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FOUNDATION

31

THE REVIEW OF SCIENCE FICTION

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FOUNDATION

THE REVIEW OF SCIENCE FICTION

Editor: David Pringle
Features Editor: Ian Watson
Reviews Editor: John Clute

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Number 31, July 1984

Editorial

Two contradictory views of *Foundation* have been expressed recently. Robert H. Boyer and Kenneth J. Zahorski have edited a book called *Fantasists on Fantasy: A Collection of Critical Reflections* (Avon/Discus, 1984, 287pp, $3.95). It contains 18 essays by well-known authors, one of which—Michael Moorcock's "Wit and Humour in Fantasy"—is reprinted from *Foundation* 15. In their introduction to this useful volume Boyer and Zahorski refer to *Foundation* as "a low-circulation British fan magazine." On the other hand, at Seacon '84—the joint British Easter SF Convention and European SF Convention, under the chairmanship of John Brunner—we were surprised and delighted when *Foundation* was voted a Eurocon Award as "best European *professional* science-fiction magazine."

Neither description is strictly accurate. We are rather more than a "fan magazine" but rather less than "professional" (none of our contributors receives payment; nor do the editors get any remuneration). We have a print-run of 1,200 copies, which I believe is slightly higher than the print-run on the estimable *Science-Fiction Studies* (usually regarded as the world's leading scholarly journal about sf: see the advertisement elsewhere in this issue). That's certainly proof of a circulation much lower than that of any commercial magazine, yet it also indicates a circulation greatly in excess of most fanzines. In short, we occupy the middle ground—part scholarly journal, part fan mag, and indeed part "professional sf magazine" (many of our contributors are writers by profession).

This mix is characteristic of the sf field. As Samuel R. Delany point out in his fine new collection of essays, *Starboard Wine: More Notes on the Language of Science Fiction* (Pleasantville, New York: Dragon Press, 1984, 244pp, $19.95), much of the best criticism of sf (and certainly the best-informed) has come from practising science-fiction writers and their "fans" rather than from academic critics.

(Delany's book is, incidentally, his most lucid exposition yet of the theories he adumbrated in *The Jewel-Hinged Jaw,* 1977, and *The American Shore,* 1978. For him, science fiction begins in the 1930s with the stories of Stanley G. Weinbaum and contemporaries. All that went before is something other than sf, in the sense of the term that engages Delany. This modern sf is not just another "genre" of popular fiction: it is a form of literature which makes radically different demands on its readers. For Delany, science fiction is a "skill" which has to be learned by both writers and readers; conventional rules of novel-making, and the usual criteria of literary criticism, do not apply. This may strike many people as dubious in the extreme, an example of the Higher Fannishness, but Delany argues so persuasively in this latest volume that his thesis cannot merely be shrugged off. I'll leave my own judgment in abeyance for the moment and simply say that his book demands attention.)

Our next issue, number 32, will contain a special section on science fiction and socialism. We have much other good material in hand, including a very interesting "Profession" piece by Michael G. Coney (a British sf novelist who now resides in Canada). We have been giving more thought to the international spread of science fiction, which seems to be growing apace. As stated in last issue's editorial, we want this journal to reflect the interest in sf around the world—and not just in those parts of it where people are born to the English language. So we have decided to put together yet another special issue, in order to stimulate contributions from overseas. Ian Watson says more about it in the announcement below.

David Pringle, June 1984

AN INTERNATIONAL ISSUE OF *FOUNDATION*

We at *Foundation* are strongly committed to publishing good material about sf in non-English-speaking countries. When told of this, a number of our foreign readers have confided personally that they thought of *Foundation* as mainly concerned with Anglo-American sf. This is not so! We constantly wish to see material by, and about, sf authors everywhere in every language, whether these authors are translated into English or not. We simply do not receive enough material to publish, even though we keep on trying to get hold of it (and succeed occasionally!). To emphasize our desire to publish foreign sf material, we are declaring *Foundation* 34 (Summer 1985) a special international issue. We intend it to contain articles by and about sf authors in France, Germany, Japan, Egypt, wherever. Please send material to the Features Editor, Ian Watson, at the SFF address by the end of February 1985 at the latest. This means *you:* in Paris, Tokyo, Kuwait, Rome, Stockholm.

Nor will this be a once-only issue; we want such material all the time.

Ian Watson

Algis Budrys is perhaps the best-known American practitioner of science fiction (particularly noted for his novels Rogue Moon, *1960, and* Michaelmas, *1977) who is also a leading critic of the genre. His reviews have appeared regularly in* Galaxy *(in the 1960s) and in* Fantasy and Science Fiction *(since the mid-1970s). He has also contributed essays to various scholarly journals and books. The following important article, a careful analysis of the various definitions of sf, is due to appear in shorter form, as approved by Budrys, in* The Missouri Review. *We are delighted to be able to present the full version here.*

Literatures of Milieux

ALGIS BUDRYS

For most practical purposes, a literature can be described by saying its name and pointing to several examples. Its appreciators recognize it "instinctively" soon after their first exposure to it, and have a similarly bone-deep feeling for spurious examples. They are able to say definitely, for example, that something is not science fiction, although they are unable to explain their criteria, and although they may face vehement disagreement from persons of equal standing in the community of science fiction appreciators.

Within that community, which is quite large and proliferated, many would agree with outside observers that science fiction is a genre—that is, a literature with inherent limitations. This may be an error. A limit is definable, or it has no credibility as a limit. It might be so widely extended as to enclose a field co-equal in size and capability to "nongeneric" literature, whatever that is.

Despite many efforts over the fifty-seven years since Hugo Gernsback put *Amazing Stories* on the newsstands, no one has produced a science fiction definition with wide acceptance. None I know of hasn't made itself immediately vulnerable to punctures by sharp critics. So there is room to propose, as some do, that there may be no limits; that instinct serves only some consensus of mistakenly circumscribed expectation.

Advancing such a proposal, however, requires considering the counterproposition that there may not be anything that is organically and irreducibly science fiction. "Science fiction" might be an artifact, solid enough at some core of general agreement but losing the qualities of a real thing as one moves out towards what might be its boundaries. There is some evidence which seems to support this.

Even within the "science fiction" community, for instance there is little functional differentiation between science fiction and fantasy. The two supposedly discrete things are lumped together not only by booksellers and most librarians but in most private collections and conversations. And the two supposedly discrete things are often written by the same people, who contrariwise appear only rarely in other "genres".

Strikingly enough, no one within the community or out of it has called for a definition of fantasy. Rather, an ongoing preoccupation has been the often incandescent question whether science fiction is or is not an aspect of fantasy. Such a debate, of course, must make the unexamined assumption that everyone knows what fantasy is.

So it's possible to assert that there have been any number of confusions and frank errors attendant on these matters, and that it's of some importance to re-examine the assumptions on which such enduring errors can be founded. It may be that we can at least come closer to grasping what it is we're dealing with, and what legitimate human need it fills sufficiently well to persist as an art form.

To that end, we can begin with some well-known attempted definitions and some history. Definitions first; history and other encumbering facts later:

It's typical for definitions to demand a science content in any fiction proposed as science fiction. But, as many have noticed, the "science" in most of the stories is actually technology; often, mere salesmanly consumer technology. This is essentially the science of "science says" merchandising: two out of three doctors tested recommend, margarine is high in beneficial polyunsaturated fats, and the stars are very far away.

Furthermore, it has been demonstrated repeatedly that science fiction readers, and their supposedly hardline technophilic editors, enthusiastically accept scientific illiteracy when it nevertheless yields what they call "a good story".

Demonstrably, while rigorously founded work is of course much prized, it is not the "science" content that makes science fiction. The presence of such purely literary enabling devices as "hyperspace" and "time travel," for which there is no evidence in the mundane world but which make it possible to move the characters swiftly among exotic locales, has long been noted, sometimes shamefacedly. What is very rarely owned-up to is a significant content of outright false statement flatly contradicting known science, as distinguished from merely expressing a hope that faster-than-light travel might yet appear from the as-yet unexplored parts of science.

But such a content does exist, at the very core of science fiction,* and most members of the community are well aware that it is an ongoing feature of the field.

The first prominent science fiction writer to publicly address this sort of anomaly was the most prominent of all, Robert A. Heinlein. In his essay, "Science Fiction, its Nature, Faults and Virtues", done for an Advent:Publishers symposium volume (*The Science Fiction Novel,* Chicago, 1959), he declared he himself found it more useful to call it "speculative fiction". He saw no hope, however, of effecting a practical change away from the entrenched term.

Moving toward his principal point, Heinlein went on to survey pre-1959 definitions of science fiction, citing various prominent commentators on the newsstand form. These included Sam Moskowitz, who Heinlein noted saw it as a branch of fantasy

> identifiable by the fact that it eases the "willing suspension of disbelief" on the part of its readers by utilizing an atmosphere of scientific credibility for its imaginative speculations in physical science, space, time, social science and philosophy.**

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* See Damon Knight's unprecedented collection of science fiction book reviews and essays, *In Search of Wonder* (Advent:Publishers, Chicago, 1956 and 1967). Of particular relevance are Knight's demolitions of the "science" and logic in some writers acclaimed by John W. Campbell, Jr., editor of *Astounding Science Fiction* and, in that role, venerated founder of "modern science fiction".

** Favourably quoted in Dick Allen's introduction to Allen's standard college textbook, *Science Fiction The Future* (Harcourt Brace Jovanovich, 1971 and 1983).

Heinlein also remarked that essayist Knight, and anthologist/publisher August Derleth, saw little distinction between science fiction and fantasy. Heinlein did not approve; presenting the aspect of a man in search of hard edges on his universe, he wondered whether such lacks of distinction weren't artifacts created by defining things so loosely that the definitions might include practically all fiction.

Yet the Moskowitz definition (which Heinlein did not quote), evades that objection, if remaining vulnerable to others. It is prolix, but not loose; it is too tight in some places.

Heinlein simply seemed to feel a deep instinctive aversion to weddings of fantasy and science fiction, even though he himself was a writer for fantasy media edited by John W. Campbell, Jr., and even though many of his "science fiction" stories before and since 1959 show a marked frequency of elements usually assigned to fantasy.

With high praise, Heinlein then went on to endorse the definition proposed by prominent commentator Reginald Bretnor (editor, *Modern Science Fiction: Its Meaning and its Future,* Coward McCann, 1953, second edition Advent:Publishers, 1979). Of it, Heinlein said that it was "to me the most thoughtful, best reasoned, and most useful definition of science fiction." As quoted by Heinlein, Bretnor says science fiction is that sort of literature

> in which the author shows awareness of the nature and importance of the human activity known as the scientific method, shows equal awareness of the great body of human knowledge already collected through that activity, and takes into account in his stories the effects and possible future effects on human beings of scientific method and scientific fact.

Whatever defects might be findable in this statement, Heinlein's calling it useful lends it enormous cachet. If applying it results in the production of Heinleinian science fiction, then it certainly embraces the core of all mid-century work done in the field and might go farther than that.

A subtle flexibility in the definition and its endorsement lies in its avoiding reliance on a content of science *per se*. It calls only for an "awareness of . . . scientific method." In other words, it relies on an attitude.

This leapfrogs many difficulties. It is not necessary to know any science, or even to know the difference between a fact and a scientific fact. It is only necessary to believe in (the) scientific method.*

One needn't even be altogether sure of what scientific method is (or to know the difference between a method and an activity, a fact and a discovery).

Although the definition may not serve well as a definition—we are about to see that it doesn't—the fact that it felt right in the bones of two such astute observers offers further evidence that science fiction cannot be what it seems on first glance. We are being told that science fiction is founded on an article of unexamined faith in something poorly understood; that the apparently most pragmatic and rational of literature has an irrational basis.

This is something the community has long suspected but has rarely written-out plain. When written out, the clue has subsequently been misread or otherwise instinctively sidestepped. So critical attention to the Heinlein/Bretnor definition was limited to testing it as a definition.

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* The only correct usage is "scientific method", as distinguished from other rigorous methods. The term was propounded by Friar Roger Bacon (d. 1294 AD).

Such tests find Heinlein backed into a corner. He has to—and aggressively does—assert that Sinclair Lewis's man-in-white medical researcher novel, *Arrowsmith,* is science fiction.

Damon Knight had been only the first of many to point to this awkward stance. Then in his anthology, *Turning Points* (Harper & Row, N.Y., 1977), Knight reprinted the Heinlein essay and many other landmark commentaries on speculative fiction in general. In his own included essay, "What is Science Fiction?", he sums up his objections. Not in so many words, he causes us to realize that if *Arrowsmith* is science fiction, then so is the daytime TV drama *General Hospital,* and there may be grounds for admitting *All Creatures Great and Small.*

Having established the defect in Bretnor/Heinlein, Knight's essay goes on to try several other definitions, and finds them wanting by essentially the same test.

Of Brian Aldiss's "Science fiction is the search for a definition of man and his status in the universe that will stand in our advanced but confused state of knowledge (science), and is characteristically cast in the Gothic or post-Gothic mode", Knight said that it admitted Ayn Rand's *The Fountainhead* but excluded Hal Clement's *Mission of Gravity.* Then he punctured a further Aldiss statement by pointing out that it made hard-core science fiction out of Bram Stoker's *Dracula* but excluded "Night".

"Night" is a sufficiently well-known short story by John W. Campbell, Jr., writing as Don A. Stuart. Campbell had invented "modern science fiction" in the middle 1930s with a companion piece, "Twilight". That makes Campbell the man who put the feeling in Heinlein's bones.

Heinlein himself, according to Knight, in another definition was still admitting *Arrowsmith* but excluding the works of Robert Sheckley, the most prominent newcomer of the 1950s (Philip K. Dick's present reputation being a product of hindsight).

But this sort of testing, even when done by someone of Knight's standing and wit, ultimately fails because who, in the end, is going to challenge the authority of Heinlein-figures when they choose to make their personal definitions work by declaring that *Arrowsmith,* or whatever, is, too, science fiction, and so there?

Refuge is inevitably then taken in something like Norman Spinrad's "Science fiction is anything published as science fiction", which serves wryly well until Knight points out it excludes Walter M. Miller, Jr.'s novel, *A Canticle for Leibowitz.*

What is actually being discovered here, of course, is that "science fiction" is a marketing term. It may be congruent with a literature to which one might give the same name, or it may not. But as normally used, it is a brand name on a box, not essentially different from Rice Krispies. It has been so since at least the day *Amazing Stories* Vol. 1 No. 1 promised its readers "scientific fiction".* The famous proto-term, "scientifiction", had not yet evolved. The invention of "modern science fiction" was ten years in the future, and its naming would not occur until 1946 in a retrospective anthology. Frequent use of the term "superscience fiction" would intervene between 1926 and 1946. These are all the same generic label but we must, as Heinlein pointed out, now all pretend that it has real meaning as well.

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* It's worth recalling once more that Gernsback up 'til then had been a publisher ofmagazines anticipating *Popular Mechanics* and *Popular Electronics,* not today's *Scientific American.* It had been as publisher-written filler material in *Modern Electrics* (1911) that Gernsbackian fiction was born and the first stars were thus sewn on the banner of "science fiction".

Some definitions of science fiction are as short as Spinrad's, and thus at first strike one as likelier than the long ones, which seem to never insert enough dependent clauses and parenthetical qualifiers to make themselves bulletproof. There is Theodore Sturgeon's crisp, seemingly authoritative statement, for example, that a science fiction story is "a story that could not exist except for the scientific content."

But even if we ellide the misnomer and substitute "technology", there are serious problems of the *Arrowsmith* sort. Like that novel for the hammock reading market, there are many stories about "men of science"—lately, persons of science—that have no science fiction effect on the reader. It is plain to see that though the furniture of some of the scenes may teem with centrifuges and gas chromatographs, they would just as readily teem with whips and chairs were the interchangeably handsome characters concerned with lion-taming instead. There is indeed some science fiction bone in readers, and until it has been struck, there has been no science fiction.

Implicit, too, in all definitions relying on a "science" content is the presence of the future. Outside observers, groping for a label, are as apt to call it "future fiction" as they are to adopt Doris Lessing's "space fiction". And when one considers that John Campbell himself, in *Astounding*'s waning days, often stressed science fiction's predictive qualities, considerable agreement to this can be found within the community as well. Additional reinforcement can be noticed in the marketing of magazines like *Omni*, essentially a futurological bulletin with "science fiction" fillers. The assumption is that the future is full of advanced technologies (and sciences).

And it may be. The assumption certainly serves the needs of drama, since there is no device, no matter how unlikely, that cannot be supposed to exist somewhere in the future. So the future is a very popular place in which to set a science fiction story. In that respect, science fiction serves as a mirror to fantasy, which is quite often set in a past equally remote from the present and equally indefinite.

But just as there are fantasies set in the present day (and a few in the future), so there are science fiction stories set in the past.

Some, like Ward Moore's novel, *Bring the Jubilee,* are parallel-world stories, their past diverging from ours. Some others, while sharing our world-line, locate their characters through time-travel or time-scanning devices, as in John Taine's *Before the Dawn*. But others are straightforwardly "historical" fiction, except that they are science fiction, whatever that is.

