to give an account of beginnings and ends whilst continuing to insist that the methods of positivist science are the only avenue to knowledge of the world’.<sup>15</sup> Arthur Bradley and Andrew Tate explore this territory further in their groundbreaking study of what they term the ‘New Atheist Novel’, defined by them as a genre in which we can ‘trace the literary reception of the New Atheism’ as represented by

<sup>14</sup>Sharon Ruston, “Introduction” to *Literature and Science*, ed. Sharon Ruston (Cambridge: D. S. Brewer, 2008), 1–12 (p. 6).

<sup>15</sup>Patricia Waugh, “Science and Fiction in the 1990s”, in *British Fiction of the 1990s*, ed. Nick Bentley (London: Routledge, 2005), 57–77 (p. 62).



the work of Richard Dawkins, Christopher Hitchens, Sam Harris and Daniel Dennett.<sup>16</sup> For Bradley and Tate, a central tenet of New Atheist thought is that ‘not only must evolutionary biology be recognized as irrefutably true, but it must also be universally acknowledged as beautiful, awe-inspiring and even poetic’ (p. 9), and New Atheist fiction becomes ‘the acceptable face of transcendence’ for both these novelists and the intellectuals by whom they are influenced (p. 11).

This book owes a debt to Bradley and Tate’s study, particularly the ways in which they expose the gap between science as a discipline and the political and ideological uses to which science is being put by certain elements within the public intelligentsia, but where *The New Atheist Novel* focuses specifically on the ways in which science is pitted against religion in contemporary fiction, my analysis posits the emergence of a third culture novel as a further permutation of a broader social zeitgeist. What we are witnessing is a tendency, gaining cultural currency in a manner that has not previously been witnessed, to stretch certain aspects of science beyond its traditional (and self-defined) remit as a set of practices which value objectivity and experimentally verifiable proof. Science is coming to take on new and varied forms of significance—it is being transformed to the extent that a different terminology is now required in order to distinguish between science as a set of practices and science as a system of belief. In this book, I propose the use of the term ‘transcendental scientism’ to describe this new discourse in which the viewpoint that science constitutes the only viable and definitive form of knowledge is complemented by and conflated with an attempt to promote the perceived consequences of this viewpoint to the status of an overarching set of values and beliefs. Transcendental scientism blurs knowledge and meaning, and it also veers towards the blurring of the scientific method with the objects and artefacts which science studies, with the notion of ‘wonder’ often providing the glue that holds the two together. Transcendental scientism is thus a paradoxical form of rhetoric, since it seeks to create an abstract model out of the idolization of concrete knowledge, repressing or eliding the problems raised by this approach.

Transcendental scientism has the potential to carry broad cultural and political implications, particularly since the main target of some of the more combative of its proponents, increasingly so since the attacks

<sup>16</sup>Arthur Bradley and Andrew Tate, *The New Atheist Novel: Fiction Philosophy and Polemic After 9/11* (London: Continuum, 2010), 11.

of 11 September 2001, has been religious thought in its many forms, but for the purposes of this study, the primary focus will be on the ways in which contemporary novelists have responded to a cultural climate in which certain aspects of science, and the material world which is its main object of study, have come not only to assume increasing visibility, but also to commandeer approaches and areas of inquiry traditionally associated with the literary humanities. Transcendental scientism grows out of, and harks back to, the traditions of Enlightenment rationality and liberal humanism and, for this reason, shares links with literary realism, as the chapter on Ian McEwan will reveal. The roots of the current circumstances, wherein transcendental scientism can be seen to be staking claims on ground that has been left partially abandoned by a relativized humanities culture, can be traced back through several historical periods, as the first chapter in particular will briefly illustrate. Where previous historical periods have witnessed clashes between the ‘two cultures’, though, the years from the early 1990s onwards have revealed a stronger impulse than previously seen, from certain quarters at least, towards the creation of a third culture in various guises.

