From Tom Shippey, ed.
Fictional Space: Essays
and Studies of the
English Association 1990
Oxford: Blackwell, 1991

Preface: Learning to Read Science Fiction

TOM SHIPPEY

None of the essays in this volume (including this one) spends very much time in discussing definitions of science fiction, or what science fiction is. There are good practical reasons for this: science fiction is not a new form in terms of most individuals' reading-experience, it is readily identifiable and regularly identified on a commercial basis by readers, publishers and bookshop-managers; it has in a sense defined itself. Nevertheless, another and more ignoble reason is that previous attempts to define it have proved so unsuccessful;[1] no one wants to venture into a critical quagmire.

Yet around this absence of precise or agreed definition circle questions of interest not only to pedants or lexicographers, but to general readers and to students of the entire field of contemporary writing. Is science fiction, for instance, a field which draws its importance and relevance from a covert or metaphorical referentiality to its own real present (as implied in quite different ways by Spark and Elms below)? Or – since the real present so quickly goes out of date, while we can see now that

even our grandparents' science fiction does not always follow suit – does science fiction draw its value, or some of its value, from mere or utter 'futuristic play' (an idea brought up by Huntington, see p. 62 below)? Not entirely unconnected with the pair of questions above, does science fiction have or need a close relationship with the 'science' its generic title suggests as a defining feature; or can it continue as fiction after its 'science' has become outdated, or been revealed as pseudo-science, or after its computer-conscious author has been exposed as a man who never progressed beyond the typewriter and returned his first word-processor on the ground that when he switched it on, it just buzzed and flashed lights at him?[2] Not far away from these issues of novelty and relevance lie others: is science fiction an inherently conservative form in literary terms (as suggested below by Meyers and partly corroborated by Christie), or is it intrinsically radical, a trampler of taboos (as implied by Shippey and Spark)? Does it use an 'independent economy of signs' (see p. 38 below), or is it parasitic upon the greater body of literary fiction? Is it emerging from a 'ghetto', or wrapping exclusion luxuriously around its shoulders? Has it been strengthened or diluted by transition from the world of specialist magazines to instant popular-medium success via *Star Trek* or *Star Wars*? What is its relationship to fantasy fiction, is its readership still dominated by male adolescents, is it a taste which will ever appeal

to the mature but non-eccentric literary mind?

Of all these questions, it is perhaps the last which gives most opportunity for a firm step forward towards definition. Many times in the past twenty years the present writer has been told, usually by academic colleagues of some sophistication, that they 'never read science fiction, just can't read science fiction, don't see how anyone gets anything out of science fiction'. The experience is too common for the statements not to be true. There are many people who simultaneously cannot bear science fiction and never read it; but though they cannot bear it they recognize it immediately. Nor is the repulsion they feel built up cumulatively over pages and chapters, or based selectively on dislike of particular plots, authors, styles, etc. It is *instant* and *universal*. It is, in fact, a generic reaction, and there is accordingly at least a chance of defining the field of science fiction, so to speak, by ricochet; its detractors may not know much about the genre, but they do know what they don't like. What triggers this reaction?

The inner nature of science fiction may be exposed by comparing two passages, very similar in content and style, but one inside the field and one outside it. The 'outsider' is the start of George Orwell's novel of 1939, *Coming up for Air*:[3]

> The idea really came to me the day I got my new false teeth.

> I remember the morning well. At about a quarter to eight I'd nipped out of bed and got into the bathroom just in time to shut the kids out. It was a beastly January morning, with a dirty yellowish-grey sky. Down below, out of the little square of bathroom window, I could see the ten yards by five of grass, with a privet hedge round it and a bare patch in the middle, that we call the back garden. There's the same back garden, same privets, and same grass, behind every house in Ellesmere Road. Only difference – where there are no kids there's no bare patch in the middle.
>
> I was trying to shave with a bluntish razor-blade while the water ran into the bath. My face looked back at me out of the mirror, and underneath, in a tumbler of water on the little shelf over the washbasin, the teeth that belonged in the face. It was the temporary set that Warner, my dentist, had given me to wear while the new ones were being made. I haven't such a bad face, really. It's one of those bricky-red faces that go with butter-coloured hair and pale-blue eyes. I've never gone grey or bald, thank God, and when I've got my teeth in I probably don't look my age, which is forty-five.

