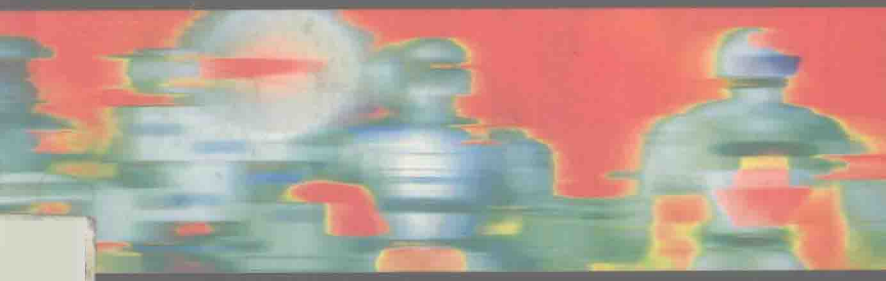
SCIENCE FICTION

Adam Roberts



THE NEW CRITICAL IDIOM

SCIENCE FICTION

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Series Editor's Preface

The New Critical Idiom is a series of introductory books which seeks to extend the lexicon of literary terms, in order to address the radical changes which have taken place in the study of literature during the last decades of the twentieth century. The aim is to provide clear, well-illustrated accounts of the full range of terminology currently in use, and to evolve histories of its changing usage.

The current state of the discipline of literary studies is one where there is considerable debate concerning basic questions of terminology. This involves, among other things, the boundaries which distinguish the literary from the non-literary; the position of literature within the larger sphere of culture; the relationship between literatures of different cultures; and questions concerning the relation of literary to other cultural forms within the context of interdisciplinary studies.

It is clear that the field of literary criticism and theory is a dynamic and heterogeneous one. The present need is for individual volumes on terms which combine clarity of exposition with an adventurousness of perspective and a breadth of application. Each volume will contain as part of its apparatus some indication of the direction in which the definition of particular terms is likely to move, as well as expanding the disciplinary boundaries within which some of these terms have been traditionally contained. This will involve some re-situation of terms within the larger field of cultural representation, and will introduce examples from the area of film and the modern media, in addition to examples from a variety of literary texts.

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Contents

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DEFINING SCIENCE FICTION

ONE DEFINITION

The term 'science fiction' resists easy definition. This is curious, because most people have a sense of what science fiction is. Any bookstore will have a section devoted to SF: shelves of mostly brightly-coloured paperback volumes, illustrated on their covers with photorealist paintings of intricate spaceships perhaps, or of men and women in futuristic cities or bizarre alien landscapes. Most of these novels are narratives that elaborate some imaginative or fantastic premise, perhaps involving a postulated future society, encounters with creatures from another world, travel between planets or in time. In other words, science fiction as a genre or division of literature distinguishes its fictional worlds to one degree or another from the world in which we actually live: a fiction of the imagination rather than observed reality, a fantastic literature.

But when it comes down to specifying in what way SF is distinctive, and in what ways it is different from other imaginative and fantastic literatures, there is disagreement. All of the many definitions offered by critics have been contradicted or modified

by other critics, and it is always possible to point to texts consensually called SF that fall outside the usual definitions. It is, perhaps, for this reason that some critics try to content themselves with definitions of the mode that are mere tautologies, as if 'we' all know what it is and elaboration is superfluous. Edward James suggests that 'SF is what is marketed as SF' (although he concedes that, as a definition, this is 'a beginning, nothing more') (James 1994: 3). Damon Knight says that 'science fiction is what we point to when we say it'; and Norman Spinraid argues that 'science fiction is anything published as science fiction' (quoted in Clute and Nicholls 1993: 314). There is a kind of weariness in this sort of circular reasoning, underlain by a sense that the whole business of definition is nothing more than a marketing exercise. Lance Parkin suggests that 'SF is a notoriously difficult term to define, but when it comes down to it, a book appears on the SF shelves if the publisher thinks they will maximize their sales by labelling it as such' (Parkin 1999: 4). This mistrust of definition has interesting implications for the self-image of SF as a genre, although it doesn't get us very far as a starting point.

The *Oxford English Dictionary* defines science fiction as 'imaginative fiction based on postulated scientific discoveries or spectacular environmental changes, frequently set in the future or on other planets and involving space or time travel', adding that the term did not come into common usage until the 1920s. The terms of this basic dictionary definition are instructive: 'imaginative fiction' differentiates SF from 'realist' fiction, in which there is some attempt at a literary verisimilitude that reproduces the experience of living in the world we recognise as ours. Where the realist writer needs to focus on accuracy, the SF author can use her imagination to invent things not found in our world. These points of difference, the 'scientific discoveries' or 'environmental changes' of the dictionary definition, may be such things as 'space or time travel' but they could be many other premises not listed by the OED, to do with robots, computers, alternative histories

and the like. This makes SF a literature of ideas predicated on some substantive difference or differences between the world described and the world in which readers actually live.