A very useful example is Cleve Cartmill's short story, "The Link", from *Astounding* at the height of Campbell's "modern" era. Set in a real time, albeit a remote one—that is, at the time when mankind was just separating from the animals—its story about that differentiation resonates powerfully in the senses of the accustomed science fiction reader. It is nevertheless arguably not a member of the populous horde of paleoanthropological stories that flourished in the 1930s. Rather, Cartmill's story serves as a bridge between that mode and the mode of "modern science fiction." It's important to have such a connection, for no definition of science fiction can stand if it fails to take into account the affinity most community members have for works such as *Ab, Son of Fire,* and for such hybrids as *Dian of the Lost Land* and *Three Go Back.**

* Some contemporary readers have of course never heard of this now quaint mode. However, many readers were once led into science fiction via that access, an awareness of it remains high in the core of the community, and there can be no quarrel that the affinity exists, is strong, and is periodically rediscovered by new readers. See, too, audiences for the film *Quest for Fire.*

No definition can stand if it fails to account for the even stronger affinity between science fiction and fantasy, uniting the two things while preserving a distinction between them. In other words, it must also define fantasy, or else admit science fiction is ultimately indistinguishable. It must, so to speak, answer this test question: By what intellectual accommodation did John Campbell and his *Astounding* writers also love and labour in the famous fantasy magazine, *Unknown?* And so we are brought to history:

We are brought, I think, to a look at the long human endeavour to understand the nature of reality and to the place of the individual in it. Which means the place of the individual in society's banding together to preserve and nurture itself. We cannot separate the development of literature from the development of an increasingly populous civilization in which the individual makes his or her way through increasing complexities, repressed by major social moderators and buffeted by sometimes catastrophic social changes. That is the context in which people seek the meaning of themselves, looking among other places into the arts.

At any rate, scholars within the community—Moskowitz at one time most prominent among them—have traced science fiction back to Lukian of Samosata, a third-century social satirist, and then, sometimes decade by decade, have been able to bring the evolving form on up through various prototypes into the present day.

But for most people, science fiction unquestionably begins with Mary Wollstonecraft Shelley's *Frankenstein* in 1818. Although it would be more than a hundred years before the first public appearance of that label, any good science fiction reader holds Wollstonecraft's scenario near the core of the basic library of science fiction concepts.

True, fewer have read the text than have seen films or other derivations from the original. This osmotic proliferation of the idea, which has even seeped back into folklore reservoirs, only validates its power and importance. In a more formal view, Wollstonecraft's novel stands at one apex of a triad that also includes *Robinson Crusoe* in 1719 and *Gulliver's Travels* in 1726. With *Frankenstein,* a transition had been completed.

Crusoe and *Gulliver* together mark the end of a very long vogue for "imaginary voyage" tales in which travellers to unknown territory—Atlantis, the Moon, the Blessed Isles, the interior of the hollow Earth—find themselves essentially passive observers of striking phenomena. In classical times, as with Plato or Lukian, wise kings resembling demigods, and strange races resembling creatures of Greek mythology, acted out ideal governments or satiric exaggerations of human social institutions. In later days, the traveller discovered the handiwork of the Judaeo-Christian God in some fresh aspect, and marvelled at it.

Crusoe is interesting because it fits no known definition of science fiction or probable definition of fantasy, and yet has given rise to so many overtly science-fictional tales in frank imitation. Clearly there is some great affinity at work; it may be findable in something identifiable by Kingsley Amis in his 1960 critical study, *New Maps of Hell;* that is, in the "comic inferno". *Crusoe* does, indeed, display a subtext teeming with the sort of irony Amis thought to be science fiction's literary *raison d'etre.*

Trapped on his island, beset by innumerable physical deprivations and by his own astonishingly long catalogue of ignorances, the stranded traveller calls incessantly on God for intercessions in, and explanations of, his plight. That is, like the protagonist of any good imaginary voyage, he wishes to get on with observing phenomena as the guest of a

benevolent potentate. But he is instead unrelentingly forced back upon his own meagre resources as he inevitably exhausts the waning storehouse of familiar comforts represented by the stranded ship. Gradually, he becomes grotesquely inventive, discovering pottery, sawyering and the manufacture of umbrellas in forms so ludicrously primitive as to underscore Defoe's notorious bent for the sly.

When outside intervention does come, it appears in the form of Friday, an ignorant savage who does not share Crusoe's moral code. With his high practical skills, he can promote their mutual survival, but Crusoe cannot accept him as an equal; he must be preached-to and taught other appurtenances of civilization.

Crusoe, like many of his ilk since, sees it as his responsibility to make a man of Friday, implicitly with the goal of achieving a bourgeois gentleman, also implicitly starting from so far away there will be no need to admit him at the front door in the foreseeable future.

In this way, Crusoe advances out of one mode into another. He has been forced to abandon claims on the just Monarch and to make an entry onto the tale of the civilized man's burden. So *Robinson Crusoe* is the prototype for science fictional and other tales of survival, but more tellingly it is the precursor of much that appears in, for example, Rudyard Kipling, John W. Campbell, Jr., and Robert Heinlein (whose 1982 novel, *Friday,* please see).

Defoe appears to have been in tune with the new social orientation that would in time overwhelmingly engage the popular mind as The Age of Reason. Jonathan Swift, in making Lemuel Gulliver a far more various individual—and in betraying an acerbity of intelligence that Defoe had dissembled—takes this a step even farther.

In pitting Gulliver against a variety of characters who have frankly reappeared in countless sciencefictional stories since, and in making the comic inferno broad enough for slapstick (as well as then-fashionable scatology), he was entrenching a mode so fruitful that Amis could plausibly assert, at mid-twentieth century, that this is the whole of the thing. But that means abandoning *Frankenstein* as literature and dismissing it as nothing more than fodder for monster-movies, and that would be an error.

It was, not insignificantly, an immediate best-seller, making its young author's reputation overnight. But even in cooler hindsight, it clearly is a work addressing itself to matters of fundamental importance. This is true not simply because it, too, is set in the frame of a voyage to a fabulous place—the Polar icecap. The fabulous voyage has become not a positive journey into discovery but a fevered flight from fatal error. The brief Age of Reason is already over: the "monster"—the intended New Adam, more various and beautiful and rational than the crass clay of humankind; the gift of Doctor Frankenstein's diligent thinking, intended not for the human race but as a transcendent bequest to the ideals of human Reason—is ravening, disillusioned, murderous and, in calling out for his Creator comes not in search of charity but white-hot with revenge.

The golden century of enlightenment that had thought to perfect the human condition was notably souring; the acclaim for *Frankenstein* I think measures how conscious of this the mass of literate humanity had become.

The reading seemed to be that the human race *is* made of coarse clay. Its ideals were out of its reach; it was time for grosser ideals, for new means of offering aid and comfort to what clay there was. The ruins of Reason might endure for centuries, here and there in sparse example, but the new managers of humanity's weal were setting less elegant machinery in motion. It was time for the age of the reeking smokestack, the iron shard of

the steam-boiler explosion, and the belling of Friday down to the coal-face.

There were authors who rose to prominence in a mutual embrace with the Age of Steam (Jules Verne); those who warned against it (Jack London); and those who wavered or seemed to (Rudyard Kipling and H.G. Wells). And all the potential intoxications with technology and the disillusions with compelling power, all the complexities of life when *hubris* and *nemesis* are given mechanical impetus, had in the meantime already been at least touched on by Poe and Hawthorne. At the end of the hundred years after *Frankenstein,* with Verne and Wells standing as the two (bitterly opposed) immediate precursors to Gernsbackian writing, all the broad strokes of science fiction had clearly been laid down. All that remained was the giving it of a name, and this the marketplace proceeded to do. But what *is* it?

Those who see in science fiction a response to the Industrial Revolution are clearly right, if sometimes naïvely so. Gernsback, for example, apparently was equally fond of Verne and Wells, and perhaps also of Edgar Rice Burroughs, rediscoverer of the hollow Earth. At least, he freely printed material by all three in *Amazing,* despite the fact that each in his own way differs sharply from the Gernsbackian mode of writing. Whatever private distinctions might have been made, Gernsback certainly expected *Amazing*'s readers to be glad of their appearance in his magazine, as well as to enjoy "scientifiction". The most clearly visible common factor in these writings is the presence of technology; there are not many others.

And so it's possible to talk of science fiction as the new mythology, displacing fantasy in the way that Friday displaced God. Or it's possible to talk of science fiction as the fantasy of technocrats, especially if one makes Aldous Huxley's mistake and perceives Wells as a technocrat outright. But it's also possible to take notice of the fact that by the time Gernsback's technological optimism was bounding from his pages, there had already been an intellectual swing back toward an idiosyncratically noble view of humanity's prospects.

1918 – 1938 in the Western world might be called the Age of Electrification. It was distinctly not a simple reprise of the Industrial Revolution, which had assumed underneath it all that the common man required only food, clothing and shelter for his bodily wants, and enough reading and figuring to account for them in some simple way that would save the clerk trouble. Those two decades roughly span the Soviet Revolution, Woodrow Wilson's Fourteen Points, the League of Nations as a legislature of equity, the World Court as a bench of morality, and the New Deal, as well as the founding of the Thousand Year Reich.

The idea was, I think, that technology either had already liberated the common man or irresistibly was about to.

Not the literate man of Wollstonecraft's time, marked by his habit of reading; rather, the descendant of the man he supervised. That man had gone into the mill and breathed the soot, but the tax-supported school had made him literate enough so that other men in charge of high-speed printing presses could concoct (suitably low) literatures for him to buy . . . and for his wife to sample surreptitiously.

Educated by suitable enlightenments in suitable microcosm (enough to set Carl Capek to writing *War With the Newts*), this mass of neoterics came to believe that technology was peculiarly destined to operate for the benefit of the many, and, in this country,

apparently saw hydroelectric dams, streamliner trains, and the Tin Lizzie as instruments of that transcendant thing, Democracy.

So, incidentally, we glimpse the nature of the famous spiritual desolation that marked the disillusioning Great Depression and sent weapon-hungry bands to roaming the face of the Earth, and there we may be seeing, foreshadowed, several effects which surfaced in our day.

We may incidentally be seeing that such cycles occur almost rhythmically in response to the first impacts of purely utilitarian industrialization in various parts of the world. But, more germane to this essay, we may be seeing what fuelled the extent and depth to which the "antiscience" spirit was carried in the 1960s, first in Great Britain but in the USA shortly thereafter. That generation might have absorbed an attitude at its parents' knees which would readily account among other things for the striking phenomenon of science fiction abjuring science (or/and technology). Carry those ripples far enough, and you may be able to account for the present phenomenon of science fiction writers and readers turning to fantasies set in iron-age cultures.

However that may be, science fiction and science-in-fact do meet somewhere within the part of humankind that houses hopes and fears, and what happens to science in the real world does affect what happens to science fiction. The thing we have to decide is whether "science" is a thing or an attitude; whether a belief in something called "science" is dependent on some more basic thing in the human makeup. For if it is—and, clearly, once we look at it this way, "science" cannot be a concrete thing—then the apparent dependency of science fiction on science is an artifact of their mutual interaction with some other entity of the human consciousness.

And still we've not decided how science fiction differs, if it differs, from fantasy. But perhaps we can make an attempt now:

Those who see in science fiction a response to the Industrial Revolution perhaps also ought to be seeing what brought about the Industrial Revolution, on the chance that it also brought about science fiction.

All fiction, as Heinlein points out in "Science Fiction, its Nature, Faults and Virtues", is fantasy. The various labels we employ are merely differentiations among the sorts of things we fantasize in prose; it has become conventional to say "fantasy" only when we point to a particularized area of fiction, and within that area to establish and defend further sub-conventions we feel are somehow related to "fantasy". But the truth is it's *all* lies.

Humankind is inextricably desirous of being told tales of things that never were, in places most have never seen and times most have never lived in, where God knows what might have gone on in truth. But apparently humankind has some means of differentiating among lies.

The differentiation cannot be readily rationalized. One would think, for example, that one could grade lies in the order of their verisimilitude. One can, but in literature resemblance to truth is not invariably relevant to perceived quality, and certainly not to popularity—that is, to the extent of the lie's attractiveness.

One might similarly grade lies for length, for complexity, for wit, for the number of times in which the letter "e" occurs, for instance, and we do, and have done, all of this at times. None of it relates to the satisfactions of reading.

Fiction does, however, break down into two general kinds, and we can feel that distinction as surely as we can feel the difference between a windy day and a still one. There is the fiction that speaks as if it were a form of journalism, reporting on the human condition as if it were known. There might be lacunae in that knowledge as seen from the perspective of the reporter, but the assumption is that there are other observers who do have that data. The ideal of this sort of fiction is to locate and give voice to those observers. There are Urban writers, Southern writers, Rural writers, Proletarian writers, Elitist writers, Homosexual writers, Feminist writers, Black writers, as if each sort were in a specific place, and on, and on. This is, of course, that thing sometimes called The Mainstream, or General Fiction, and one may only marvel at how many genres of Mainstream writing can be named-off casually, much less how many more labels would reward even a mildly energetic search.

Let us try one label for that sort of fiction: it is the fiction of What Was and Is, as if what people think was-and-is were what really existed and exists. It is the fiction of The Consensus.

The Consensus is the most conspicuous feature of the human landscape; no other aspect of life approaches it in prominence or importance. Here it is in analectic form:

The second intelligent being ever born on Earth comes to consciousness. Stretching and smiling, this person contemplates the incredible variety of the feast spread before it by the four winds, the seven seas, and the infinite heavens. And from behind comes the voice of the first intelligent being ever born on Earth: "Let me just acquaint you with my rules."

It's the position of the third intelligent person that is most interesting in this respect, however, What that person hears is "Let us just acquaint you with *the* rules."

Discovering that there is a social consensus, and that it exacts penalties for failure to grasp it and join it, is as you now recall the universal experience of childhood. It is also of course an experience frequently recapitulated as one moves out into the arenas of society. There are always better-established persons in tenancy on the next ground, and so human interest in The Consensus is constant and sharp.

Imaginary respites in simpler circumstances, or in clarified or simplified circumstances, are among the palliatives fiction offers. But not all literature is escape literature. Some of it, including some striking examples of fantasy and science fiction, is cautionarily very far from analgesia. So while we might divide readers and set aside a number who in effect drop in and out of reading in the same way folks go to the medicine cabinet for its nostrums, we are left with a residue of persons to whom the art of fiction is sharply relevant. And these, in turn, might divide into two principal sorts.

As further particularized in my essay, "Paradise Charted", *(TriQuarterly 43*, Northwestern University, Fall, 1980), it seems reasonable to propose that there are those who wonder why they can't get it right and those who wonder why the people in charge can't get it right. While few individuals will hew strikingly to one or the other of these extremes, most people show a general leaning. Or so, at least, a lifetime of looking at speculative fiction leads one to believe.

There are, in other words, people who look to the arts for added hard information about the world, seeing fiction as a pararealistic form with a special capability for highlighting the essential and placing it in the most revelatory context. These are the people who have set themselves the goal of a perfect grasp on what was and is, taking the implication that it can be identified beyond a shadow of a doubt but that they are as yet

some distance away from it. But there is another broad sort of person:

It is possible to feel that everyone is away from it, and that it may be a mere matter of opinion; that life is a matter of accommodating to The Consensus in convenient ways but not of granting it stonelike credibility. In some cases, the individual may be right and The Consensus wrong. Moreover, if The Consensus is simply the best approximation yet attained, then the individual owes society a perhaps never-ending series of tests of The Consensus, in aid of improving everyone's grasp—and, incidentally, of reducing social friction on the individual.

This is of course only a sketch of what might be called the speculative frame of mind, but it bears parallels to actual articulation that led to the Age of Reason and the societal dynamics that immediately set about converting it into the Industrial Revolution. It is the idea that the here-and-now is only the latest of a set of possible locales in time and space and aspiration—of Milieux—that might be as unbounded as human imagination.

The idea that there might be other ways to live, and all the ramifications of that intellection, are not all modern phenomena. The search for maps of reality, and then the intrigued discovery of the idea that there might be more than one reality, *and all of them mutable,* is marked in every known human culture, present or past. There can be no doubt that it will be equally marked in every future culture, until the last one. So, yes, science fiction traces back to Lukian's voyages; it traces back, for that matter, to Plato, and before him to pre-Dynastic Egyptian tales of interactions between peasants and gods, and back into the shrouded days before anyone wrote down, as distinguished from "wrote".

So, of course, goes the thing we call "fantasy". We recognize it by its trappings—the godlike figures, the assumption of virtues and antivirtues, the assumed belief in a world beyond the world.

Fantasy is, we muse, a very Medieval sort of thing, even when it is not frankly set in that milieu, because it sees a hierarchic universe ordered in terms of power radiating down, through clearly defined stages, from the glorious tip of a pyramid to a broad, stable base set in the mud. So one can see a clear line of ascent, or descent in the Darwinian usage, from Gilgamesh to Count Dracula. But—despite such later homogenizations as *Frankenstein Meets the Wolfman*—can one see a clear bridge across from *Dracula* (1897) to H.G. Wells's *The Chronic Argonauts* (1888)? I think not. I feel in my bones that one cannot; that one must go back into Egypt before those two things meet.

Well, all right, but there must have been a time when they traveled within easy hailing distance of each other, and at that time it was possible to call them *both* examples of speculative fiction; a broad speculative fiction, as distinguished from Heinlein's one-for-one substitution for science fiction. Call it, for convenience, SF, as Judith Merril eventually came to do in her 1950s anthologies of the year's best in . . . well, was it science fiction or was it fantasy, and if it was fantasy, was it "classical" fantasy or newsstand fantasy, and if it was newsstand fantasy was it the fantasy of *Weird Tales,* of *Unknown Worlds,* or of *Fantastic Adventures,* while if it was "classical" fantasy was it of the sort promulgated by Bram Stoker, or by M.R. James, or Henry James, or John Collier or James Branch Cabell and where in all this did Ray Bradbury fit?