Quite how many things Orwell is trying to say in this passage is arguable. But probably from the 250 words cited one could easily make a list of some twenty to twenty-five data – a *datum* being a discrete fact stated or implied in the passage, such as: 'the narrator's house has a bathroom', or 'the narrator's house has a garden', or 'the narrator's house has only one bathroom', or 'the narrator has children' (with whom, inferentially, he has to share the bathroom), etc. In addition to these, we could easily generate a string of more debatable conclusions, such as 'the narrator tries to economize on razor-blades, even though these are/were cheap', or 'the inhabitants of Ellesmere Road include retired or unmarried people, who have no children'. A fuzz of such speculation must in some way surround the reading experiences of this passage; but sensible readers will not take it too far, for they may know, e.g., that Orwell was particularly irritated by blunt razor-blades, or may suspect that the demographic make-up of Ellesmere Road does not need to be imagined too precisely for the purpose of the fiction.

Yet what most readers work out from their twenty to twenty-five data must be something like this:

1 The narrator (to use Northrop Frye's 'theory of literary modes') is 'low mimetic', and on the verge of becoming ironic. He has false teeth, a sign of age, but also in 1930s England a strong sign of non-upper social class;[4] he is middle-aged, his appearance is undistinguished, we will learn in the next paragraph that he is fat.

2 The narrator is clearly 'middle-class', or what would now be categorized as 'C1': his house has

only one bathroom, the w.c. is in it, there are at least four people to share it (counting the children's inferential mother). Mornings are accordingly competitive occasions when it comes to using the bathroom. But this major inconvenience is dictated by economy, as is the size of the garden, and the bare patch in it which tells us that children play in their gardens (sc. because they have nowhere else to go). Orwell is particularly clear about these class-marking details: the narrator is a house-*owner*, and the house has a garden (so it is not a 'back-to-back', a working-class house). But it is a small garden directly under the bathroom window, and the window itself is a 'little' one. On the information already given, most English readers, in 1939 *or* 1989, could and would make accurate guesses about the narrator's income and life-style. That is what Orwell wants them to do.

3 The narrator's life-style is a drab one. Whether this fact should be related to his class status, whether drabness is a necessary part of 'low mimesis', these are precisely the themes of the novel (which says in short that they are all related but, very passionately, ought not to be). Just the same, the fact is there, in the 'beastly' morning, the 'dirty' sky, the 'little' square of window, the 'bare' patch of garden, the 'bluntish' razor-blade, and so on: of the twenty-five adjectives in the passage, nine are clearly derogatory, others ('same' and 'only') inferentially so, yet others ('bad', 'grey', 'bald') sug-

gestive above all of the narrator trying to cheer himself up. Stylistically, the main qualities one might identify in the passage are its directness and single-mindedness. Orwell, it seems, has only a few things to say; while he will substantiate these with many details, all the details will point in one direction.

It is this which makes *Coming Up for Air* such a satisfactory if elementary example of how a non-science-fiction novel works. There is no doubt about its data; very little about what the data mean; and though there are some details of whose meaning a non-native or non-contemporary reader might be doubtful, like the privet hedge or the 'quarter to eight' rising,[5] they cause no serious trouble because they confirm or are confirmed by all the others. In the whole passage there is no jarring or inconsistent note.

Compare a matching passage from science fiction, again the opening of a novel, again a man shaving: this time from Frederik Pohl and C. M. Kornbluth's novel of 1953, *The Space Merchants*:[6]

> As I dressed that morning I ran over in my mind the long list of statistics, evasions, and exaggerations that they would expect in my report. My section – Production – had been plagued with a long series of illnesses and resignations, and you can't get work done without people to do it. But the Board wasn't likely to take that as an excuse.
>
> I rubbed depilatory soap over my face and rinsed it

with the trickle from the fresh-water tap. Wasteful, of course, but I pay taxes and salt water always leaves my face itchy. Before the last of the greasy stubble was quite washed away the trickle stopped and didn't start again. I swore a little and finished rinsing with salt. It had been happening lately; some people blamed Consic saboteurs. Loyalty raids were being held throughout the New York Water Supply Corporation; so far they hadn't done any good.

The morning newscast above the shaving mirror caught me for a moment . . . the President's speech of last night, a brief glimpse of the Venus rocket squat and silvery on the Arizona sand, rioting in Panama. . . I switched it off when the quarter-hour time signal chimed over the audio band.

It looked as though I was going to be late again. Which certainly would not help mollify the Board.