The date is important too. Novels and stories written in what is generally known as science fiction were certainly produced before the 1920s – for example, in the late nineteenth century by writers such as H G Wells and Jules Verne. Some critics assert that the first SF story comes from even earlier than that. Mary Shelley's *Frankenstein* (1818), the story of a strange new form of life created by science, has been put forward as the first SF text by several critics (Aldiss 1973). There are also critics who have argued for a more ancient provenance even than that, to Thomas More's *Utopia* (1516) or the adventures of Baron Munchausen. Chapter 2 of the present study explores these contested versions of the history of SF. But none of these books just mentioned belonged to a recognised *genre* – a specific type or species of literature – called Science Fiction. In their own day they were called Gothic tales, *contes fantastiques* ('fantastic stories'), scientific romances and other various designations. In other words, they were specific and sometimes one-off examples of imaginative fiction. It was not until the 1920s that these sorts of writing became identified as belonging to a family of literature, Science Fiction.

But whilst SF is imaginative fiction, it does not follow that all imaginative fiction can be usefully categorised as SF. Stories in which the protagonists travel from Earth to colonies on Mars by rocket ship are usually taken to be science fiction because no such colonies, and no such available mode of transport, are available to us today. But fairytales, surreal fictions (such as Andre Breton's *Nadja*, 1928), or magic realism (like Salman Rushdie's *Midnight's Children*, 1981) all involve substantive differences between the world of the text and the world the readership actually lives in, and they are not categorised as science fiction. For example, there is a novel by Ian Watson called *The Jonah Kit* (1975), which

involves a new technology that maps the brainwave patterns of a human onto the mind of a whale. This human consciousness then inhabits the whale. We might compare this tale with Franz Kafka's short novel *Metamorphosis* (1915), in which the protagonist wakes up one morning to find himself transformed into the shape of a giant insect. Watson's novel is classified as SF, where Kafka's is not. Why should this be? Both are imaginative fictions based on the premise of a radical change; neither are concerned with space or time travel, or are set on other planets. What makes them different?

There could be two answers to this question. The first would assert that science fiction is a much broader category than is usually admitted, and should be used to describe a wide range of 'fantasy' literatures; according to this argument, Kafka's *Metamorphosis* is indeed a science-fiction tale, even if it is not usually categorised as such. The second argument would deny this, and stress the differences of approach of the two writers. Kafka never explains how his hero turns into a bug: the metamorphosis is literally inexplicable, a physical impossibility. Indeed, Kafka isn't interested in the change as such, which is why he does not feel any need to explain how it has come about. He is interested in the alienation his character subsequently suffers, the reactions of his family to his new monstrosity. In other words the transformation of man into bug is only a premise, a symbolic facilitator for the subsequent narrative and not a focus for narrative explication in itself. Watson's metamorphosis of man into whale, on the other hand, is placed in a context of scientific research and is given a particular rationalisation, an explanation for how it has come about. This change does not 'just happen', it is *made* to happen via a machine that reads brainwave patterns and reproduces them in another brain. This is not to say, quite, that Watson's metamorphosis is 'scientific' where Kafka's is, we might say, 'arbitrary' or 'magical'. Science today could not effect the sort of change upon which Watson's book is premised, and it is a moot question whether it ever will be able to.

It is equally impossible, in strict scientific terms, to manipulate DNA to create dinosaurs in the ways required by Michael Crichton's book *Jurassic Park* (1993), or to design spaceships that can travel between the stars like *Star Trek*'s USS *Enterprise*. But it is part of the logic of SF, and not of other forms of fiction, that these changes be made plausible within the structure of the text. This means that the premise of an SF novel requires material, physical rationalisation, rather than a supernatural or arbitrary one. This grounding of SF in the material rather than the supernatural becomes one of its key features. Sometimes this materialism is rooted in a 'scientific' outlook – science is, after all, one of the dominant materialist discourses of the present day. But sometimes the materialism is not, strictly speaking, scientific. Stephen Baxter's *Titan* (1998) is a novel about a journey of space exploration to Jupiter. Everything that happens in that novel adheres strictly to scientific laws as Baxter understands them – his characters even re-use the tried-and-tested technology of the Saturn V Moon programme from the 1970s. Kim Stanley Robinson's *Red Mars* (1992) also begins with a journey of exploration to another planet, again carefully imagined so as not to violate the constraints of current science and technology. Later in Robinson's novel a technique is discovered for hugely extending human lifespan. This is certainly *not* within the discourse of current science, and may well be impossible, but the plot development is integrated into the pseudo-scientific idiom of the book. Instead of just asserting without explaining, as a magic-realist or surrealist writer might, that his characters can now postpone growing old for hundreds of years, Robinson introduces a material device, a gene-resplicing bath, to explain and make plausible this idea.