The thing about the Industrial Revolution was that it sprang from a breakdown of belief in natural hierarchies; the collapse of the idea of the Divine Right of Kings, and the collapse of the ideas behind that idea. It is easy to propose that the demos felt the future stirring; that they raised their heads from their ploughshares and sniffed (the possibly

false promise of) steam. This is the view that enables the view of science fiction as some sort of special case of fantasy. But I think it much likelier that the intoxication of the 1700s with an almost Greek reasonability is the thing that in itself broke the traces, thus:

The gentleman aristocrats who tended their commerce, their villas and their landholdings, incidentally practicing cottage-industry inventions like Thomas Jefferson's swivel chair and Ben Franklin's bifocals—that is, to near-equivalents of Hero's aeolipile —might assure each other that one man was as good as another, and might found the writing of a national Constitution upon that premise, liberating the fellow they called the common man. But those of them who survived to see it must have been appalled by how quickly this unsophisticated wight gulled himself into embracing the technology that would drive him away from the serenities of some bit of arable land or the artisan's cottage God had intended for him. Why, he was literally *forcing* it into being, so hungry was he for the wages it would pay him and the leisures that would bring. Never mind that in the next beat of the great clock he might be picking up the Luddite's hammer in an attempt to restore a milieu he had left forever upstream. It had not occurred, even to Thomas Jefferson, I think, that people might attempt to pick some and discard some from among their inalienable rights.

What people seemed to want in particular was confirmation of an idea that every person—well, every man—well, every white man—given some facts and some tools and banded together just enough to protect him from monarchs, could be at the tip of his own pyramid.

The idea that the monarchial hierarchy might be wrong—nay, the intoxicating notion that there were abounding proofs the hierarchy was powerless, ie. wrong—is an idea which, once had, does not go away. Its very existence in an individual's awareness is proof such hierarchies are not omnipotent, for they would surely suppress it if they could. Any hierarchy would, and so the world is always full of hierarchies generated by every sort of social impulse and combination of individual needs, from below and from above, attempting to form or, when formed, to grow. The person aware of this ferment as a complex of pressures, as distinguished from comforting presences, is to some extent always in search of alternate plans for reality.

Science fiction, child of the Age of Reason, coloured by the Industrial Revolution, galvanized between the two World Wars, tending now into a sort of hybrid science-fantasy or into outright fantasy signatures, differs from fantasy on this matter of hierarchy. Any "science fiction", be it something from *Amazing Stories* or from Verne or Capek or Huxley or Orwell or C.S. Lewis, or even Doris Lessing, differs from any fantasy in the respect that it clings to, of all things, eighteenth-century western democracy as idealized in the documents of that time.

Both forms do rise from the same impulse; first, the speculative urge to constantly examine other possible shapes for the universe and, with it, the belief that any person equipped with the proper knowledge can make *changes* in the milieu.

These are very nearly fundamental things, and it is in seeing how they are shared by the two literatures that we see how fantasy and science fiction could frequently arise from the same individuals and be appreciated by the same individuals. But they are not, observation shows us, shared with unanimity. There *are* writers, editors and readers who will take one but vehemently not the other. Even more frequently, there are ranges of likeability; one or another form of science fiction or of fantasy is preferred above all others.

Aspects of other fictions—the *Crusoe* tale, the paleoanthropological tale, the "horror" genre—might present attractions in the form of milieux, and these might at times be cast in some way that makes them preferable to forms of "straight" fantasy or science fiction. That is, they might do a better job of activating the inner alarms that thrill when the individual detects a story concerned with milieux; with the drama of explorations in ways to live that never were. Those ways might be particularly meaningful because they display what is enduring in the human character even when milieux are shifted. So, particularly in that latter, crucial function, fantasy and science fiction are highly similar arts. But in science fiction power emanates from the individual, whereas in fantasy it comes down from above; it is in a sense a gift, probably a loan, and subject to caprice in the giver.

Science fiction recognizes a "luck"—it was science fiction writers who did so much to popularize Murphy's Law—and at times, as in Campbell's latter-day preoccupation with "psionics" that sounded very much like witchcraft given a technic name, it makes other ventures into the borderlands between it and its sister. But the characters in science fiction stories do not attempt to propitiate supernatural powers.

Wizards acquire capability and control over their milieux by learning what the powers will let them learn, or can be made to let them learn. Scientists, engineers, technicians, and simply ordinarily educated persons in science fiction acquire parallel capabilities by investigating the nature of reality, by codifying and then processing the data, and applying it to their milieux, but there is implicit as the central idea in science fiction the idea that the universe is not amenable to cozening or threats; it is not capricious.

That is a measurable, definable, real difference; one feels it connotes what Bretnor and Heinlein were trying to say, and it shows where most other definitions fall short or attempt to build an edifice of qualifiers.

So one is led toward certain conclusions:

There is a thing, called science fiction, which is a genuine entity among the arts. Like the thing we call fantasy, it is speculative by first intention, and so the two things together form all or most of speculative fiction. It is unlike fantasy in its milieux, being set in universes where destiny is presumed to rest in the hands of the individual.

Fantasy presumes a hierarchical milieu, in which there is always some source of power above the individual. This is the essential difference from science fiction; the two coeval branches of speculative fiction, of SF, probably share all other attributes in common, and can freely exchange furniture and costumes, as in sub-forms like "science-fantasy".

Both forms are reality-testers; that is, artistic simulacra of social situations which are not known to have ever existed, but in some milieu, might. This feature is at the core of the appeal of such fiction, and so speculative fiction is definable as drama made more relevant by social extrapolation.

And there are, of course, many SF stories generically constructed for generic markets. Most speculative fiction in the twentieth century is generically generated, and the situation will apparently persist into the foreseeable future.

But SF is not inherently generic. It is limited not by conventions but by nothing less than the bounds of the universe. It is no less a form than nonspeculative fiction, or NSF.

Peter Caracciolo, Lecturer in the English Department of Royal Holloway College, London, has published articles on Dryden, Defoe, 18th century gardens, Wilkie Collins, Le Fanu, Wyndham Lewis, Michael Moorcock and Doris Lessing. For some years he was sf reviewer for The Tablet. *Lately he has grown increasingly interested in oriental influences on Western culture, and is currently in process of editing a book by divers hands on the impact of* The Arabian Nights Entertainments *upon English Literature. The following major and innovative essay on Doris Lessing bears fruitful witness to this interest. (This piece was originally commissioned by the Reviews Editor, John Clute, but grew well beyond our normal review length.)*

Doris Lessing's 'Lights of Canopus': Oriental Sources of Space History

PETER CARACCIOLO

I

> The trouble is "Canopus" has become a concept so dense with mythic associations that perhaps he would not have been able to take it in, or not as fast as I needed. (p. 18)
>
> I risked a great deal in saying this. For if Canopus was not much more than the reminder of long-ago tales and legends, then Shammat was nothing, no more than curses and expletives whose source they had forgotten. (p. 40)
>
> When I mention Canopus—rarely—his eyes slide: he doesn't want, finally and definitely, to know. (p. 52)
>
> *The Sentimental Agents in the Volyen Empire*

While sensing that here Klorathy speaks also for his author and her ambitious experiments with metaphysical science fiction, surely the reader too may be forgiven if he finds himself puzzled. OK, "Shammat" must mean something like "Hell and Damnation" or "the Devil" but "Canopus" for Heaven's sake? And what exactly is the nature of those "mythic associations . . . tales and legends" that look to have been the sources for Doris Lessing's increasingly impressive if at times pretty arcane achievement, the *Canopus in Argos: Archives?* In magnitude these space chronicles begin to compare with, perhaps even surpass, Lessing's earlier novel-sequence *Children of Violence.* Yet while we know more or less where we are with the epic *Bildungsroman* of Martha Quest, here in the later sequence it is easy at times to get lost, the *Archives* containing much that escapes our comprehension—even on reperusal. An attempt to get one's bearing by a quick glance back at the close of *Children of Violence* might well suggest to readers, particularly those reluctant to follow Lessing's explorations beyond the frontiers of social realism, that Lessing's model of late has been Orwell. For the penultimate pages of *The Four-Gated City* did give desperate credence to the prophecy of *Nineteen Eighty-Four:*

> The enemy was Russia. Then, when it was discovered that America and Russia were allied (had been secretly allied long before the world knew it), the Enemy became China . . . We had to have an enemy so that the war against communism (or against capitalism) was fought with all of mankind's wealth, and with psychopaths and sadists and those who wanted to die before they had to.
>
> (Panther, p 667)

Of course Orwell's skills as a writer are not hers, but again in the repeated often hilarious attacks she launches upon the manner in which activists of all parties misuse language to sway the emotions of the governed, then ironically find themselves manipulated by their own propaganda, there are obvious areas of concern that Orwell and Lessing have in common:

> Anyone who tries to use language accurately to describe what is in fact happening vanishes into torture rooms or prisons or, diagnosed as mad, into mental hospitals. There is soon a sharp division between the masses and the small, obedient governing class, one living in direst poverty, the other given every advantage. A major occupation is the fabrication of verbal formulations to disguise this very ancient organization of a country and to describe it as some sort of Utopia.
>
> *(Sentimental Agents,* p. 81)

Even so the similarity of concern can be misleading. When in *The Sentimental Agents in the Volyen Empire* Incent turns out to be suffering from "a stubborn condition of Undulant Rhetoric" (p. 3), that jocular reference to brucellosis gives one pause for thought. A disease cattle communicate to humans, surely that clue points in a direction away from *Nineteen Eighty-Four,* suggests it is not just towards the tradition of *Animal Farm* but beyond that one might profitably look for illumination? Significantly the different uses Wyndham Lewis and Voltaire also have made of oriental tale and myth in the anatomy of their ages are recalled by the nomenclature of the two moons circling Volyen, the latest planet in the Lessing cosmos. In "Volyenadna" and "Volyendesta" (p. 4) are detectable the titles of two of the Sacred Books of the Ancient East, one far more popular than the other but both reputedly the work of great religious reformers: the suffixes "-esta" and "-enadna" more or less rhyme with respectively the Zoroastrian *Zend-avesta* and the Buddhist *Avadana.* These allusions are ironically expressive. Both Zarathustra and Gautama strove to clarify the thinking of their cultures. With his determination not to be misled by linguistic forms and conventions the Buddha especially anticipates modern linguistic and analytical philosophy. Alas in varying degrees both reformers could be said to have been betrayed by their followers. Something akin to this fate is implied in Lessing's burlesque epiphany of the political *naif:*

> "You people," said Incent, after a long silence, which he held by the sheer force of his difference, and of his astonishing words, which seemed to come from some distant and wonderful sun . . . "You people are in the greatest danger imaginable, and you seem not to know it. You are in danger of submitting yourselves to a new tyrant, because the patterns of tyranny are in your minds", . . . And then, in one motion, they swept together around him and bore him into the air, crying "Our leader you have come to save us! . . . Stay with us, O Great One, tell us your Noble Thoughts so that we may write them down and study and recite them for ever", . . . Incent protested, "No, no, no, don't you see, that isn't the point."
>
> (pp. 103-4)

This mock-deification reminds one more of the posthumous history of the Lord Buddha than Zarathustra. Nevertheless the solar reference when taken together with the scriptural clues would seem to argue that on the one hand the Hindu and especially the Moslem offspring of Buddhist fables, focusing as they tend to do on the problems of this world, and on the other hand the eschatological, Apocalyptic concerns of the *Zend-avesta,*

linking the fate of the individual soul with the salvation of mankind as a whole, these two sacred traditions provide complementary perspectives by which one can attempt to map out the strange but not always so alien worlds recorded in *Canopus in Argos: Archives.*

II

> "You are here to write a travel book?" Laughter. "An analysis of our situation?" Laughter. "A report for – " "For Canopus," I said, knowing that the word would sound to them like an old song, a fable . . . In their eyes, grey, slow eyes, I saw that they were remembering, trying to remember.
>
> *(Sentimental Agents,* p. 29)

The influence of the *Avadana* on *The Sentimental Agents* is most discernible in the structure of one particular episode, though subtler reminiscences of Buddhism pervade the general situation and attitudes of the novel. The immediate preoccupation of the Canopean envoy is with the infantile disorders of the liberals no less than the left, the Volyen equivalents of Burgess, MacLean, Philby and Blunt. That said, there is a likeness to the Buddha. Klorathy is a being of a higher order than the society in which he finds himself, attempting to enlighten his disciples to the truth that theirs is a world of illusion and impermanence; awareness of this when combined with a properly thoughtful response alone will enable them to escape the inevitable consequence of passionate ignorance. As in the *Avadana* so here the teacher might be said to tell an edifying story concerning one of the previous lives of the instructee. The term *avadana* means "a noteworthy deed" though occasionally the reverse—as in the instance I am about to give from *The Sentimental Agents*—the general point of these Buddhist tales being to show black deeds bear black fruit, white deeds white. As in the *Avadana,* the *mise-en-scène* prologue or "tale of the present" frames the "tale of the past" (often an ancient folk-tale that the Buddha has adapted to his own purpose), so to the would-be revolutionary Incent his mentor Klorathy recounts how Louis XVI and Marie-Antoinette, "in fact quite well-meaning and responsible people, were used as scapegoats" (p. 46). The *Avadana* ends with an epilogue in which the Buddha briefly identifies those who among his contemporaries have figured in "this story of the past." To re-educate Incent, however, nothing less will do than total identification. Klorathy literally makes the past come alive to Incent by despatching him back in time in order to participate in the French Revolution (pp. 48-50). Appalling the experience necessarily is yet, like the writer of the *Avadana,* Lessing levels a steady glance at human iniquity: the Terror, its mutation into Napoleonic aggrandizement. As a whole the characterization is cogently stereotypical as it must be in such a bird's eye view of revolution, counter-revolution, the rise and fall of Empire; the pervasive animal imagery is specially telling. Like the related and better known *Jataka* or *Birth Tales of the Buddha,* the *Avadana* shows great sympathy towards the animal creation. Indeed, as well as their intrinsic merits, religious and literary, both Buddhist genres play an important role in the developments of the Wisdom literature that culminate in a work from which Lessing has drawn the operative word—*Canopus*—in the general title for her own scientific-philosophical fiction.

In her introduction to Ramsay Wood's *Kalila and Dimna,* an excellent retelling of selected fables of Bidpai, Lessing recognizes "one progenitor" of Beast Fable traditions in the cycle of stories dealing with the Buddha's previous incarnations "as monkey, deer, lion and so on," as well as human (Paladin, p. xi). Another contributor to the collection

of Bidpai was "that extraordinary book, the *Arthaśastra* of Kautilya"; its current unavailability is the more regrettable since "we are all down to the least citizen absorbed . . . with the arts of proper government," and Kautilya describes "in exact and even pernickety detail how properly to run a kingdom" (p. xi). *The Fables of Bidpai* were famous even in the West until quite recently as *A Mirror for Magistrates,* their manner no less than their matter being instructive. Whether in its Hindu or Moslem redactions as *Panchatantra* or *Kalila and Dimna,* the fables have a frame in which a prince (or princes), either actively unjust or merely negligent, is brought to more responsible ways by a resourceful sage's narration of tales within tales:

> What this method of story-telling . . . is supposed to illustrate is the way that in life one thing leads to another, often unexpectedly, and that one may not make neat and tidy containers for ideas and events—or hopes and possibilities—and that it is not easy to decide where anything begins or ends . . . There may be even more than one "frame" story, so that we are led gently into realm after realm, doors opening as if one were to push a mirror and find it a door.
>
> (pp. xiii-xiv)

Lessing's insight into the psychological and metaphysical significance of this kind of narrative recession is amplified by her tracing the provenance of different renderings. The most celebrated translation into Arabic was the work of "a Zoroastrian who converted to Islam," one of the Persian texts most influential among Sufis "was *Anwar-i-Suhaili* or *The Lights of Canopus"* (pp. xv, xvii).

Ramsay Wood's choice, no less than the introduction, illuminates Lessing's experiments. However both do so in a teasing manner. The essay operates as a sort of crypto-manifesto, dropping hints as to what a treasure trove of structure, theme, motif and image she has been led by the Bidpai family. In some cases the clue is lying there in the text for all to see, in another instance it may have to be sought among those tales for which Wood's enchanting novelization could find no room. Lessing's own comments on the *Arthasastra* provide what looks like an important source for *The Sentimental Agents:*

> Kautilya was a very cool one indeed: surely this book must have influenced Machiavelli when he wrote *The Prince* . . . Candid, unrhetorical, infinitely wordly-wise, the tone is more like that one imagines must exist, let's say, between a Begin and a Sadat when sitting together facing the realities of a situation unobserved by slogan-chanting supporters. (p. xii)

In the frame tale, of Wood's *Kalila and Dimna,* to take another instance, King Dabschelim simply drifts "into wondering, in a vague way, what this vast universe signified" (p. 5), thus striking a note that will recur and with greater intensity in the sequence, especially throughout *The Sirian Experiments.* Ambien there confesses at one stage:

> I fell into a state of generalized discouragement known by us . . . as "existential problem melancholia". What were the purposes of . . . our mastery of nature?
>
> (Granada, p. 99)

In the process of finding the answer a callously efficient administrator learns compassion for her subjects. Ambien as much as King Dabschelim is a negligent ruler. The difference is the empire of Sirius is second only in the galaxy to Canopus. In a series of encounters, discussions and adventures with her Canopean friend Klorathy and his fellow envoys to Earth, Ambien is confronted with a gamut of states reflecting the better and worse aspects of Sirian imperialism. One consequence of this self-scrutiny is a growing awareness in the oligarch of her responsibilities to more than just the Southern Continents. A colonial dignitary of such august standing that its equivalent in the British Raj would have placed

her among the "Heaven-born", comes through her efforts close to meriting that title in its fullest significance.