I saved five minutes by wearing yesterday's shirt instead of studding a clean one and by leaving my breakfast juice to grow warm and sticky on the table. But I lost the five minutes again by trying to call Kathy. She didn't answer the phone and I was late getting into the office.

How long is it, one might ask, before a reader who does not already know realizes that this *is* science fiction? And how does such a reader realize? The answer must be (a) on reading 'depilatory soap' and (b) on realizing in rapid succession that depilatory soap does not exist, that for it to exist some sort of

chemical breakthrough would be necessary, that such a breakthrough nevertheless would be exploited, just like freeze-dried coffee. The reader of this phrase is in fact – if male and middle-aged – likely to remember a string of shaving-technology innovations, from the aerosol can of shaving cream to the coated blade to the double blade, with the concomitant development of electric, cordless and rechargeable-battery razors; and at once to note the fact of a progression, to set 'depilatory soap' in that progression, to realize it is as yet an imaginary stage, but also that the existence of such stages (all at one time imaginary) is by no means imaginary. 'Depilatory soap' is not-real; but it is not-unlike-real. That, in miniature, is the experience of reading science fiction. As well as recognizing data, you recognize non-data; but since these are data within the story, they are well labelled '*nova data*', 'new things given'. The basic building-block of science fiction (the term is Darko Suvin's) is accordingly the *novum*[7] – a discrete piece of information recognizable as not-true, but also as not-unlike-true, not-flatly- (and in the current state of knowledge) impossible.

How many novums, in the sense given, are there in the passage quoted? Probably, around fifteen. Some are easily identifiable: there is no more doubt about the depilatory soap than about Orwell's 'bare patch'. At the other extreme – as with Orwell's 'quarter to eight' – there are cases where a non-

American or non-contemporary may be unsure whether he or she is confronting a novum or a datum. The 'quarter-hour time signal...over the audio band' sounds futuristic, but then time signals on radio and TV are now common enough. And what is meant by 'wearing yesterday's shirt instead of studding a clean one'? All my shirts have buttons on. Are the authors talking about collar-studs (old technology), or maybe some future novelty, like paper disposable shirts, of which the only non-recycled bits are the studs that replace buttons? In both cases there may be uncertainty, in both cases (again as with Orwell) suspended till more information comes in.

There is after all a great deal of information in this passage, though the experienced science fiction reader is unlikely to hesitate over it. Water, for instance: salt water comes out of the tap (one novum); so does fresh, but it trickles; using fresh water for washing is 'wasteful, *of course*'; fresh water is supplied by the government to which the narrator pays taxes. There is a string of novums here, but no reader can register them without making some attempt to put them together. In this world, we realize, natural resources are unexpectedly scarce; so scarce that only government can be allowed to control them; this narrator is not entirely loyal to his government. There is a similar string of novums and inferences at the end of the second paragraph. 'It had been happening lately' implies (a)

change, (b) recent change, (c) frequent occurrence, so, potentially irreversible change. 'So far they hadn't done any good' backs up the notion of irreversibility. More inferences come, however, from the five words 'some people blamed Consie saboteurs'. 'Some people' implies 'not everyone' and in particular not the narrator. 'Consie' even now – and still more in 1953 – sets up the parallel with 'Commie'. If 'Commie' ⟨ 'Communist', what is the missing term in the sequence 'Consie' ⟨ ...? An astute reader might guess the answer 'Conservationist' (by inference from the interest in fresh water). But any 1953 reader was likely to note:

1 in this world, Communists are no longer a threat. But,
2 McCarthyite attitudes are still present. So,
3 if 'Commies' were just a scapegoat, maybe 'Consies' are too. This is backed up by the failure of the 'loyalty raids', as point 2 is by their existence.

But this last inference, when contrasted with those stemming from the fresh water/salt water opposition, raises a further query more basic to the structure of the whole novel. If 'Consies' cannot be blamed for the potentially irreversible change coming over the narrator's horizon, what can? Something, clearly, which neither the government nor the sceptical narrator would like to think about:

it is, to be brief, the ghost of Thomas Malthus in horrible alliance with the descendants of the Coca Cola Company. Limited resources are bad enough. When they coexist with an ethic which demands continuous increases in consumption (and does not scruple to use physical and emotional addiction to get these increases), then you have the ground rules for the Pohl and Kornbluth 'dystopia'.