To give another example of the contrast between SF and other fiction: John Updike's magic-realist novel *Brazil* (1994) tells the story of two lovers, a black boy and a white girl. In the course of the novel, the skin colours of these two figures change such that by the end of the book the boy is white and the girl black. This

change is not rationalised in terms of the fictional world the characters inhabit, which is in all other respects a closely observed representation of contemporary South America; it is exactly the kind of unexplained literary device we associate with magic realism. On the other hand there is a novel by John Kessel called *Good News From Outer Space* (1995) set in the near-future USA, one part of which is concerned with a new drug which alters skin pigmentation. Characters in the novel plan to release this drug in the American water supply as a terrorist gesture to undermine the ingrained racism of their society. Once again, we are tempted to call Kessel's book science fiction and Updike's not. Although both books are making points about the arbitrariness of racial definition by positing an interchangeability of skin colour, Kessel provides a specific mechanism for this change and Updike does not. Kessel's imaginary drug is not scientific – it does not and probably could not actually exist – but it is a material device and within the realm of the discourse it inhabits it is a plausible facilitator. Kessel's science fiction depends upon a certain premise, and that premise is symbolic of change. In other words, the drug is a symbol in terms of the text, but it is a concrete and material symbol that is integrated into a certain discourse of scientific possibility. Updike's text dispenses with the need for such a symbol.

It seems that this 'point of difference', the thing or things that differentiate the world portrayed in science fiction from the world we recognise around us, is the crucial separator between SF and other forms of imaginative or fantastic literature. The critic Darko Suvin has usefully coined the term 'novum', the Latin for 'new' or 'new thing', to refer to this 'point of difference' (the plural is 'nova'). An SF text may be based on one novum, such as the device that enables H G Wells's hero to travel through time in *The Time Machine* (1895). More usually it will be predicated on a number of interrelated nova, such as the varieties of futuristic technology found aboard the starship *Enterprise* in *Star Trek*, from faster-than-light travel to matter-transportation machines. This

'novum' must not be supernatural, but need not necessarily be a piece of technology. The central 'novum' of Ursula Le Guin's *The Left Hand of Darkness* (1969), for instance, is a different model of gender, although there are other, more technological 'nova' in that book, including interstellar transport and a hyperspace walkie-talkie called an 'ansible'. Unlike such premises as the human inexplicably metamorphosed into an insect in Kafka's story, these nova are grounded in a discourse of possibility, which is usually science or technology, and which renders the difference a *material* rather than just a conceptual or imaginative one. The emphasis is on difference, and the systematic working out of the consequences of a difference or differences, of a novum or nova, becomes the strength of the mode.

THREE DEFINITIONS

There have been a great many attempts to define science fiction in more exact terms than these. Once we accept that the particularities of the 'novum' distinguish SF from other forms of imaginative literature, the urge is to elaborate the sorts of literary context in which these nova are elaborated – to flesh out, in other words, the broader features of the SF text beyond its notional, material point of difference with our familiar world.

It is worth detailing three definitions of SF that have had a great deal of influence on the study of the subject, from three influential critics: Darko Suvin, Robert Scholes and Damien Broderick. First there is respected elder statesman of SF criticism, Darko Suvin, who in 1979 defined SF as:

> a literary genre whose necessary and sufficient conditions are the presence and interaction of estrangement and cognition, and whose main formal device is an imaginative framework alternative to the author's empirical environment.
>
> (Suvin 1979: 8–9)

'Cognition', with its rational, logical implications, refers to that aspect of SF that prompts us to try and understand, to comprehend the alien landscape of a given SF book, film or story. 'Estrangement' is a term from Brecht, more usually rendered in English-language criticism as 'alienation'; and in this context it refers to that element of SF that we recognise as different, that 'estranges' us from the familiar and everyday. If the SF text were entirely concerned with 'estrangement' then we would not be able to understand it; if it were entirely to do with 'cognition' then it would be scientific or documentary rather than science fiction. According to Suvin, both features need to be present; and it is this co-presence that allows SF both relevance to our world *and* the position to challenge the ordinary, the taken-for-granted. The main 'formal device' of Suvin's version of SF is the novum.