To trace the influence of Bidpai is not always so simple. At one of the decisive stages in Ambien's transcendance of self (putting aside a distaste for "these murderous half apes" (p. 279), suppressing a dislike that amounts to racial prejudice against the inhabitants of Earth) the aloof Sirian plenipotentiary risks her own career to join forces with her Canopean friends in a campaign to check for a vital moment the invading Mongols. Having destroyed the fabled cities of Bukhara and Samarqand early in AD 1220, Jenghis Khan swiftly overran Seljuq Persia. If time could be gained, "savants . . . poets and geographers" will be saved, allowing Islamic civilization to revive. "You shall be the ruler of a small realm, on the western slopes of the Great Mountains," Klorathy instructs her. "And you shall confront the horsemen from the plains . . . who (leave) nothing behind but death." (p. 284). Ambien submerges herself in the identity of Queen Sha'vin:

> It was not without interest, learning this Canopean technique of occupying the mind for a brief and exact purpose. (p. 285)

> The Queen divested herself of her dagger, her ornaments, and, wrapping herself in a dark cloak, walked along the northern wall of her kingdom as the first horsemen came chasing up the ravine . . . As they looked, it seemed as if rays of light dazzled around her. Their ideas of deity did not include an illuminated female figure, and they were only temporarily stayed . . . Yet as they looked, every tree and plant and flower seemed to dazzle with light that was like a million minute rainbows. The woman on the high wall, the gardens, the buildings, all shone and dazzled, and from the watching horsemen there rose a deep and anguished groan. Their leader shouted to them that they were faced with demons . . . as they jostled back down the pass again . . . Sending back fearful glances they saw high above them the red sandstone walls, and the woman there, motionless, surrounded by a dazzle of light. (p. 289).

This spectacular display of the "Light-of-Glory" leaves one in little doubt of the strong impress here of Zoroastrian (perhaps too Mahayana Buddhist) belief and iconography. Yet the evidence of *Xvarnah* in this episode should not blind us to another more popular source in the *Panchatantra:* the delightfully irreverent story of "The Weaver who Loved a Princess"—a Sanskrit version of *Room at the Top.* Taking pity on the lovesick weaver, an obliging and inventive carpenter builds for his friend "a brand new mechanical bird like Garuda the bird of Vishnu." (A.W. Ryder's translation, pp. 94-5). Passing himself off as the God Vishnu, the weaver pays court to the princess "marrying her by the ceremony used in heaven." The impersonation, though at first convincing, eventually proves an embarrassment all round. The kingdom is invaded, the alarmed weaver is called upon to defend the besieged city with his supposedly divine power. At this point Vishnu himself intervenes, fearing the scandal that would ensue from the apparent killing of a god by a mortal: "my spirit shall enter his body" (pp. 101-4). Divinely inspired, the weaver overcomes the besieging enemy; as does Queen Sha'vin—momentarily at least—in *The Sirian Experiments.*

Although the weaver's story is not included in the *Kalila and Dimna* collection, Doris Lessing acknowledges that she was lent by Ramsay Wood "a vast heap of many versions of the *Fables of Bidpai*—some of them rare and precious—to aid me in this task of doing an introduction . . . it is clear that the authors of them have become beguiled and besotted with the book's history. As I have" (p. x). From Wood's *Afterword* one sees that among the versions handed over to the novelist were at least two editions of the *Panchatantra.* Lessing's own interest too could well date back to childhood. After all during his service in Persia, her father is more than likely to have picked up from *The Lights of Canopus*

something of the rudiments of what was in truth the diplomatic language for a vast area of the Middle East; its 1877 translator, A.N. Wollaston, informs us that "apart from its inherent merit" *Anwar-i-Suhaili* was "a textbook both in India and in this country, for candidates who wish to be examined in the Persian language" (XVI). In the early years of this century Wollaston produced a children's version; there also became available in 1892 a Moslem version of the weaver and his flying machine in *The Thousand and One Days.* This English translation of Persian tales, collected to compete with Galland's early eighteenth century version of *The Thousand and One Nights,* reminds us that the weaver's artificial bird is the model of the Ebony Horse in the *Arabian Nights* and, in all three versions of the story, the inventors point out with varying emphasis that this extraordinary means of transport is not a supernatural creature but a machine. Like the other innovators of the genre, Lessing's debts freshen our memory of the prototypes of sf: in this instance the technological anticipation of the oriental tales.

There is a distinct echo of the alternative title for the *Arabian Nights* sounded in *The Making of the Representative for Planet 8:*

> For Canopus had told us Representatives a thousand tales that would prepare the minds of our people for understanding our role as a planet among planets and how we were cherished and fed and watched over by Canopus. (p. 34)

There is plainly something encyclopedic about a collection like *The Thousand and One Nights,* another *Mirror for Princes,* though the degree to which its contents are teaching stories is less well understood. Still surely the all-inclusive embrace, the accretive tendencies so typical of the capacious oriental framed narratives are over-indulged in *Re: Colonised Planet 5 Shikasta.* Within an envelope structure (that is more subtly arranged in later volumes of the sequence), under an appearance of bureaucratic documents, historical articles, case studies, scientific reports, metaphysical speculation, reminiscence, dream, and prayers, Lessing unfolds (with increasing clarity) tales upon tales: "always when one is telling of something done or seen or experienced," says the narrator in *The Making of the Representative for Planet 8,* "it becomes a story . . . at any rate, our people listened as if to some tale or legend" (p. 54). Tales that frame other stories within which we discover further tales lead us, momentarily at least, to wonder if the series will prove an infinite regression. Such a response to what Todorov has described as "narrative men embedded inside narrative men," and Gide before him as *"mise en abyme,"* makes this structure an expressive form for the equally oriental psycho-cosmogony of Lessing's imagining; the dream-like narrative recessions enable the reader almost subconsciously to, as Johor, the chief narrator of *Re: Shikasta* says:

> Adjust yourself to the various levels of being which lie in concentric shells around the planet, six of them in all, and none requiring much effort from you, since you will be entering and leaving them so quickly – none save the last Shell, or Circle, or Zone, Zone 6. (p. 16)

Zone 6 the reader of *Shikasta* needs "to study in detail" for it is our everyday existence. Some of the other planes we shall discover are the occult theatre for the alchemical drama played out in the dynastic unions described by Lessing in *The Marriages between Zones Three Four and Five.*

The latter is an affecting, wrily humorous piece of great beauty symbolizing how in the difficult yet mutually civilizing interaction of the sexes, relationships (when guided by Canopus) can be sublimated, rising in hard-won stages from brutal attempts at the triumph of the will through *eros* and parenthood to *agape.* As such *The Marriages,* more

obviously than other volumes in the chronicles, can be interpreted as a success story. With an ominous frequency, the other novels would appear to be tragic histories of social engineering and eugenics—on a vast scale. True, later in the sequence one does not find so patent a beast fable as that in the first volume of the *Archives* (pp. 241-6), a poignant anecdote about a remarkable cat, an unassuming yet noble creature whose solicitude for his kittens and mate sets an example to the disintegrating human community around him. Nevertheless in later volumes many are the parallels between the people and fauna Lessing visits; for men, beasts, insects too, are all the subjects of experiments in breeding on a cosmic scale. These are conducted, ethically or not, by what emerges as a hierarchy of extra-terrestrial empires. The evolution of human life on Earth is here explained in terms of what might be described as a sort of Gnostic creationism. How though is one to categorize the various degrees of demiurge? One of Ambien's tutorials with Klorathy in *The Sirian Experiments* offers a clue:

> "Sirius, this Galaxy is vast, is infinitely various, is always changing, is always beyond what we can see of it, in whatever little corner is our home."
>
> "To hear you call Canopus a little corner is not easy to understand . . . is it possible that just as this is my relation to you, then so is your relation to — to . . ." and my mind faded out, into its depths. (p. 279)

If, as this connection with the ineffably infinite would seem to imply, Canopus represents something like the potent Moslem angels, are we then to see in the supernatural yet mortal Shammat and Sirius respectively the evil and benign Djinn? Or, as the continual echoes of older faiths imply, are we to do now as long ago the Sufis of Shi'ite Persia and call in the aid of Zoroastrian cyclic history, world saviours and the passage after death to the Other World?

III

> I myself remember how, as a small child, I was taken out on to a hillside . . . on a soft warm night, and shown how a certain brilliant star, low on the horizon, was Canopus, our fostering and nurturing star . . . and I must remember when I look at that star that it is a world, and my Maker. *(The Making of the Representative for Planet 8,* p. 34)

The timescale is that of medieval drama from Genesis to Judgement Day. At least that is the vast arena mapped out in *Re: Colonised Planet 5 Shikasta* (1979): the Earth, Galaxy, Other World, Heaven and Hell sketched in, the immense stage on which will be enacted the later dramas of the *Archives*—the wonder is *Re: Shikasta* is only bad in parts. Although the first volume is wide open to the charge of being "over-ambitious", what cannot be disputed is that Lessing's use of the *Old Testament* and *Apocrypha* transcends that category Michael Moorcock has stigmatized as "Shaggy God Stories"; the material Lessing transmutes is far removed from the leaden von Daniken. Indeed what is apparently her Philosopher's Stone might be thought by some to exert a power surpassing the idea put forward by Giorgio de Santillana and H. von Dechend in their elegantly learned *Hamlet's Mill* (1969; first paperback, 1977), that the ancient myths encode a remarkably accurate starlore while mapping the soul's route to the Other World. In *The Sirius Mystery* (1976, abridged 1977), Robert Temple argues that the Dogon are the last people on Earth to worship extraterrestrials who, landing in the Persian Gulf at the dawn of civilization, acted as culture heroes:

> I would even venture that we may be under . . . surveillance at this very moment, with an extra-terrestrial civilization based at the Sirius system monitoring our development.
>
> (Futura p. 220)

Doubtless Lessing needed no further impulse from Robert Anton Wilson's *Cosmic Trigger* (1977)—even though Wilson notes how Temple's theories mesh with the Sufis' claim to have been "in communication with Higher Intelligences, just like the early Gnostics, from whom many historians believe Sufism derives" (p. 100). Moreover Wilson does make a number of respectful references to the "Sufi author" (p. 75), "philosopher" (p. 100), "historian" (p. 184) Idries Shah. It will hardly have surprised R.A. Wilson to discover (as he must) that Idries Shah is the mutual friend of Lessing and Ramsay Wood. At the end of the latter's *Kalila and Dimna* (1980), among those to whom "special votes of thanks are due" Wood singles out Shah "for giving me the idea" of making this selection of the *Fables of Bidpai* (p. 263). That Lessing found *The Sirius Mystery* profitable reading is indisputable. Perhaps though what delighted her most was to find Temple linking a vital portion of his evidence with both an aspect of Santillana and von Dechend's ideas and also a Hindu deity to whom allusion is made by a Sanskrit member of the Bidpai family (p. 269). It is in the very same group of stories as those reworked by Wood that in Edwin Arnold's popular version of *The Book of Good Counsels* translated from the *Hitopadesa* (new edition 1899, pp. 64, 153), the jackal Karataka (our Kalila) refers to "Vrihaspati the Grave", "Regent of the planet Jupiter, and Instructor of the divinities." As to Santillana and von Dechend's tracing of the complex relationships between the astral wisdom conveyed by oriental animal stories and myths, the poetry of the Sufi Omar Khayyam, and "the prodigious scholarship" with which in the *Shahnama* (the Persian national epic) Firdausi undertook to organize and record the Zendic tradition (see in particular chapters 3 to 5), who could fail to be stimulated?

"All our literatures, the sacred books, myths, legends—the records of the human race—tell of great struggles between good and evil" (p. 10), Lessing reminds the reader of *The Sirian Experiments*. And while at pains to disclaim any belief in "a planet called Shammat full of low-grade space pirates" she presses the question: "But could it not be an indication of something or other that Canopus and Sirius have played such a part in ancient cosmologies?" (p. 10). The preface to *The Sirian Experiments* echoes her introduction to *Kalila and Dimna*. There when noting the alternative title for the fables is *The Lights of Canopus,* Lessing draws to our notice the Sufi tradition that the two brightest stars in the heavens are associated with the Yemen as sources of celestial wisdom. Canopus and Sirius being catasterisms of Osiris and Isis, the constellation Argo is not merely the vessel of the Argonauts but Noah's Ark, carrying also the Seven Sleepers and their little dog (who, in Christian as well as Moslem belief, are divinely preserved from religious persecution), its pilot Canopus a psychopomp analogous to El-Khidr "the Verdant One" who was Moses' guide in the *Qur'an*. Súra 18 is certainly one of the important paradigms for the general situation chronicled in the *Canopus in Argos: Archives:* this Súra adumbrates the revolt of Iblis, ruler of the Djinn. The "result" of Satanic interference with the Creation is seen in Shammat malpractice. Mankind's need for divine aid was once wholly met in the nourishment of our planet by an invigorating air called SOWF (short for Substance-of-We-Feeling; Johor is careful to find an easy mnemonic—*Re: Shikasta,* pp. 96-7) the necessary conduit for what the Sufis know as "the Divine Breath of Creation" being, prior to the cosmic misalignments that produce Lessing's version of the Fall, the Geometrical Cities of the paradise lost and regained in *Re: Shikasta.* When the parasitic Shammat further reduces the flow of Grace, SOWF is then channelled into those intricate patterns that impart transcendental significance to

Islamic art. These sacramental configurations of infinity turn up again and again in the chronicles as restoratives from evil influences. *The Sirian Experiments* provide a number of examples. Such is Lessing's attachment to Islamic culture that establishing in South America her vulnerable pre-Columbian Utopia she offers some protection in the form of quasi-Moslem architecture and decoration (pp. 219, 227, 231); likewise the sky writing of the protean UFO of Canopus is brilliantly used to suggest Arabic calligraphy manifesting the word of Allah in condemnation of the destructive greed of Western materialism (pp. 318-19).

Against the exploitation of Earth by the devilish Shammat there operates through the ages a succession of under-cover agents from Canopus—much like the succession of the prophets or the Hidden Imam of Shi'ite Sufi belief, of El-Khidr the Green One, of course and his fellow Immortals, even the legendary Alexander who "enclosed Gog and Magog"; such guardian spirits as the patron saints of the nations. In *Re: Shikasta* the somewhat vindictive trial of White Man is elevated into becoming the Last Judgement of Mankind through the mysterious power of an attractive figure of Justice bearing the significant Christian name of George Sherban. In *The Sirian Experiments,* to a cry of "Death to the Dead" and in an effulgence of green light (p. 213), the heroine is saved by a Canopean secret agent and instructor of demiurgic abilities called "Nasar" (pp. 210-11)—a homophone of the Arabic for "help", a title too in the Sufi hierarchy. In brief, by employing Sufi teaching methods (the spiritualization of popular tales, a syncretic mythology, photisms, word-play and a rich iconography of angels) Lessing sets up that "interaction between estrangement and cognition" that Darko Suvin sees as the essential element in sf. Lessing reminds the reader of *Canopus in Argos: Archives* of the continuing problems and possibilities of the late twentieth century: the almost simultaneous expansion and degeneration of empires, OPEC and neocolonialism, youth and older unemployment, migration and forced labour, UN aid, dissidents—successful or otherwise—like Djilas or Deng Xiaoping, liberation theology in the Third and Fourth Worlds, not least our own potentialities for self-transcendance.

IV

The naturalism with which in *Children of Violence* Doris Lessing chronicled her time has been in the last decade or so subverted by a compelling vision; the author has been able to make a more searching scrutiny (of what is often much the same material just viewed from a revealingly different angle) by drawing upon the rich and strange culture in which she was born. There can be no doubt that Idries Shah has played an important role in the process by which Lessing has deviated from the modes of mainstream literature and launched forth on the fabulous Vast (Somadeva's title springs irresistibly to mind) "Ocean of the Streams of Story"—of which one of the strongest currents running today is of course sf. And yet for all her response to the stimulus, intelligence and lively imagination of Shah and his sister—witness for example Lessing's review of Shah's beautiful *World Tales* (1979) and her 1981 introduction to *The Tale of the Four Dervishes,* Amina's retelling of Sufi tales—even so in *Canopus in Argos: Archives* there are moments of profound insight, episodes subtly built upon great scholarship the like I have yet to find in the work of the Shahs, and which therefore must have been communicated to Lessing by another intermediary. This I suggest is to be found in the

work of the late French orientalist Henry Corbin. Until recently the Islamic mysticism of the Sufis was still little known in the West because of the great complexity of the system and lack of translations. If the situation has begun to change in the last quarter century much of the credit is due to the energy and erudition of Corbin. Two seminal papers on "Cyclical Time in Mazdaism and Ismailism" and "Divine Epiphany and Spiritual Birth in Ismailism Gnosis" were presented in the fifties at the annual Eranos conferences, their English translations appearing in respectively *Man and Time* (1957) and *Man and Transformation* (1964); both publications were edited by Joseph Campbell. With Lessing's Jungian sympathies, it is unlikely these influential essays would have escaped her attention, especially when public interest was sustained by Corbin's *Creative Imagination in the Sufism of Ibn Arabi* (1969) and *Mundus Imaginalis* (1972, 1976). However, Corbin's major contribution to our knowledge of this area has been the discovery and translation of the Persian mystical texts. Significantly, the editions and commentaries which most illuminate *Canopus in Argos: Archives* did not get into English until the late seventies: *Spiritual Body and Celestial Earth—From Mazdean Iran to Shi'ite Iran* (1977), *The Man of Light in Iranian Sufism* (1978), *Avicenna and the Visionary Recital* (1980). As these bibliographical details indicate, the English publication of Corbin's work kept roughly in step with the other influences I have suggested: de Santillana and von Dechend (1969, 1977); Temple (1976, 1977), R.A. Wilson (1977), Idries Shah (1979), Wood (1980), Amina Shah (1970-79, introduction 1981).