But it does not start with ground rules. It starts with novums. To read *The Space Merchants* – to read any science fiction – one has first to recognize its novums, and then to *evaluate* them. There is a discernible and distinguishable pleasure at each stage, as you realize how things are different, how they are similar, and go on to wonder, and to discover, what causes could have produced the changes, as also – and this is a 'referentiality' from which science fiction can never entirely escape – to speculate what causes have produced the effects of the real world, the effects with which we are so familiar that in most cases they are never given a thought. It is true that readers are unlikely to stop and chew over the implications of 'depilatory soap' or 'Consie saboteurs' in the way that this discussion has done, but then readers of Orwell do not stop to boggle over the implications of 'bare patch in the middle' or 'get into the bathroom just in time' either. Yet the latter group certainly understands at some level that Orwell is writing about class. The reader of *The Space Merchants* likewise soon has a

clear idea that its authors are attacking the American way of life, or consumer-culture.

But it is not that message (I suspect) which would have made *The Space Merchants* literally unreadable to the many literate and liberal colleagues who have voiced distaste for science fiction over the years. It is the existence in science fiction of the novum, and of the pattern of intellectual inference to be drawn from it. Darko Suvin's definition of science fiction, indeed, is that it is:

> 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.[8]

'Estrangement', with reference to the examples given, means recognizing the novum; 'cognition' means evaluating it, trying to make sense of it. You need both to read science fiction. Some people are willing to do neither.

What causes this reluctance may well be beyond the scope of literary criticism; it could be, for instance, that those deeply and personally attached to the status quo will refuse even the notion that reality is an accident, the result of the interaction of a host of social and technical variables, any of which might have been different and all of which are still varying. One might note here the remarks of John

Huntington below (pp. 62–4) about 'habitus' and class feeling. Huntington suggests that the truly revolutionary element of Wells's *Time Machine* in 1895 was not the 'scientific gesture' of the time machine itself, but the 'significant shifts in class allegiances' signalled by the Eloi and the Morlocks, a shift perhaps repeated – Huntington further suggests – in the 'hacker vs. corporation' world of William Gibson's *Neuromancer* nearly ninety years later. Huntington feels that these suggestions rather qualify Suvin's thesis of 'cognitive estrangement', which he thinks gives too much dignity to 'conscious rationality' as opposed tacitly to class (or other) prejudice. But, as has been said above, this depends on what one means by 'cognition'. The reader of *The Space Merchants* may not brood over Consies/Commies and may very well not detect Pohl and Kornbluth's real-life and by American standards distinctly left-wing political stance.[9] Nevertheless one cannot read science fiction at all without *some* recognitions and *some* evaluations: quite how 'cognitive' these low-level cognitions or recognitions may be does not seem too vital. What one could say – see Shippey and Spark below, *passim* – is that science fiction does provide a consistent medium by which writers can consider political issues, like Vietnam or threats to American hegemony, without accepting the battle-lines of contemporary politics. In this sense science fiction is often a continuing adventure in new 'structures

of feeling'. And, to resolve an opposition set up at the start of this essay, it can be both 'referential' and 'playful' at once, and not necessarily most referential when least playful (see 'The New Atlantis', pp. 117–19 below) or vice versa ('Criticality', pp. 119–24).

There is a further conclusion one can come to by considering the basic actions of reading science fiction. It is that science fiction must intrinsically be a 'high-information' literature. 'Information', as the *Oxford English Dictionary* tells us, has in recent years become a technical as well as a colloquial term. It now means (see *OED Supplement*, vol. II, 1976):

> As a mathematically defined quantity ... now esp. one which represents the degree of choice exercised in the selection or formation of one particular symbol, sequence, message etc., out of a number of possible ones, and which is defined logarithmically in terms of the statistical probabilities of occurence of the symbol or the elements of the message.

This sense seems to have become common only after World War II, and to be associated with 'information theory' and cybernetics. There is a literary point to be drawn from it, though, and it is this. In English, as in other languages, there is a high degree of 'redundancy'. Some words can be readily predicted from their context, especially 'grammatical'

as opposed to 'lexical' items. If, for instance, the fifth or the seventh word of the Orwell passage were to be blanked out, and the rest of the sentence left, few readers would have much trouble in filling them in. The same is true of the 'lexical' words 'came' or 'false' in that sentence. But by contrast, if 'nipped' in sentence three were to be blanked out, most readers would probably fill in, as first guess, 'got' or 'jumped' or 'climbed'. 'Nipped' is a higher-information word than 'came', or than 'the' in sentence one; it is less predictable, and there are more choices available to fill its slot. Just the same, few if any words in the Orwell passage are entirely unpredictable, or particularly surprising, distinctive though Orwell's style may be. The whole book is (no doubt deliberately) towards the low end of the English novel's generally 'medium-information' span.