Suvin goes on to insist that this 'alternative' world of SF, determined by 'estrangement' and 'cognition', must be *possible*, by which he means it must reflect the constraints of science. This is how he distinguishes SF from the looser category of 'fantasy'. Indeed, it seems from reading Suvin that, for him, 'cognitive' is almost a synonym for 'scientific'; that his phrase 'cognitive estrangement' is just another way of restating the phrase that is to be defined, 'science fiction'. One of the strengths of Suvin's definition is that it seems to embody a certain common-sense tautology, that science fiction is scientific fictionalising. But, as we have seen, science is just as frequently represented in the SF novel by pseudo-science, by some device outside the boundaries of science that is none the less rationalised in the *style* of scientific discourse. We might want to define 'science' as a body of observations and derived laws established by experiment in the real world; but, according to this definition, several of the frequently deployed 'nova' of SF are things that 'science' has specifically ruled out of court as literally impossible. The most obvious example of this is faster-than-light travel, a staple of a great many SF tales but something that scientists assure us can never happen.

Rather than abandon the rationale of science, though, SF stories that involve 'faster-than-light' travel slip into the idiom of 'pseudo-science', providing rationalisations of these impossible activities in terms that *sound like* scientific discourse.

For Suvin, the important thing about the 'science' part of 'science fiction' is that it is a discourse built on certain logical principles that avoids self-contradiction; that it is *rational* rather than emotional or instinctual. Scientists sometimes like to assert that they deal in 'facts' and 'truth', where fiction deals in 'imagination' and is a form of lying. But it is more accurate to describe science as a discipline based on falsifiability, a discourse in which hypotheses are tested by experiment. Accordingly, whilst a scientific premise may be proved false, it cannot be proved true. In science fiction it is not that the use of science gives the texts a particular, privileged access to truth. Often the reverse is true. Gwyneth Jones points out that Larry Niven's *Ringworld* (1970), 'one of the great, classic "engineering feat" SF novels, reached print in the first instance with terrible mistakes in its science' (Jones 1999: 16). Niven revised the novel for subsequent publication after fans pointed out a number of scientific impossibilities, but Jones makes the point that 'the challenge, which had to be met, was not to Niven's scientific accuracy, but to his appearance of command over the *language* of science'. Many early SF novels followed the scientific thinking of the day and imagined canals on Mars, oceans on Venus. The fact that more recent scientific experiment has concluded that there are no such canals or oceans does not invalidate these novels, because the point about the science in SF is not 'truth' but the entry into a particular, material and often rational discourse. To quote Jones again:

> 'Science' in Science Fiction has always had a tacit meaning other than that commonly accepted. It had nothing in particular to say about the subject matter, which may be just about anything so long as the formal conventions of future dress are

> observed. It means only, finally, that whatever phenomenon or speculation is treated in the fiction, there is a claim that it is going to be studied to some extent scientifically – that is objectively, rigorously; in a controlled environment. The business of the writer is to set up the equipment in a laboratory of the mind such that the 'what if' in question is at once isolated and provided with the exact nutrients it needs.
>
> (Jones 1999: 4)

Jones sees SF as a form of thought experiment, an elaborate 'what if?' game where the consequences of some or other nova are worked through. In other words, it is not the 'truth' of science that is important to SF; it is the scientific method, the logical working through of a particular premise. This is precisely what Suvin asserts: 'SF is distinguished by the narrative dominance or hegemony of a fictional "novum"...validated by cognitive logic' (Suvin 1979: 63). By this he means that the implications of the 'novum' dominate, or create a 'hegemony' (a term from Marxist theory to describe the maintenance of power by indirect and pervasive means rather than by direct force) throughout the text. 'Cognitive Logic' becomes for Suvin a crucial formal convention of SF.

If Suvin takes his starting point from the 'science' part of 'science fiction', another highly influential critic has concentrated more on the literary features of SF texts. Robert Scholes, in his book *Structural Fabulation*, has stressed the metaphorical strain of SF. He defines 'fabulation' as any 'fiction that offers us a world clearly and radically discontinuous from the one we know, yet returns to confront that known world in some cognitive way' (Scholes 1975: 2). This point of 'discontinuity' with the known world is the Suvinian novum, but Scholes has a different emphasis. He wants to acknowledge that SF is interested in things being different from the world we actually inhabit, but does not want to concede that this makes SF merely escapist or irrelevant.