Corbin's influence so pervades *Canopus in Argos: Archives,* it seems to me, that reference to his work will shed light on much in the sequence which has remained so far murky, enabling us to recognize the significance of both a local detail and the larger structures, to glimpse the implications of a character's name, to determine exactly what is going on in an obscure episode, to locate regions that are apparently contiguous with Earth but unknown to the geographer, to judge what may prove to be of enduring value (literary and otherwise) in the *Archives.* Take Johor, for instance, that mysteriously potent figure who turns up again and again in the sequence; his proves to be a resonant name for a guardian angel. The Arabic translates as "Pearl" and symbolizing "Perfection" seems apt enough. Its fuller significance doesn't dawn until the reader is puzzled by an episode in *The Sirian Experiments.* "Koshi" (pp. 129-79) evokes vague memories of the Grail story. Ambien, having been sent to Earth to meet her friend, Klorathy, finds herself confronted by an apparent sibling. Worse this Canopean, his cover blown, has been "captivated" by the bewitching Elylé, a beautiful daughter of Old Atlantis (p. 156). Happily the Sirian envoy is able to "turn" the Canopean double-agent back to his true allegiances. One notes the teasing repetition of the adjective "pearly", a mention of "song" in this story of angelic temptation and recovery (pp. 153-159). Corbin is enlightening. In *The Man of Light in Iranian Sufism* (pp. 22-5), as well as *Avicenna and the Visionary Recital* (pp. 35-43), Corbin discusses prefigurations of Parsifal's Quest: the admirable *"Song of the Pearl"* (my emphasis) in the Gnostic *Acts of Thomas* and its Moslem analogue in Suhrawardi's *Recital of Occidental Exile.* In quest of "the Pearl of Great Price"—so the mystic allegory runs—a young Iranian prince is sent by his parents to the West (the Arabs never did care for the Atlantic, seeing the Ocean as bordering on Hell). Although he endeavours to pass unnoticed, he is fed the food of forgetfulness, or, as Suhrawardi has it, is thrown into chains. Liberation comes with a message from his parents recalling him to Goodness in the East. The King's Messenger is a bird, an eagle or

cockatoo. And on reflection there is something bird-like about Ambien, "this desiccated bureaucrat of a Sirian" (p. 158) in her "slight white robes" (p. 147).

It is when we learn more from Corbin about Suhrawardi—the Sufi martyred by orthodox zealots—that the pieces in Lessing's mosaic really begin to fall into place, to assume significant patterns. In *Spiritual Body and Celestial Earth: From Mazdean Iran to Shi'ite Iran,* Corbin points out Suhrawardi died in AD 1191, and "came later to be called 'The Master of Oriental Theosophy'" because his great aim was the revival "of ancient Iranian wisdom" (p. 54). Not that either Suhrawardi or the Shi'ites were Zoroastrians (p. 52) but rather this Sufi mystic saw *their "Islam"* as by an act of homologation ratifying the psycho-cosmology of the *Zend-avesta.* Their aim was to explore both the psyche and the universe in order to learn more of the Divine. By using the Zoroastrian symbolism of Light, its visionary geography, cyclic history and World Saviours, its elaborate hierarchy of angels, Suhrawardi sought to link Apocalypse with individual eschatology, the salvation of Mankind on the Last Day with the fate of the soul going to its Judgement. Islamic-Zoroastrian beliefs concerning the experience of the soul immediately after death would seem to shed light on that obscurely menacing episode in *Re: Shikasta* (pp. 185-92) where at dawn on the occult borderlands of Zone 6 the souls wait to pass into the next life: "there were rumours . . . of frightful danger . . . I could hear a soft whispering, like a sea . . . a sea where no sea was, or could be." Gradually the desert liquefies into a lethally hypnotic whirlpool of sand, around which vortex small groups of souls have to be shepherded by spirit guides and animal helpers, along a ridge that connects mountains and plateaux until the ridgeway itself is eroded. All that seems disturbingly but only vaguely familiar becomes recognizable when Johor notes one of his colleagues talking to her stunned charges "in a low steady compelling voice, as a mother talks a child up out of a nightmare, soothing and explaining" (p. 192). In *Spiritual Body and Celestial Earth* Corbin explains it is at dawn "after the third night following death that the soul has to face the ordeal of the Chinvat Bridge" (p. 27). The Mazdean Book of Creation, *Bundahishn,* gives a frightening account of how, under the attack of the demonic Powers of Ahriman, the Earth began to tremble. Against this infernal subversion was raised up a chain of mountains and plateaux, the Elburz. It is in this region of peaks and highlands that the *Zend-avesta* locates the central events of Zoroastrian belief, in the sacred psychogeography of "Eran-Vėj," the motherland of the Iranians. In this visionary landscape is "the mountain of the dawn." Another high mountain adjacent, "the peak of judgement," helps to shape the individual eschatology since "from its summit springs the Bridge of Chinvat, at the beginning of which the pure soul meets its heavenly counterpart, Daéná," the guardian angel. The perfect soul then moves on "towards the stars . . . and the Infinite Lights" (pp. 27-8). Although Corbin is silent on this point, it is plain from both *Zend-avesta* and *Bundahishn* these are stellar psychopomps. *Yashts* 8:13 for example celebrates "Tishtrya the bright and glorious star," which is "almost certainly our Sirius" (Duncan Greenless, *The Gospel of Zarathustra,* 1978, pp. 62-3). To the Moslem Archangels, Suhrawardi would seem to have assimilated the Zoroastrian Amesha Spentas or Immortal Holy Ones whose support is necessary to Ohrmazd Lord Wisdom in his age-old war with the Powers of Darkness. To these forces of Light Canopus belongs as surely as Shammat is in league with Ahriman.

The concept of Eran-Vėj, the visionary motherland, was also obviously important for Suhrawardi's mystical schema. The Sufi viewed the universe as being so structured that

between the world of the senses and the world of the spirit there is a transitional state. Here takes place the "transmutations of the ephemeral into spiritual symbols" by virtue of which "the resurrection of bodies is effected"(*Spiritual Body and Celestial Earth,* p. 12). This "mystical Earth of Hurqalya" resembles the Jungian world of archetypes; as such it does more than give "a local habitation and a name" to those Zones Three, Four and Five that are the concern of the second volume in Lessing's sequence. The Iranian Sufis saw the process of resurrection in terms of alchemical work. That Corbin frequently makes the connection between the alchemist and the psychoanalyst suggests there may be in the means whereby psychological insights are conveyed in *The Marriages between Zones Three, Four and Five* an apt instance of influence biting its own tail like Ouroboros, an expressive debt to the Sufi anticipation of Jungian ideas concerning the way the processes of individuation are symbolized. And even here we are not far removed from the *Mirror for Princes* genre. Corbin quotes Shaik Ahmad:

> Of the Operation of the Elixir, the Wise have made a Mirror in which they contemplate all the things of this world, whether it be a concrete reality or a mental reality. (p. 99)

In Lessing's novel is perhaps reflected the intimate union of the unconscious feminine aspect of men with its spirit, for lack of which *conjunctio oppositorum* a ruler cannot mature into responsibility. The exemplary nature of these nuptials in *The Marriage* is hinted at in their idealization by pictures resembling Central Asian miniatures, like the one reproduced by Corbin (see plate facing page 32, *Spiritual Body and Celestial Earth*). And here Corbin rightly considers it appropriate to recall "certain Byzantine mosaics" (p. 31), like the Persian miniatures symbolizing the paradisal Other World lit by *Xvarnah.* The Light-of-Glory, which we have seen above in *The Sirian Experiments* vitally delaying the fall of a small civilized kingdom to barbarian hordes, betokens the permanent transfiguration that will be achieved at the end of the final cycle of Time by the last World Saviour. At the close of *Re: Shikasta* Lessing has attempted to picture the restoration of the once-stricken Earth to the pristine beauty of Rohanda; wisely she merely hints at *apocatastasis* in *The Sentimental Agents:* merely "I knew that one day . . . " (p. 160).

For Lessing's most subtle fusion of the ultimate fate of the individual soul and the salvation of the human race is to be found in *The Making of the Representative for Planet 8.* The inhabitants of this charming world are instructed by Johor to build a vast black wall encircling their globe for the protection of their paradise against the onset of an unexpected Ice Age. Like nuclear disasters or old age, the unbelievable happens and subsequent hopes of rescue are apparently dashed when Canopus fails to supply the physical means of evacuation. Total extinction threatens. As Sufi masters like Karim Khan Kirmani exploited the cyclic history and world saviours of Zoroastrianism to articulate the Shi'ite expectation of the Hidden Imam (*Spiritual Body and Celestial Earth* pp. 23, 26, 68-73; *The Man of Light in Iranian Sufism* pp. 40-50, 63-4), so Lessing uses the ancient Iranian myth of the Hyperboreans: at the command of Heaven, Yima builds a walled city in which to gather the elite of humanity who (feeding upon a magic herb, "Haoma") shelter from the deadly winter unleashed by demonic forces; after the catastrophe these survivors repopulate a transfigured world and *post mortem* greet their heavenly counterpart—a myth interpreted by Shi'ite teachers as foretelling the whirlwind descent of Jenghis Khan from whom Islam would be saved by the advent of the eschatological hero. This *deus ex machina* played a conspicuous role in *The Sirian Experiments;* the later book more subtly develops the historian's metaphor, "the Mongol

storm" becoming a deterioration in the global climate beyond the control of man and angel. Spiritual survival is what is promised here; the soul-making of the Representatives, the result of a series of pilgrimages. These are patterned upon the leit-motifs of Iranian Sufism. "The Quest for the Orient" has a destination not to be located on ordinary maps; the "man of light" must also climb the psycho-cosmic "Mount Qaf", which (this being visionary geography) is situated at "the heavenly pole" in the land of "the midnight sun," and so conterminous with "the cloud of unknowing." For not the least of the achievements of this beautiful, deeply affecting and wise book of the dead is that it serves as a bridge between eastern and western mysticism. Although in *The Making of the Representative for Planet 8* the immediate technological and speculative interest of (say) Gregory Benford's *Timescape* is replaced by the "inner science" of Sufism, there are in Lessing's microscopic "vision" (pp. 64-7) of the "man of light" reflections of Fritjof Capra's *Tao of Physics* (1975, 1976, 1977). Moreover, sf fans will welcome Lessing's continuing defence of sf:

> . . . playing with the idea, making for ourselves a small place in our minds where fantasy and improbability could be enjoyed and this was a restorative for us, living as we did amidst grinding necessity—

as we do in this winter of our discontent.

Notes

Doris Lessing's *Canopus in Argos: Archives* series consists of the following five volumes, all published in Britain by Jonathan Cape (prices various and modified):

Re: Colonised Planet 5: Shikasta, 1979.
The Marriages Between Zones Three, Four and Five, 1980.
The Sirian Experiments, 1981.
The Making of the Representative for Planet 8, 1982.
The Sentimental Agents in the Volyen Empire, 1983.

Brian Burden last appeared in our pages in Foundation *26 on the subject of Philip K. Dick and American politics. In 1980 Mr Burden was awarded an M Phil by the University of Essex for a thesis on the "Big Five" sf novels of H.G. Wells; and we are happy to present here some of the fruits of his research. Any enterprising publisher interested in a good book on H.G. Wells can contact Mr Burden, care of* Foundation.

Decoding the Time Machine

BRIAN J. BURDEN

H.G. Wells's *The Time Machine* was written in 1894 and published as a short novel in 1895. Wells had already made his mark as a writer of short stories, and *The Time Machine* won the approval of the critics and of the reading public at large. The novel began its

career as an uncompleted serial which ran for three episodes in *The Science Schools Journal* (April, May, June, 1888). The original Time Traveller is called Dr Moses Nebogipfel. We are given no glimpse of the future, but Nebogipfel ("promised land") does invite his travelling companion to "walk among the people of the Golden Years". Bernard Bergonzi discusses *The Chronic Argonauts* at some length in his pioneering work *The Early H.G. Wells*[1], and reprints it as an appendix.

The only factors in common between *The Chronic Argonauts* and *The Time Machine* are the assumption that time travel is a scientific (rather than purely metaphysical[2]) possibility, that reference to the "Golden Years", which foreshadows the "Golden Age" of *The Time Machine,* and the elusive appearance of the Time Machine, with its exotic components. As regards the latter, Wells makes one important change. The time machine of *The Chronic Argonauts* is built around a platform (static in the three dimensions of space). The 1894 Time Machine is demonstrably based on the bicycle[3]. Wells has introduced a saddle, mysterious and obscure moving parts which need to be oiled, and a swaying motion not unlike that experienced by the novice cyclist Hoopdriver in Wells's *The Wheels of Chance* (1896). There are two probable reasons for this change. To begin with, Wells was himself learning to ride a bicycle during the period when he was writing *The Time Machine.* More importantly, the Time Traveller advertises his machine in Chapter One* as a vehicle which "shall travel indifferently in any direction of Space and Time, as the driver determines". The bicycle was the only form of transport in 1894 which was dynamic in the three dimensions of space: the cyclist can move in a straight line (length), turn to the left or the right (width), and, so long as he continues to move, the balance of forces will thrust him into an upright position (height). Add mobility in the fourth dimension (duration) and you will have a Time Machine which will meet the Time Traveller's specification.[4]

Aboard this machine, the Time Traveller visits the world of 802701. This is not one of the several dates mentioned in *The Chronic Argonauts* and it evidently has some special significance, probably biographical, mathematical or numerological; if any reader can shed light on this matter, please contact me. When our hero arrives, he finds himself confronted by a white marble sphinx flanked by a silver birch tree (Chapter Four). The surface of the earth, he shortly learns, is inhabited by beautiful little people known as the Eloi (pronounced El-oh-ee, *not* Ee-loy) and their first action on meeting the Time Traveller is to escort him to a huge building whose portal's rich carving shows "suggestions of old Phoenician decorations" (Chapter Five).

The White Sphinx is undoubtedly the dominating symbol of *The Time Machine.* It is the first man-made object which the Time Traveller encounters on his arrival in 802701; for most of the action, the Time Machine is locked inside it, and it is (presumably) one of the gates to the Morlock underworld, which will be discussed below. In figurative terms, the Sphinx may be seen as a metaphor for human nature, the creature's human head representing intellect, and its lion body representing instinct. For the full significance of "the sightless eyes (which) seemed to watch me", the "faint shadow of a smile on the lips" and the "crouching" posture of a predator ready to spring, one must perforce turn to Greek mythology.

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* I have used the chapter division of the original Heineman edition (preserved in the current Pan Books edition) in preference to that used in the version which appears in the *Complete Short Stories.*

According to legend, the Sphinx lay outside the gates of Thebes asking the same riddle of every traveller, and devouring him when he failed to answer correctly. The riddle, in the version given by Rex Warner in *Men and Gods*[5] was:

> "What is it that in the morning walks on four legs, in the midday walks on two, and in the evening on three?"

At last Oedipus arrived to give the correct answer, which was "Man". Man goes on all fours in the morning of his life, and uses a stick as a third leg to assist his faltering steps in the evening of his life.

The White Sphinx which guards the threshold to the future is mutely posing a riddle which varies only slightly from that of its Theban counterpart:

> I looked up again at the crouching white shape, and the full temerity of my voyage suddenly came upon me. What might appear when that hazy curtain was altogether withdrawn? *What might not have happened to men?* (Chapter Four. Emphasis added.)

After encountering the Eloi, the Time Traveller makes three attempts to answer the riddle. His first carefully formulated theory is of an autonomous society arising from a benign Communism (Chapter Six). He is wrong, and the Sphinx responds by "swallowing" his Time Machine—i.e. the subterranean Morlocks lock the machine inside the Sphinx's hollow pedestal. Wells leaves us in no doubt about the symbolic involvement of the Sphinx in the theft:

> Then my eye travelled along to the figure of the White Sphinx upon the pedestal of bronze, growing distinct as the light of the rising moon grew brighter. I could see the silver birch against it. There was the tangle of rhododendron bushes, black in the pale light, and there was the little lawn . . . "No", said I stoutly to myself, "that was not the lawn."
>
> But it *was* the lawn. For the white leprous face of the sphinx was towards it . . . The Time Machine was gone! (Chapter Seven)

The Time Traveller searches frantically:

> Above me towered the sphinx, upon the bronze pedestal, white, shining, leprous, in the light of the rising moon. It seemed to smile in mockery of my dismay.

A second answer to the riddle is proposed in Chapter Eight. The incident in which the Eloi girl Weena nearly drowns before the unconcerned eyes of other Eloi shows the reader that the Eloi are incapable of managing their society unassisted. The Time Traveller has already begun to sense other forces at work and, after his discovery of the Morlocks, concludes that the latter are the descendants of the nineteenth century industrial proletariat and the Eloi the descendants of the capitalist masters:

> The great triumph of Humanity I had dreamed of took a different shape in my mind. It had been no such triumph of moral education and general co-operation as I had imagined. Instead, I saw a real aristocracy, armed with a perfected science and working to a logical conclusion the industrial system of today (1890). Its triumph had not been simply a triumph over nature, but a triumph over nature and the fellow-man.

Even at this stage, he recognizes this new explanation to be incomplete, and by Chapter Ten he has come to realise that the Eloi

> . . . possessed the earth on sufferance: since the Morlocks, subterranean for innumerable generations, had come at last to find the day-lit surface intolerable.