### NARRATING SCIENCE

In a study which is arguing, then, that the use of the term ‘science’ is becoming increasingly problematic in relation to contemporary culture, decisions must be taken regarding what terminology is appropriate when discussing the ways in which science is understood and represented by the various novelists and public figures being analysed. The philosopher of science Isabelle Stengers draws our attention to the difference between the practices of science, and what happens to science when it is removed from those practices and becomes a subject that is being relayed or discussed in some way. Its strict rules of objectivity and the requirement for verification by a community of experimenters might seem to separate science from other disciplines, but Stengers argues,

The sciences, as they are taught, that is, as they are presented once their results are unlinked from the practices of science “as it is practiced”, do not have a meaning that is appreciably different from a religious engine of war, pointing out the path to salvation, condemning sin and idolatry.<sup>17</sup>

<sup>17</sup> Isabelle Stengers, *Cosmopolitics I* (Minneapolis: University of Minnesota Press, 2010), 25.

This suggests that as soon as science comes to take on any form of meaning, it is open to critique of the sort that would undermine the very foundations of its disciplinary code. It is as though the only way in which science could genuinely adhere to its definition of itself is by being ‘dead’ science—never sharing, publicizing or even thinking about the results of any of its experiments. But science, of course, represents so much more—both to its proponents and to the culture of which it is a part—than a set of rigidly prescribed practices, and, in fact, it is rare that when the term science is used it is with the meaning suggested by its own definitions. This expansion of usage is not necessarily a concern in itself, especially since the findings disseminated by the practices of science often impact upon numerous areas of society. Where problems arise, I would argue, is when science is used in a broader sense, one in which meaning, value and morality is implied, but is still assumed to possess the same objective characteristics as when it operates as a practice. When science becomes transcendental, it also tends to become imperialistic, but the justification for this imperialism—the value that it perceives in its adherence to reason and verifiable proof—becomes far more complex and problematic when a transcendent position is assumed.

A prominent recent example of this kind of discursive simplification is evinced by Edward O. Wilson’s 1998 book *Consilience*, which borrows a term originally coined by the philosopher of science William Whewell to describe the ‘jumping together’ of disparate facts in order to form a unitary theory. As Wilson’s colleague Stephen J. Gould points out, though, Wilson changes Whewell’s original meaning into ‘an extension and alteration’ which entails the reduction of all aspects of life to the physics of basic constituents.<sup>18</sup> Wilson is a proud reductionist, justifying his approach by asserting that ‘if brain and mind are at base biological phenomena, it follows that the biological sciences are essential to achieving coherence among all the branches of learning’, and, equally, ‘given that human action comprises events of physical causation, why should the social sciences and humanities be impervious to consilience with the natural sciences?’<sup>19</sup> Wilson takes facts discovered within the practices

<sup>18</sup>Stephen Jay Gould, *The Hedgehog, the Fox, and the Magister’s Pox: Mending and Minding the Misconceived Gap Between Science and the Humanities* (London: Vintage, 2004), 193.

<sup>19</sup>Edward O. Wilson, *Consilience* (London: Abacus, 2001), 9, 88.

of science—the physical causation underlying events in the universe and the biological bases of the human brain—and extends them into practices which operate according to completely different rules and measures. He assumes that the objectivity which helped enable the discovery of these facts will carry over into their expansion to the realms of the social sciences and humanities, possessing an inherent moral framework as a result. He moves too readily, in Gould's formulation, from 'is' to 'ought', confusing the material substrates which underpin our behaviour with ethical decisions that continually need to be made.<sup>20</sup> In Wilson's formulation, the very fact that ethical precepts exist makes them 'likely to be physical products of the brain', meaning that 'genes predisposing people toward cooperative behaviour would have come to predominate in the human population as a whole' (p. 282). In comparison with this common-sense model, Wilson suggests, 'the melanges of moral reasoning employed by modern societies are, to put the matter simply, a mess' (p. 283).

What Wilson fails to acknowledge is that, even if the physical sciences can one day create models to describe what he calls the 'instinctual algorithms' (p. 283) underlying our moral decisions, there would remain many unanswered questions and many necessary decisions to be taken. As Gould argues in his far more subtle and balanced manifesto for 'conjunction' between the two cultures, 'no factual conclusion of science [...] can logically determine an ethical truth' (p. 17) because 'science, by its very nature as a quest for factual understanding and explanation, cannot prescribe a moral resolution to any question' (p. 140). Gould, like Stengers, is alert to the differences between divergent practices and alert to the fact that certain questions are beyond the reach of scientific method. Just as the humanities should not aim to explain the laws and behaviour of sub-atomic particles, science should not attempt to swallow ethics under its rubric. Ethical decisions can, and should, be informed by information disseminated from science, but that information, once it is transferred to an ethical framework, becomes fundamentally different from when it was produced.