Science fiction, however, to repeat the point, is intrinsically a 'high-information' genre. Novums, just because they are novums, are very hard to predict. Some of the words in the Pohl and Kornbluth passage would take many guesses to arrive at if they had been blanked out: one might guess 'fresh-water' from the antithesis with 'salt water', and 'depilatory' (as opposed to 'perfumed' or 'carbolic' or 'coal-tar') *if* one worked out from context that the passage was about shaving – this is not so obvious once 'depilatory' and 'stubble' are removed – but 'studding', 'Consie', and both ele-

ments of 'loyalty raids' seem to be inherently unpredictable. Yet Pohl and Kornbluth here, like Orwell within the English novel as a whole, are towards the low end of their genre's information-range. A glance at the first 250 words of, say, Gibson's *Neuromancer*, discussed so often below, will show just how high a 'high-information' style can go while remaining readable: I would suggest that it contains at least a dozen words, not counting names, which could never be accurately recovered by any hypothetical editor of the future, working as it might be from a single surviving damaged or rat-gnawed exemplar.

The science fiction reader, of course, *likes* this feeling of unpredictability. It creates intense curiosity, as well as the pleasure of working out, in the long run, the logic underlying the author's decisions, vocabulary and invented world. It is a powerful stimulus to the exercise of 'cognition', of putting unknown data into some sort of mental holding tank, to see if and when they start to fit together, and what happens when they do. Yet this experience is in a sense a deeply 'anxious' one: Huntington again remarks on this with particular reference to *Neuromancer*, and says well that any reader of that book is likely to feel all the time that he or she has missed something, failed to grasp 'more than an edge of the whole reality', is in fact a poor or inattentive reader. But that particular case is only an extreme example of one of the characteristic marks

of science fiction: unease, a feeling that rules may be altered, a required readiness to accept the novum, the sudden jolt of 'high information'.

Perhaps the most concentrated form in which such jolts may be delivered is the neologism. Paragraph three of *Neuromancer* contains the word 'joeboys', a word which as far as I can see (but then like everyone else I am not a perfect reader) is nowhere explained. More significant in Gibson's world are the words 'cyberspace' and 'ice', the former a neologism meaning the world one enters/will enter on plugging the brain into the world-wide computer network of the future, the 'electronic consensus-hallucination that facilitates the handling and exchange of massive quantities of data', the latter a concealed acronym for Intrusion Countermeasures Electronics, the constant warfare inside cyberspace of 'watchdog programs', 'military black ice' and 'icebreakers'. Strikingly, both words have passed since 1984 into general science-fictional use: they express concepts too good not to use. The same is true of Ursula Le Guin's 'ansible', see Meyers, p. 206 below, a word for an as yet uninvented gadget. More suggestively, the whole of Le Guin's 1969 novel *The Left Hand of Darkness* may be taken as a meditation on the word 'shifgrethor', which means at once 'shadow' and 'an alien sense of honour': why 'shadow' and 'honour' should be related concepts is one challenge to cognition, perhaps resolved in the novel's quasi-allegor-

ical chapter 18, 'On the Ice'. 'Shifgrethor', however, is a neologism so closely tied to the world of its book that it has not been borrowed. Words which *have* been borrowed from science-fiction novels into everyday reality include, from Le Guin's *The Dispossessed* (1974), 'kleggitch' (boring work, as opposed to exciting work, but work which has to be done, like housework, but not sexually linked), or, from Philip K. Dick's *Do Androids Dream of Electric Sheep?* (1968), 'kipple':

> Kipple is useless objects, like junk mail or match folders after you use the last match or gum wrappers or yesterday's homeopape. When nobody's around, kipple reproduces itself. For instance, if you go to bed leaving any kipple around your apartment, when you wake up the next morning there's twice as much of it. It always gets more and more.

Another likely candidate for future lexicographers is Kim Robinson's self-explanatory 'mallsprawl', from *The Gold Coast* (1988).

Words like these hang as it were on the edge of everyday experience, recognized instantly as filling a gap, but also betraying the existence of the gap. Sometimes they make one wonder why such a gap should exist. Why, for instance, is there in English no neutral-sex third-person singular pronoun—all our other personal pronouns are neutral—sex-equivalent to 'one' but not including the speaker, not