By the end of the same chapter, the Time Traveller has concluded reluctantly that a symbiotic relationship exists between the two species whereby the Morlocks provide fruit and clothing for the Eloi by day and butcher them by night in order to feed themselves.

In Chapter Thirteen, after a night of horror in which he has killed many Morlocks and lost Weena, the Time Traveller seats himself in the same hillside vantage point where he had formulated his first, incorrect, utopian solution to the riddle, and puts the final polish on his new hypothesis. The riddle solved at last, he falls into a "long and refreshing sleep", and when he awakes and descends the hillside he discovers that the "bronze valves" of the Sphinx are open and his Time Machine is there for the taking.

In Greek myth it is Oedipus who solves the riddle of the sphinx. Having received oracular warning that their son will kill his father and marry his mother, his Theban parents have the infant's ankles pierced and give orders for him to be exposed and left to die. A compassionate servant, however, disobeys the order and, as Rex Warner relates in *Men and Gods,* the child ends up in Corinth with foster parents who "gave him the name of Oedipus or 'swollen feet' because of the marks left by the spike with which they had been pierced."

In Chapter Ten of *The Time Machine,* shortly before he solves the riddle of the White Sphinx, the Time Traveller remarks that "the heel of one of my shoes was loose, and a nail was working through the sole . . . so that I was lame." And later in Chapter Ten, having now solved the riddle but, for the time being, rejected the solution, becomes specifically aware of his swollen foot:

> I stood up and found my foot with the loose heel swollen at the ankle and painful under the heel; so that I sat down again, took off my shoes, and flung them away.

Thus, although the guests do not realise it, it is a nineteenth-century Oedipus who limps into their company in Chapter Three to describe the wonders of the world to come, though the man who set forth earlier the same day to solve the riddles of the future was not swollen-footed.

In the original legend, Thebes succumbs to a divinely inflicted plague after the tainted Oedipus assumes the throne. In the neo-Thebes of 802701, the plague has already arrived by the time the Time Traveller makes his appearance. We have already noted the weatherworn "leprous" face of the Sphinx, which imparts "an unpleasant suggestion of disease". The Eloi are a doomed race who resemble "the more beautiful kind of consumptive" (consumption was virtually incurable in 1894). Signs of divine displeasure mark the landscape too. "A peculiar feature . . ." remarks the Time Traveller in Chapter Eight, "was the presence of certain circular wells." A typical example is "rimmed with bronze, curiously wrought, and protected by a little cupola from the rain." In its narrative context, of course, this well is one of the entrances to the Morlock underworld. In the context of Greco-Roman tradition, however, the structure is a *puteal,* erected to mark the impact of Jove's vengeful thunderbolt. Thus Sir John Sandys, in *Companion to Latin Studies* (1910), writes: "The Romans . . . regarded all places struck by lightning as sacred, and enclosed them with a fence which, from its resemblance to a well, took the name of *puteal* or 'well-cover' . . ."

The Morlocks, whose world is located beneath these puteals, are initially mistaken by the Time Traveller for ghosts (Chapter Eight), and even after he recognizes them for what they are—apelike degraded human beings—he continues to refer to them as "damned souls." He also refers to them several times as "Lemurs." The large-eyed primates of that name were still a zoological rarity in 1894. The name comes from the latin "lemur" of which the plural was current with its meaning of "Spirits of the departed, spectres" (*Chambers's Twentieth Century Dictionary,* 1901). Wells's use of the capital "L"

suggests that he intends his readers to keep this meaning in mind too. In *Seasonal Feasts and Festivals* (1961), E.O. James describes the Lemures as not entirely benign ancestral spirits which, like the Morlocks, delighted in haunting ruins. In ancient Rome,

> A festival . . . was held . . . in honour of the *lemures,* the ghosts of the dead who were devoid of kith and kin, or in some way rendered restless and dangerous to the living, as for example by inadequate obsequies . . . Thus the Lemuria seem to have been an expulsion ritual to drive away ghostly influences after the turn of the year in the spring when demons were always liable to be rampant, which was subsequently transformed into a private laying of family ghosts . . .

Despite the evidence indicating that the world of 802701 is a kind of neo-Thebes, Wells entitles Chapter Five of his narrative "In the Golden Age". The phrase "Golden Age" is likewise taken from classical mythology. Bergonzi writes: "Such an age, the *Saturnia regna,* when men were imagined as living a simple, uncomplicated and happy existence, before in some way falling from grace, was always an object of literary nostalgia."[6] Wells seems to have taken his cue from Virgil, who, in his Fourth Eclogue, predicted a new Golden Age, which would follow the Age of Iron. In Wells's allegory, the Age of Iron may be identified with the Victorian period and its burgeoning industrialism. Wells evidently chose to project his Time Traveller into a new Saturnia regna since Saturnus is the equivalent of the Greek god Cronus or Kronos: the new Golden Age is also Time's kingdom. The reference above to "old Phoenician decorations" enables the reader to find common ground between the Thebes of Oedipus and the Golden Age of Cronus. Thebes was founded by the Phoenician Cadmus; the Phoenicians worshipped Cronus under the name of Hel, and Hel's allies in disputes with other gods were known as Eloim[7].

The paradox of a Golden Age which is also a plague-afflicted Thebes is compounded by the symbolism implicit in that silver birch tree which grows beside the White Sphinx. According to tradition, a birch tree grows at the entrance to Elfland or Avalon, the pagan paradise—hence the following stanza from the ballad The Wife of Usher's Well:

> It neither grew in syke nor ditch,
> Nor yet in any sheugh;
> But at the gates of Paradise
> That birk grew fair eneugh.[8]

The presence of the birch tree injects an element of ambiguity into the obtrusive paradisal imagery of the early part of the Time Traveller's narrative. Avalon, unlike the Saturnia regna, exists not in history but, for all eternity, in parallel with our world. It is, moreover, the domain of fairies and the dead, into which living men stray at their peril. The sons of The Wife of Usher's Well (see above) are dead men on ticket-of-leave. Tennyson's Avalon—or "Avilion"—in *Morte d'Arthur,* "Deep-meadow'd, happy, fair with orchard-lawns", is the land to which the dying Arthur is borne aboard a dusky funeral barge. When attempting to persuade Weena to dance in Chapter Eleven, the Time Traveller whistles "The Land of the Leal". The land of the Leal is another name for Fairyland. *Chambers's Twentieth Century Dictionary* (1901) defines it as: "the home of the blessed after death—Paradise, not Scotland".

A feature of Elfland which is particulary relevant to the theme of time travel is the element of time-distortion involved in visits to this realm. In her *Dictionary of Fairies*[9] Katharine Briggs presents this example:

> A young shepherd joined a fairy dance and found himself in a glittering palace surrounded by most beautiful gardens, where he passed many years in happiness among the fairy people.

> There was only one prohibition: in the middle of the garden there was a fountain, filled with gold and silver fish, and he was told he must on no account drink out of it. He desired increasingly to do so, and at last he plunged his hands into the pool. At once the whole place vanished, and he found himself on the cold hillside among his sheep. Only minutes had passed since he joined the fairy dance.

The same process occurs in *The Time Machine*. After returning from the future, the Time Traveller tells his dinner guests:

> "It's true—every word of it . . . I was in my laboratory at four o'clock, and since then—I've lived eight days—such days as no human being ever lived before!" (Chapter Three)

It has been established that, in the course of his travels, the Time Traveller has become identified with Oedipus, the solver of riddles. In a similar way, he may be identified with Prometheus, the "fore-thinker", particularly since, by arriving in a fireless world with a box of matches in his pocket, the Time Traveller comes to embody the quality for which Prometheus is most famous. He uses fire to entertain the Eloi, to fend off the Morlocks during his visit to their underworld and, finally, to protect himself and Weena from a mass attack by the Morlocks.

Running beneath the simple narrative line as a delicate undertone is the idea of the Time Traveller as a nineteenth-century Prometheus, puffed up with the scientific hubris of his own time, bringing fire and succour to a flawed humanity, and thwarted not by the tyranny of Jupiter but by the inflexible laws of genetics.

In his introduction to his translation of Aeschylus's version of the Prometheus myth, Philip Vellacott provides this summary:

> . . . Prometheus was not only an immortal; he was also a son of earth, and felt a natural sympathy with earth's mortal inhabitants. The race which Zeus planned to destroy Prometheus saw as capable of infinite development. He stole fire from heaven and gave it to them; and he taught them the basic mental and manual skills. [10]

Prometheus is also a trickster, who deceives Zeus into accepting the bones and offal as the divine share of the sacrificial beast, leaving the choicest cuts for mankind [11]. The Time Traveller's reputation as a trickster is established at the end of Chapter Two, when the Medical Man suggests that the proposed voyage into time is "a trick—like that ghost you showed us last Christmas", and at the beginning of Chapter Three, the Narrator, who is the Time Traveller's closest friend, concedes that

> the Time Traveller was one of those men who are too clever to be believed: you never felt that you saw all round him; you always suspected some subtle reserve, some ingenuity in ambush behind his lucid frankness.

Trickster of the gods and bringer of fire, the legendary Prometheus is chiefly renowned as the saviour of the human race:

> Of wretched humans (Zeus) took no account, resolved
> To annihilate them and create another race.
> This purpose there was none to oppose but I:
> I dared. I saved the human race from being ground
> To dust, from total death . . .
> I pitied mortal men; but being myself not thought
> To merit pity, am thus cruelly disciplined. [12]

At first sight, despite the evidently deliberate analogies which Wells has drawn, it looks as though the Time Traveller has failed in his key Promethean role. Despite a fierce fight, he fails even to save the life of his beloved Weena. Much depends upon how one interprets Chapter Fourteen and the Epilogue.

Attempting to explain, in the Epilogue, the Time Traveller's failure to return from his second voyage, the Narrator speculates that he may have gone forward "into one of the nearer ages, in which men are still men, but with the riddles of our own time answered and its wearisome problems solved . . . Into the manhood of the race . . ." If the view of the future propounded by the Time Traveller is fixed and inevitable, then the Narrator's remarks reflect only the fulsome optimism which afflicted some of the late Victorians. In that case, it seems unlikely that Wells would have included the remark in his novella at this point.

Even more persuasive is Wells's symbol of the bow in the sky. In Chapter Fourteen, the Time Traveller finds himself some thirty million years in the future, viewing the eclipse of a vastly enlarged sun. As darkness envelops him, the Time Traveller becomes convinced that this is the end of the world; humanity "committed suicide" long ago—now comes the coup de grace:

> A horror of this great darkness came upon me . . . Then like a red-hot bow in the sky appeared the edge of the sun.

This red-hot bow is reminiscent of the rainbow in the Noah story—a symbol of reprieve. Nor is this the first manifestation of divine mercy to appear in *The Time Machine*. In Chapter Seven, after his Time Machine has been stolen, the Time Traveller relates: "I had nothing left but misery . . . Then I slept, and when I woke again it was full day, and a couple of sparrows were hopping around me on the turf within reach of my arm". The reference, evidently, is to Matthew X, 25.

Having spent his two opening chapters attempting to convince his readers that time travel is a theoretical possibility, Wells carefully avoids the paradoxes associated with time travel so beloved of twentieth century sf writers and readers. There is not even a serious attempt by the Time Traveller to make good his plan to bring Weena back with him to 1890, and he certainly makes no attempt to "rescue" Weena, after her death, by travelling a few days into the past.

All the same, the sparrows of Chapter Seven, the fiery bow of Chapter Fourteen, and the Narrator's remarks in the Epilogue about the "manhood of the race" are surely to be taken as indications that the Time Traveller has fulfilled the most important aspect of his Promethean role, and that by viewing the future and warning nineteenth-century man of the consequences of the polarization of the social classes he has changed the course of history and rendered the world of 802701 as ephemeral as Elfland.

Notes and References

1. Bernard Bergonzi, *The Early H.G. Wells: A Study of the Scientific Romances,* 1961.
2. Other writers, notably Dickens, in *A Christmas Carol,* 1843, had already dealt with time travel experienced as a dream or a mystical event.
3. Evelyn Waugh, for example, devotes an aside to this matter in the autobiographical *A Little Learning,* 1964.
4. Alfred "Ubu Roi" Jarry describes a time machine which is dynamic in four dimensions in his essay *How to Construct a Time Machine.* Jarry, writing in the late nineteenth or early twentieth century, evidently has Wells's machine in mind. Jarry's *Selected Works* were published by Methuen in 1965, and Michael Moorcock includes this essay in his anthology *The Traps of Time.*
5. Rex Warner, *Men and Gods,* 1950.
6. Bergonzi, op. cit.

7. My source for "Eloim" is *Ecclesiastical History* by Eusebius (264-340 AD), as quoted in Chapter Two of Robert Charroux's *Masters of the World,* 1967. Eusebius associates "Eloim" with Hebrew "Elohim" ("God(s)"). An alternative source for Wells's Eloi—or perhaps a complementary source—may be the Elohim mentioned in Helena Blavatsky's *Isis Unveiled,* 1877. They were "the last remnants of the race which preceded ours" and occupied "an island which, for its unparallelled beauty, had no rival in the world."
8. Robert Graves (Ed.), *English and Scottish Ballads,* 1957.
9. Allen Lane, 1976. See the section entitled "Time in Fairyland".
10. Philip Vellacott (trans.), *Aeschylus: Prometheus Bound and Other Plays,* 1961.
11. See for example Robert Graves, *The Greek Myths,* 1955.
12. *Prometheus Bound,* lines 233-241 in Vellacott's translation—see 10 above.

One of the happier incidents of the Book Marketing Council's October 1983 promotion "Venture Into Science Fiction" was the first visit to Britain by Gene Wolfe, author of the highly-acclaimed Fifth Head of Cerberus *(1972) and* Book of the New Sun *tetralogy (1980-83). In the well-preserved gloom of Durrant's Hotel, Colin Greenland talked to him about posthistory, publishing, and political magic . . .*

Riding a Bicycle Backwards: An Interview with Gene Wolfe

COLIN GREENLAND

GW: I don't think of myself as setting out to write science fiction; I set out to write certain stories that I like. A great many of them are categorized as sf. I suppose the thing is simply that this market tends to accept me more than the others, and, let's face it, there's an unconscious influence there that you can't escape.

CG: Why do you think it is that the sf and fantasy audience responds so much better to your work? Do you think it's a certain kind of mind that goes with that readership?

GW: I think so. I think I try to see things from a little strange perspective, perhaps, and that's about the only readership that's willing to take that sort of thing. The others really aren't that much of readerships nowadays. What we call mundane or mainstream fiction seems to be either turning in the direction of sf and fantasy or dying off, as far as I can see: people like John Gardner, for example. What else is doing? Professors who are published by a university press . . .

CG: The campus novel.

GW: Yeah, and the very sexy, trashy—oh, Irving Wallace type of book . . . a few historicals. The historical is really a fantasy form, except that people who read it kid themselves.

CG: It seems to me that what you've done in creating the world of *The Book of the New Sun,* the posthistoric world, is to openly acknowledge the fantastic appeal of history. What you have in that book is a lot of pre-existing, antique things coming back into being in the very far future: social structures repeating themselves, people, functions, jobs, articles, weapons, everything. You coined the word, "posthistory", but you're not alone in seeing this sort of mediaevalism in the far future. What's the impulse behind that?

GW: First of all, there's a recognition that if you are on a certain economic level you have to have some sort of set-up that will work on that level. I don't really think my world is all that mediaeval, but a mediaeval set-up is a way of dealing with that sort of thing. When you have a relatively impoverished country, as the Commonwealth is, you can't educate everyone, you can't teach everyone to read, you can't publish newspapers, and this means that if you're going to have a democracy you have to do it some other way. This is what they have done, essentially. They have something that is more like Britain than it's like America: fundamentally a democratic top with an aristocratic underclass. If you have the commonality of people poor and uneducated you have to have some way of putting people over those people who can exact obedience and keep the thing organized, otherwise you fall into chaos and somebody comes along who *does* have a way of doing it, and he does it. Not the only possible way but one fairly easy way is with a hereditary aristocracy, who have their own armed retainers, who have their own small strongpoints, and who are kept knocked into line enough to make them collect taxes and furnish soldiers when soldiers are needed. This is the social structure of the Commonwealth outside of the major cities. In Thrax, of course, you have a governor who's been appointed by the Autarch because that's a major place; Nessus presumably has something similar, to control the city. But in the countryside what you have are hereditary families who are the governors and actually govern, and of course if they can't then you have to do away with them.

CG: In a way, it's a cyclical thing, isn't it? You say it's governed in the first place by economic considerations. The power and the technology have dwindled and become unavailable . . .

GW: The technology still exists, but you can't implement it except on a very very small scale. Those people would know how to build an aircraft carrier but it takes much more than knowing how to *build* it: it takes huge machines, resources and raw materials—and they don't *have* that. All they have is the technology that was behind the aircraft carrier originally. Mining in the Commonwealth is essentially archaeological pillaging because the real mines have been exhausted for so long that nobody really remembers that they exist.

CG: The point about posthistory is that their history is our present.

GW: The old picture-cleaner is cleaning a picture of a spaceman on the Moon.

CG: Talking of social forms repeating themselves according to circumstances, the other example in your work is the colonialism in *The Fifth Head of Cerberus:* French colonial forms imposed upon a planet, with subjugation of aborigines—in the future, the same problems being enacted.

GW: What happens there has happened on Earth repeatedly. People come, and they have very high-minded impulses, they're going to Christianize the savages, expose them to advances, and take them into the social stream. That works until there's some kind of a disagreement and the savages tomahawk two or three people, and then they say, "Let's clean those bastards out!" That's a repeated thing. You find the people have been exterminated, or nearly exterminated, or they become an underclass, as they are in much of the American south-west, for example.