What the above discussion aims to illustrate, in terms of my choice of terminology, is the fact that whenever the word 'science' is used—by myself as a critic, by the novelists under discussion and by other cultural commentators and public intellectuals—the traits which characterize

<sup>20</sup>Gould, 243.

science as a practice become immediately problematized. Once science is removed from its very specific practices, it is inescapably imbued with meaning and, as a consequence, can no longer be understood in purely objective terms. In this sense, there is actually no science in this book at all, despite the central place it occupies both in the title and in the analysis. I have though, for reasons partly of practicality but mainly in order to mirror current cultural usage, chosen to preserve the word *science* throughout the discussion, without utilizing quotation marks or other appendages which would highlight the problematic nature of the term. Instead, the word is left to stand in its own right, with the understanding implicit that the complexity which it carries is recognized.

Added to these complexities is the more nuanced matter of how the type of science that is being discussed will have an effect on the questions of objectivity, rationality and certainty that are so important to the novelists being studied here. Evolutionary biology, for example, will necessitate the use of narrative in a way that mathematics and physics will not (or, at least, to a greater extent than these two), and neuroscience raises more problematic questions regarding consciousness and subjectivity than does the sometimes equally controversial science of genetics. However, these novelists tend not to draw direct attention to the question of divergence between the factual and objective claims of the various branches of science which they negotiate, but instead present each one as an attempt to assert a certain kind of truth, or to represent a realm that is closed off to human subjectivity. Even as the research which is relayed is often very precise, science is represented as much as a world view or a mindset in these novels as it is a specific practice, particularly when it is being compared to a literary mindset. Having said that, the branch or branches of science which each novelist chooses to incorporate into their schema will mirror or in some way support the aims of that novel, and this is often also related to the generic leanings of each text, as the chapters which follow will make clear.

### THE THIRD CULTURE NOVEL

The third culture novel is, in part, an attempt to solve the problem of how to narrate science, without stripping it of its very status *as* science. At the same time as this, the third culture novel can be seen as a symptom of a problem: that of the long-standing and still unresolved territorial dispute between art and science. The objective and rational qualities

of science are respected in these novels, and its findings are represented through diligent research, but science is used as a rung over which the novel climbs towards its own overarching space. In this sense, science is a tool utilized by these novels to provide intellectual material and relevance in a changing era, but a tool which also possesses the potential to damage the discourse which employs it. At the same time that narrative alters science, science can undermine narrative when its methods are adhered to closely. For these reasons, the relationship between literature and science in the third culture novel is a dialogical one, but it is also always a conflicted one, even when it may appear on the surface that affairs are harmonious.

It is possible to delineate certain characteristics which unite third culture novels, such as Amis's *The Information*, Houellebecq's *Atomised* or Franzen's *The Corrections*, although at times, and perhaps unsurprisingly, these novels can be seen, after Derrida, to be 'participating' in literary genres which also have their own unifying traits.<sup>21</sup> The question of why third culture novels have come into existence in the last two or three decades is one which is more difficult to answer in any definitive way, but one to which I will provide some suggestions based on my own and others' observations. My definition of a third culture novel takes three separate but related strands, summed up by the following prerequisites:

- An interest in, and a sense of the significance of, the material, physical, non-linguistic universe.
- An interest in contemporary scientific understandings of this universe, particularly those relating to genetics, neurology, mathematics and cosmology, as well as a curiosity about scientific understandings of objectivity.
- A strong tendency towards a meditation on the novel, which is compared and contrasted with each author's conception of a scientific worldview, leading ultimately to a defence of the novel.

Third culture novels also often, but not always, display ambivalence, if not outright antagonism, towards a particular conception of literary and cultural theory, sometimes positing liberal (post)humanist values as an alternative to what they see as a problematically relativized

<sup>21</sup>Jacques Derrida, "The Law of Genre", trans. Avital Ronell, *Critical Inquiry* 7, no. 1 (Autumn 1980): 55–81 (p. 65).