CG: In your fiction the social context is mediated through very strongly realized individuals. Some of your major themes are enquiries into individual identity, exchanges of identity, communion of identity . . . One British fan critic, Chris Bailey, described your

usual protagonist as a solipsist: he narrates the world in terms of himself, seeing things in a very calm way—things which to us may be surprising, horrific, completely alien, but to him are normality. Do you think that's a fair description?

GW: Oh yes, because I think that's the way it is. If you're born into that society then you're not very likely to be anguished. People who came to the American South before the Civil War were horrified by slavery, but people who grew up in the South—some of them were my ancestors—didn't have those feelings. That was the way things were, that was the way they always had been.

CG: So the boy in *The Fifth Head of Cerberus* goes through the slave-market every day, and he's bored by it.

GW: Oh yes. They're always there. You've seen one slave-market, you've seen them all.

CG: And it's not until the moment when he has to kill the slave with four arms that he realizes. Is your protagonist changed by his experiences?

GW: I certainly hope so, because people are. Severian has grown up in a pseudo-monastic community, accepting its values as a boy would. He's a toddler when he's taken in, he's taught by these people, he sees their world, he sees their life. He feels terribly guilty when he allows Thecla to die; he feels bad and thinks he should feel worse when he's exiled. Of course, in *The Claw* he acquires Thecla's personality, but as he goes on he sees a larger world, he develops. One of my least favourite reviews was from Norman Spinrad who said, In the first place the book is horribly padded and in the second place there's nothing that will prepare Severian to become Autarch: where's his background? Well, what he's done is to take everything that I put in there to prepare him to become Autarch and say, That's padding, throw it out: now there's nothing to prepare him. But Severian has held a minor administrative position in Thrax, he's travelled, he's seen some of the country, he's had some exposure to the war, to military life, he's seen something of the life of a small peasant, and so on and so forth: this *is* the background. For a young man—and Severian still is a young man, all this takes place in less than a year—for a young man to come into power, if he's going to get any preparation at all, he's got to get it quickly. If you're going to really educate him then he spends forty years of his life being really educated and all that he's learned to do is get this education that will supposedly fit him. I satirize this with Master Ultan the old librarian who as a young man would have been ideally suited to head the library and who waited for forty or fifty years to head it, and after forty or fifty years of experience and training was completely unsuited to do it, because all he knew was the waiting. Severian is the opposite of that, he's the young man who goes up very quickly.

CG: All his various levels of apprenticeship are terminated early. He moves on to the next one very fast each time. And you make the point in the last book that he is not just equipped to oversee everything but equipped to undersee it as well.

GW: That's what you have to have. If you can't do the routine things you can't tell somebody how to do them and you can't tell whether they're doing them well or not.

CG: We could contrast this—perhaps a bit maliciously!—with Robert Silverberg's *Lord Valentine's Castle,* which Ian Watson identified works on the principle of the Divine Right of Kings. Valentine is an outcast, but restored to kingship because it's somehow innate in him. He doesn't have to learn it.

GW: This is the fairy-story thing that almost all kids get at some time: These aren't my real parents, I'm adopted, I'm the son of the son of the Czar, or something.

CG: —And somebody's going to come and discover me. Why the mystery of Severian's parentage?
GW: Because that's the way the Guild does it. It reproduces itself by taking the very young children, who have to be able to pass underneath that bar they have; and if they can't, they're too old. The last thing the Guild wants is the grown-up journeyman Torturers or the older apprentices wondering who their real parents were and trying to find them; so they're going to wipe all that out, as well as they can, and they're not going to tell.
CG: The logic is right, as you say; but I was thinking of how that mystery keeps working through the book: who are Severian's mother and father? And there's also the false parentage of the boy in *The Fifth Head of Cerberus*. This is something that seems to attract you, this idea of a kid not knowing his origins.
GW: I think that's something we all feel: Am I really the granddaughter of the Czar? Even if we don't take it seriously, we have that feeling, and a lot of fiction is taking feelings like that and putting them into the reality of the story. Severian's father is a waiter at the Inn of Lost Loves, as he realizes, and his mother is in there too, but if you haven't spotted her, I'm not going to tell you who she is! You have to go into another book for that.
CG: What's the state of the fifth book now?
GW: It's in first draft. A coda to the tetralogy is the way I like to think of it, and now that things at Timescape Books are so uncertain, I don't quite know what I'm going to do with it.
CG: The thing that's wrong with American publishing is that it's a minor interest of large corporations who are making their money on more lucrative things and don't actually care very much about it. Is that over-simplified?
GW: I don't really agree with that. I think the fundamental matter with American publishing is that it's being run by people who know only the business side and are unable to appreciate either the problems or the opportunities. They've gone through business school, have business backgrounds, and they're trying to sell books as if they were boxes of soap. You can't sell books as if they were boxes of soap, they're a different *kind* of product. I think this is the problem we have, not just in publishing, but in a great many other industries.
CG: This is just like what you were saying about Severian. You start off at the bottom, you work your way through the experience, and then you're qualified to stand at the top. Maybe more of Pocket Books staff should sit down and read *The Book of the New Sun!*
GW: Maybe they should. One thing, when you deal with publishers in the US, that you find out immediately, is that they have not read the books they're selling, and this is why the pressure is so terrible on artists and on art directors. The artist comes in here and he's got this picture: here's the girl in the brass brassiere, and here's the dragon or whatever it is, and the publisher can look at that and it only takes thirty seconds to decide—but here's this great thick book! And he doesn't read books anyway; it would probably take him the rest of his life, but he'd never read that book. He's working from two paragraphs if he does it at all.
CG: Do you feel that about the way you've been packaged in the States?
GW: I think that's the way that everything is done in the States. This is the reason that people like David Hartwell get fired, by people who are not looking at the product

because they don't *know* anything about the product. They can't look at the future of the enterprise because they don't know anything about the product. All that they can look at is, Well, we've had so many returns, and we've had so many sales, and this sort of thing. It's like trying to ride a bicycle backwards. You're looking at the things that you've passed and trying to guess what's ahead, and you run into the fireplug.

CG: How far do you regard at least one of the points of sf as being to point out to people what fireplugs may be lurking there for them to run into?

GW: It's very legitimate, I think. Any good fiction should be, among other things, a way of telling you about life, about what you're going to encounter, whether it's sf or *Huckleberry Finn*. That doesn't mean that it's predictive. But it should say these things are a possibility. What's going to happen to the human race if we never, never find new sources of raw materials? We don't go out into space and mine the asteroids; we don't go under the sea; we just do what we're doing now and we keep doing that until all of it runs out. That's the world of *The Book of the New Sun*. You end up sifting the garbage of past ages to try and find useable things. Much of the area of the land is going to go down into the sea. Mineral resources are just there and if you're still mining by essentially pick and shovel methods, there's only so much metal close enough to the crust that you can reach, and when it's gone, it's gone. It's exhausted.

CG: How do you feel about the Larry Niven lobby that says, Our resources aren't just under our feet, what we *should* be doing is getting out into space?

GW: I think they're absolutely right. I'm very disappointed that the United States doesn't have a permanent space station *now*. If you look back to the period of the Moon landings, by now we should have that wheel station that you see in *2001: A Space Odyssey,* that should be up there and built and in use. I think that it's right, we've got to go someplace and I can only see two places to go. One is into space, the other is into the seas. There's certainly a great deal of stuff in the seas and it's certainly very available; in space it's less available, but it's virtually unlimited. The Sun puts out enough energy in a day to run the human race for its entire history. What do we take, one ninety-millionth of the energy of the sun? Take two ninety-millionths, that gives us twice as much energy as we've got.

CG: So presumably you'd be in favour of projects like solar energy and tidal power.

GW: Obviously. One of the things that we ought to be aiming toward is not destroying so-called fossil fuels, which are much, much more than fuels, simply by burning them. When the first explorers came to the New World they chopped down billions of dollars worth of timber and they burned it, simply to clear land on which to grow crops. Now we'd love to have that back. And this is what *we're* doing. We're burning coal, we're burning petroleum that really ought to be feed-stocks for other products. It's as if somebody was heating his house by throwing furniture on the fire. Yes, it will burn, and yes, it will heat the house, and it will do everything that you say, but it's a hell of a wasteful way to heat a house. If you have to go out and carry the stuff back from a warehouse, when the warehouse is empty, the house is going to be cold. It might be better to find something that isn't going to be empty like the warehouse, and there *are* things that aren't going to be empty like the warehouse.

This goes back to what we were saying about the aircraft carrier. If you destroy your resources to a certain point, you can't go back because the things that you climbed on originally are now gone. It isn't there. The oil-fields of Texas produce something like 10%

of what they originally produced—I'm from Texas, I tend to think about that. You can't go back and start a second industrial age on the American continent with the oil from the Texas fields, because the Texas fields are now nearly exhausted. In military theory they speak of a decisive battle, and there are decisive moments in the development of a high-technology civilization. That's what I'm afraid we're doing in space. If we pass the moment, then we'll never be able to do it again, we'll never be able to start with the shuttle or something like that, we won't have the resources. I don't think we're past it yet, I don't think we're going to be past it in my lifetime, but it's going to be possible to pass it, and then everybody will look back and say, Gee, five hundred years ago they had space travel, we can't do that any more.

CG: A thing that particularly appealed to me in *The Book of the New Sun* was the fact that Severian doesn't distinguish between ships and spaceships. It's gone that far.

GW: When you reach the point where you see the Moon as an island, then there isn't that much to distinguish. A ship is something that could take you to someplace far away but you'll probably never go there in your life. Severian never thinks that he's going to go to the extern lands, which are the lands outside the Commonwealth, and he doesn't think he's going to go to the Moon either, and the things that aren't going to take him there are ships, which go to those places.

CG: You've made a speciality of young protagonists, boys not necessarily understanding what's going on around them but coming to knowledge. Since you're not writing children's fiction, it's quite a daring thing to do, don't you think?

GW: Yes, and the great hazard with it is that whatever you do may be taken as being children's fiction. A child isn't so accustomed to the world, and can report the things that are new to the reader as being new to him. He's not calloused about everything, he hasn't pushed it in the back of his mind.

CG: So it's a fresh viewpoint and one which can teach as well as learn.

GW: To learn something you've got to look at the something in a new way, if it's been around you all the time. This is why artists bend over and they look at the landscape between their legs, because this sort of thing makes you look at things in a new way. *(GW makes a frame of index fingers and thumbs.)* If you look at the rising Moon this way it's much smaller. Magically, suddenly, it's smaller.

CG: Tell me about magic.

GW: Magic works on Earth. There's any amount of evidence to show that it does work. We have taken as part of our super-religion, our philosophical orientation, that it doesn't work, so we all go around agreeing with each other that it doesn't work, and we ignore all the evidence that says that it does. In the last election we had a man named John Anderson run as an independent, and he got something like 9% of the total vote. He was probably the best candidate running, if you listened to the speeches, and if you looked at the experience of the three candidates, their experience in government. But the United States is under a spell, and this spell says, No one can win unless he is a candidate of one of our two major parties. Okay, now that spell *works,* as long as everyone believes it. That's magic. It wasn't there at the beginning. George Washington, our first president, said, Don't have political parties, political parties are *evil.* They're going to ruin this country that we've started here if you allow them. No parties; pick out individuals that you think are able individuals, that are leaders in their communities, and elect them to national leadership. And we don't do it. We're under a spell and we can't do it.

CG: So we've got a paradox here, that magic is both the thing that works because we all agree that it does, and also the thing that we all agree doesn't work.

GW: That's precisely true, and that is very typical of the way that things happen. The germ theory of disease was proposed sometime in the thirteenth century, by some priest, who said that tiny little animals invade the body, animals too small to be seen. We don't even know where he got his ideas, all we know is that he said this, and the only reason we know it is because of the people who ridiculed him for saying it. It's the only thing that survived. If we say, Okay, I agree that there's no such thing as disease, you agree that there's no such thing as disease, then disease is going to work *beautifully*. It's going to kill a hell of a lot of people. It's when you recognize it and you say, Yes, it's there, it's real, it does work, then you can start dealing with it and if not preventing it totally, preventing a large part of it. It's the things which you don't admit exist that you can't defend yourself against and which have tremendous power over you. Lafferty says somewhere, we think that the great idealistic concepts are somewhere inside us, but actually we're somewhere inside them. That's why we have such a hard time dealing with them. We think we're bigger than courage, or guilt, or something like that, and that's absurd; those are enormous things, they've been around for thousands and thousands of years. We're in them. The socio-biologists say that we are creatures who are created by genes which we call "our" genes, for the creation of more genes of their design. If that's true then it's equally valid for machines, for example, to look on us as things that are made in order to make machines.

CG: That sounds like a John Sladek idea. The human is the machine's reproductive system. You mention Lafferty; who else do you particularly admire writing sf at the moment?

GW: I just read a very good book by John M. Ford, who I hadn't read before, so I'm going to have to add him to my list.

CG: *The Dragon Waiting?*

GW: Yes. It's an alternate history, but it's good alternate history. He can get inside a Roman and he knows how the Roman thought. He's not faking it, the Romans really did think that way. Who else? . . . Unfortunately, there are very few publishers who are doing sf in the US.

CG: Here too—and yet it's supposed to be a very strong popular form at the moment. We've got the cinema reflecting it, we've got it coming out of video games, influencing the design and vocabulary of children's toys and everything, and where is the fiction? Where is the fiction going?

GW: I don't know how it's going to go. Some new publishers may go into it; some small publishers may get bigger. There are publishers who are doing very well with it, but I don't know what's going to happen. It's been hurt by the recession because our readers tend to be the kind of people who are hurt by recession. They're young people without much seniority and very often if somebody's laid off they're the ones. Now they're living on their unemployment money, they can't really afford to spend on books what they were getting when they were making ten dollars an hour.

CG: I hadn't thought about it that way before; but it's been hit in another way, as I see it: there's a recession of form within sf itself. I mean, people are falling back on formulas, on genre, very much more than they were ten years ago.

GW: That's very definitely so. I think that a part of it is the direction of the publishing

houses by businessmen. They've seen *Star Wars* and they know what sf should be: it should be rockets, and robots, and rayguns. So there's a lot of pressure on the editors; and some of the editors aren't all that knowledgeable. There aren't many Dave Hartwells around.

CG: There are spaceships and cyborgs and rayguns in *The Book of the New Sun* too, aren't there? You've taken many of the genre clichés and conventions and turned them around. We don't even realize Jonas is a cyborg, but suddenly there he is. What were you doing with all that?

GW: I think that what I was trying to do there was show how the future would be. In the future, rayguns and robots are going to be things that are essentially of the past, because we've got them all now. There's Robotics International, a technical society for engineers that are interested in robots: I'm a member of it. I've taken two courses at Unimation, which is the biggest robot manufacturer in the United States. I went to look at the Machine Intelligence Corporation in California; they have machine vision systems there. The mobile industrial robot is probably less than five years away. I'm very happy to hear that the United States Army is putting a lot of funding and effort behind mobile robots. Spaceships—we've got this truck that can go into space now. When I was a kid we read in sf about mechanical brains: that's IBM. HAL in *2001:* that's "IBM" shifted over one letter. So those *will be* things of the past.

British-born David Ketterer, long domiciled at Concordia University, Montreal, has recently completed a major critical study of James Blish under the title James Blish: Imprisoned in a Tesseract. *The following will appear as a chapter in that work.*

A propos *Gregory Feeley's essay in* Foundation 29, *"Correcting the Record on Blish", pages 56 and 57, David Ketterer quotes a letter from Frederik Pohl dated "Bastille Day 83": "Yes, 'The Thing in the Attic' was Jim's calculated attempt to repeat the ingredients that made 'Surface Tension' successful. I think there was a third story, perhaps a fourth—anyway, the stories in* The Seedling Stars *were 'Surface Tension' and clones. I'm not sure of the other stories, but I was Jim's agent when he wrote 'The Thing in the Attic' and it was indeed that which he had in mind."*

One reader at least has written to Foundation *to complain about undue academic nitpicking in the case of Blish, and indeed undue emphasis when other major contemporary sf writers still go undiscussed. But we feel that Blish's work deserves full and accurate critical attention, such as is regularly lavished on less substantial non-sf authors. Due to Blish's (alas) early death, unlike most other sf authors we can view his* oeuvre *whole and entire; what's more, the research data is accessible. Leaving entirely aside questions of personal loyalty (James Blish's enthusiastic involvement in* Foundation *and the SFF), he is an author who objectively deserves the best and fullest critical analysis rather than just anecdotes and impressionistic surveys. So Blish perhaps may be the touchstone of how effectively critical and biographical tools can serve sf; thus even after his death James Blish will continue to give "a life for science fiction" (which will be the title of David Ketterer's introductory chapter to his study).*

Wagnerian Spenglerian Space Opera: Cities in Flight by James Blish

DAVID KETTERER

Spaceships are not what they were. In place of the sleek, finny jobs made familiar by films of the 50s are the vast chaotic assemblages which figure in more recent films. Thus the resplendent flying saucer in *Close Encounters of the Third Kind* (1977) looks like the bejewelled New Jerusalem. While the startlingly unaerodynamic concept of cities in flight did not originate with Blish, his Okie stories, more than the work of any other writer, succeeded in popularizing that idea. And they did so in the 50s when the now dated, missile-type counter-image dominated the silver screen. Blish claimed that his inspiration derived from an experience of misprision regarding the November 1948 cover of *Astounding Science Fiction*. This illustration of the van Vogt story "The Players of A" shows a man's head looking up; above him is some kind of rocketship yard or port. Blish thought the clustered ships were a city by way of association with the diagonally opposing

futuristic city in the bottom left-hand corner of the cover.[1] At the time it seems that he had not read Edmond Hamilton's 1929 serial, *Cities in the Air*.[2] But, of course, he was not ignorant of Swift's flying island of Laputa (which gets one brief mention in *Cities in Flight*) nor of the much more relevant biblical prototype of the flying city: the New Jerusalem.

1 Process of Creation

The four volumes that make up *Cities in Flight* were written between 1948 and 1962[3] roughly in the order III, I, IV, and II. Of the six separately published stories that make up volumes I and II, the first published was "Okie"(*Astounding,* April 1950). To the conception of cities in flight Blish had added the historical analogy of the Oklahoma farmers forced by the drought years of the 1930s to undertake long migrations in search of work. The new Okies seek work throughout the galaxy.[4] But the seed story of *Cities in Flight* was a 15,000 word sketch of the later published "Earthman, Come Home". In at least four places Blish has told the story of Campbell's initial "four page single spaced" rejection letter: "I mined that letter for years, striking out one sentence after another as I used up John's ideas."[5] Blish graciously exaggerates his debt to Campbell as he does the length of the letter (a trip to the Bodleian Library reveals that it is actually three and a half pages long).

In his letter of 20 October 1949 Campbell writes, "I've made some random notes on the City business—purely philosophical—which I think you might find useful . . . They're intended as springboards for you to start thinking . . . on the philosophical rather than the gadget plane." The ideas which are indeed crossed out in blue or red pencil include the following: the pirate cities die out when dependent on fuel from land bases, "The ultimate commodity is human labour—primarily human mental labour," and the cities are "interstellar bees cross-fertilizing the planets."[6]

The revised version of "Earthman, Come Home" was finally published in the November 1953 issue of *Astounding*. It subsequently became the two final chapters of volume III of *Cities in Flight, Earthman, Come Home* (originally published in 1955 by Avon Books under their horrible title *YEAR 2018!*). In addition, *Earthman, Come Home* combines three other earlier published stories: "Okie", "Bindlestiff" (*Astounding,* December 1950), and "Sargasso of Lost Cities" (*Two Complete Science-Adventure Books,* Spring 1953).

In the Author's Note which Blish wrote for the Faber edition (1956) of *Earthman, Come Home,* he points out that but for Campbell, to whom the book is dedicated, he would have thrown away "an idea of Wagnerian proportions within the compass of 10,000 words."[7] In the Author's Note to the reprinted Faber edition (1965) of *They Shall Have Stars,* Blish observes that because the four parts of *Cities in Flight* were not written or published in the order of narrative chronology, it "contains some reminders of preceding events which economy would say it does not now need. But then, so does *The Ring of the Nibelung,* for similar reasons though to far nobler effect."[8] Clearly we are to understand that Wagner's grandiose opera played a significant part in the conception of *Cities in Flight*. Blish did not write a routine space opera. *Cities in Flight* is a Wagnerian space opera. I shall allude to the more significant parallels between Wagner's *Ring* and *Cities in Flight* in the context of my analyses of the component novels. For the moment it is sufficient to point out that, like *Cities in Flight, The Ring of the Nibelung* is a tetralogy.

And in both cases the first part is conceived as a prologue to the whole.

Campbell's notion of the cities as bees and the importance of mental over physical labour are drawn on in *Earthman, Come Home*. Thus, "the city soared upward, humming like a bee" (p. 285)[9] and the reference to "those pollinating bees of the galaxy" (p.338). At one point, John Amalfi, the mayor of New York and the protagonist of *Cities in Flight,* explains that "The cities have been like the bee for a long time . . ." Just as the bee is "essential to the ecology" of Earth, so "the Okie cities have been the major unifying force in our entire galactic culture" (p. 398). Bindlestiffs, or outlaw cities that prey on other cities, "are diseased bees" (p. 399) and hence "the parable of the diseased bee" (p. 323). A surveillance craft that may be launched from a city is called a "drone" (p. 396). As for labour, it is again Amalfi who explains that "The commodity we all have to sell is labour" and points out that, unlike manual labour, "brainwork can't be done" (p. 375) by machines.

Since John Webster's *The Duchess of Malfi* (1612-1614) seems to have suggested the name John Amalfi, perhaps that play should be included in an account of the sources of *Cities in Flight*. Certainly Webster's balancing of intrigue, deceit and the corruption of Renaissance Italy against a serious preoccupation with the meaning of life, the presence of evil and the fact of death parallels much of what Blish is doing in his Okie saga.

Having published most of the first completed volume, *Astounding* published both the stories that (with the addition of chapter and other division epigraphs) make up volume I, *They Shall Have Stars* (1956): "Bridge" (February 1952), one of the most assured and mature works of sf ever written, and "At Death End" (May 1954). ("Bridge", it should be noted, was written before *Earthman, Come Home* was completed.) These stories deal with the two discoveries that make it possible for the cities to roam the galaxy: the spindizzy and the anti-agathic drugs. With *They Shall Have Stars* Blish adds a second historical element, this time from the area of historical theory rather than historical fact. It had become apparent to him that he was engaged in writing a series of books belonging to a consistent future history. A number of sf writers, notably Asimov, Heinlein and Le Guin, have conceived all or some of their works as comprising a future history. Since a future history can only be rationally projected on the basis of some conception of past history, it follows that all future histories will display, directly or indirectly, some notion of the theoretical dynamic or shape of history.[10] Asimov, to take the most obvious example, modelled his Foundation series on Gibbon's *Decline and Fall of the Roman Empire* (1776-1788). Rather than yoke himself to some narrowly scientific theory of history, be it rooted in psychology, in sociology or, like Marxism, in economics, which might be proved wrong, Blish plumped for the grander essentially metaphysical system of Oswald Spengler with its cycles of destiny.[11]

Human history for Spengler is the history of three great successive cultures: the Classical, the Arabian and the Western. Each of these cultures has gone, or is in the process of going, through the same stages of development, stages which correspond to the progress of the seasons: a pre-cultural period, an early period of culture, a late period of culture, and a period of "civilization" (a negative term for Spengler when a culture undergoes a hardening of its arteries) and spiritual winter (and a changeover aftermath period). Spengler distinguishes each of these periods in political, artistic, religio-philosophic and mathematical terms. We are presently in a sub-stage of "civilization" involving a transition from Napoleonism to Caesarism, and thus in an epoch which is

"contemporary" with that which Classical culture experienced between 300 and 100 BC and which Arabian culture experienced between 800 and 1050 AD. This will be followed by a sub-stage of Caesarism which is characterized by political despotism, artificial and exotic art forms and a populist "second religiousness". In a most useful article and table detailing " 'Contemporary' Epochs in the Spenglerian World (1600-1950) and the Blishian World (1950-4104)," Richard D. Mullen indicates with considerable precision that the account of Western "civilization" presented in *They Shall Have Stars* corresponds to Spengler's substages of Caesarism and after, i.e., of decline and fall. He further demonstrates that the Earthmanist culture of flying cities goes through a full Spenglerian cycle in the next three books of the tetralogy.[12]

Writing as William Atheling, Jr., Blish observes in a note to "Cathedrals in Space" that A.E. van Vogt's first two published stories, "Black Destroyer" (July 1939) and "Discord in Scarlet" (December 1939), subsequently incorporated with revisions into *The Voyage of the Space Beagle* (1950), "were also founded in Spengler."[13] But it was as a master of space opera that van Vogt supplied Blish with a model to emulate and, if possible, surpass. It is an appropriate coincidence in this context that the cover illustration that initially inspired Blish was for a van Vogt story. As I have noted, *Cities in Flight* as a whole, but particularly the first written volume, *Earthman, Come Home,* is essentially routine space opera. But with *They Shall Have Stars* the tetralogy becomes not just a Spenglerian space opera but a Wagnerian Spenglerian space opera, something that no writer of space opera has yet been able to top. Brian Aldiss justly remarks that "Beneath the galactic gallavanting, . . . lies something more hard-headed than anything in Heinlein, more intellectual than anything in Asimov, and more immense than anything in (V)an Vogt." At the same time, as Brian Stableford points out, the key image of spacefaring cities makes Blish's tetralogy "perhaps the most memorable of all space operas".[14] It is a pity that the film scripts that Blish prepared of *A Life for the Stars* and *Earthman, Come Home* have not made it to the screen.

The third volume to be written and published, *The Triumph of Time* (1958), published in England as *A Clash of Cymbals* (a title which reinforces the musical analogy provided by the *Ring* cycle), provides the tetralogy with its fourth volume. In other words, after beginning *in medias res* Blish stepped backward to the beginning and then forward to the conclusion, a conclusion which characteristically widens the implications of his initial concept. In *The Triumph of Time* the cycle of Earthmanist culture, which is about completed, is eclipsed by the cycle of the universe. The present universe is about to collapse in upon itself and presumably give birth to a new one. The ultimate model here is *The Time Machine* (1895) by H.G. Wells. His Time Traveller comes to understand in a final vision that the rise-and-fall history of man is being eclipsed by the death of the solar system. But a more immediate influence may have been Philip Latham's " 'The XI Effect' ((1950) which) tells us what happened when the entire universe began to collapse in upon itself, rushing back toward the primordial atom." I am quoting from Blish's account of "The Astronomical Story" in his "Science in Science Fiction" series.[15] Philip Latham is the pseudonym of the American astronomer, Robert Shirley Richardson (1902-).

Four years later, twelve years after the publication of "Okie", Blish published the second part of the tetralogy as a 1962 serial in *Analog*. *A Life for the Stars* is largely aimed at a juvenile audience and it was written, and perhaps conceived, during a period when Blish was attempting to emulate Robert Heinlein's financial success as a writer of juvenile

sf. *A Life for the Stars* is perhaps the best of Blish's six novels for young readers but many adult readers have felt that it fits uneasily within the context of *Cities in Flight*. Coming after the very sophisticated opening novel, it does have a jarring effect on a reader's sense of the overall tone and unity of the complete work. At the same time it should be observed that, since *A Life for the Stars* covers what in Spengler's terms is the youth of Earthmanist culture, it is surely fitting that this juvenile fiction, which can certainly be read by adults with enjoyment, is about the adolescence and growth to maturity of its protagonist.

The mix of artistic, literary, editorial and historical influences that went into *Cities in Flight*—a cover illustration, Swift, the Book of Revelations, Campbell, the Okie migrations, Wagner, Webster, Spengler, A.E. van Vogt and other writers of space opera, H.G. Wells, Latham and Heinlein—has resulted in a work which has successfully and spectacularly taken off (like Blish's cities) and has outlived (like the more privileged inhabitants of those cities) the works of most of Blish's contemporaries. But this would not have happened had not Blish been able to bring talents and other elements to *Cities in Flight* which were uniquely his own. His experience with the drug company, Chas. Pfizer & Co., for example, contributed significantly to "At Death's End". But what, as we shall see, gives the stew its particularly Blishian spice is the preoccupation with death.

2 The End of Western Culture: What's Past is Prologue

Death is, in fact, implicit in the title *They Shall Have Stars* which derives from the Dylan Thomas poem "And Death Shall Have No Dominion"—the relevant opening lines of which provide an epigraph for the book. Dylan Thomas, a death-haunted poet who died young, is, of course, also the author of "Do Not Go Gentle into that Good Night." *They Shall Have Stars* has very much to do with escaping death. It deals with the two discoveries which make it possible for mankind to achieve a kind of immortality through interstellar flight.

The Preface to this prologue volume should be regarded as a prelude to the tetralogy as a whole. It is set in 2013 in the Washington home of Bliss Wagoner, the Democratic Senator from Alaska. Dr Corsi, the head of the American Association for the Advancement of Science, is complaining to Wagoner about the moribund state of scientific development. He believes that it is high time that mankind had achieved some kind of interstellar drive. But for this to happen "we need new pathways, new categories of knowledge" (p. 16). He suggests taking a look at some of the wilder ideas about gravity. It is, of course, the discovery of an anti-gravity drive that will half fulfil Corsi's vision of an "immortal man who flew from star to star faster than light" (p. 17), the vision with which the Prelude ends. Blish, it should be noted, has carefully insinuated a sense of the oppressive force of gravity in the Prelude's second paragraph with the reference to how Wagoner's "weight on the sofa seemed to have been increasing ever since he first sat down" (p. 9).

But it is in the particularly seedling first sentence or opening chord of the Prelude (the musical term is deliberate) that Blish sets up an image structure which adumbrates the overall themes of *Cities in Flight:* "The (fire-thrown) shadows flickered on the walls to (Corsi's) left and right, just inside the edges of his vision, like shapes stepping quickly back into invisible doorways" (p. 9). First of all, this sentence represents a general figurative characteristic of sf: the tendency to use similes rather than metaphors. Because much of sf works poetically by literalizing metaphors such as "His world exploded" the

presence of too many unliteralized metaphors would make for confusion. The *image* of shadows on a wall does, however, have a variety of very strong symbolic or metaphoric ramifications, and here the introductory presence of a simile serves to point the reader towards the figurative realm of imagery as something putatively distinct from the image of literal reality. What is most immediately evoked is an image of Plato's cave and the "distinction" between an appearance which is illusory and a reality which we cannot see but only intuit. At one point, "To Wagoner's fire-dazed eyes, Corsi was scarcely more than a shadow himself" (p. 14). But when Wagoner talks about being followed by "one of MacHinary's gumshoes"—MacHinary being the head of the FBI—one instantly thinks of another sense of the word "shadow". Blish makes the point perhaps a little too obvious when he has Wagoner talk about his cabin in Alaska "where I can enjoy an open fire, without wondering if the shadows it throws carry notebooks" (p. 10). Towards the conclusion of the Prelude a shot is heard and assumed to be "one of the city's thousands of anonymous snoopers firing at a counter-agent, a cop, or a shadow" (p. 17).

The shadows on the wall, then, suggest a blend of metaphysics and uncomfortable realities, a blend which characterizess *Cities in Flight* as a whole. The threat of being shadowed by FBI agents in *A Life for the Stars* will be replaced in the succeeding volumes by the attempts of the Earth police to keep tabs on the Okie cities and colonized planets. The blend of metaphysics and reality corresponds also to the mythic backdrop of Spenglerian theory and Wagnerian rhapsody on the one hand and the harsh reality of the Oklahoma migrants on the other.

"To shadow" means to follow; "to shadow forth" means to hint of things to come and that is certainly what the shadows on Wagoner's wall do. Shadows also duplicate the shape of something. Corsi notes that, when he was Director of the Bureau of Standards, "we seldom knew whether or not somebody else in the bureau was duplicating" a project and "we never knew whether or not some other department might be duplicating it" (p. 15). The notion of duplication and identity will crop up in other forms. The East and the West, it will be pointed out, are essentially identical forms of the same culture. And for Spengler all cultures are alike in terms of the cyclical process that they go through although the spirit of each culture is different. There is a form and spirit distinction here which corresponds to that between appearance and reality. Shadows also evoke the shadow of death while implying a source of light. And hence Corsi's vision of "an immortal man" flying "from star to star faster than light" (p. 17).

Stars, of course, are fiery bodies which provide light and the fire which produces the shadows on the wall makes for a further operative opposition which should be added to those of appearance and reality, before and after ("shadowing" and "foreshadowing"), similarity (duplication) and difference, form and content (spirit?), light and darkness, and life and death. I am referring to the Wagnerian clash of fire and ice which is particularly apparent in the imagery of *They Shall Have Stars*. In the Prelude, the presence of ice is at least implied by the reference to the senator's cabin on the island of Kodiak in Alaska.[16]

Following the Prelude, eleven alternating chapters interweave the material that was originally published as "Bridge" and "At Death's End." It is now 2018 and thanks to Wagoner's devious planning the two major obstacles which stand in the way of interstellar travel are about to be overcome. The "At Death's End" series of chapters, each set in and entitled "New York", focuses on the pharmaceutical company Jno. Pfitzner &

Sons where research is in progress on a drug which will extend the human life span. It is assumed that such a drug, combined with some form of faster than light travel, would put the stars within man's reach (and do away with the risky generation starship concept).

Blish does a very good job with the medical research thanks to his training in biology and his experience of working for Pfizer. It is pointed out that most people succumb to various degenerative diseases including "the many forms of cancer" (p. 40). Ironically, in describing minor forms of progress, Blish has Pfitzner employee Anne Abbott assert what, in real life, he would later attempt to deny: "we found that the commonest of the three types of lung cancer was being caused by the radio-potassium content of tobacco smoke" (p. 41). In 2018 Pfitzner discovers an antidote to degenerative disease, an antibiotic named ascomycin. But that does not stop people dying of old age. In spite of the German motto written above the entrance to Pfitzner, which translates as "Against Death doth no simple grow", Anne tells Colonel Paige Russell of the Army Space Corps (a man who provides Pfitzner with alien soil supplies from which new drugs might possibly be derived and who loves Anne) that "We're looking for the answer to death itself" (p. 71). What is required and what is eventually found is "an anti-agathic, an anti-death drug" (p.74). It might be noted that the two people mentioned as important to the history of this research, "a man named Lyons" (p. 98) and "a living crotchet named MacDougal" (p. 99) are named for a Blish pseudonym and a combined Blish/Lowndes pseudonym respectively. The reference to earlier polyploidy experiments with rotifers recalls, of course, the worlds of *Titans' Daughter* and "Surface Tension". The anti-agathic does not, in fact, abolish death but it does ensure that men will live for several hundred years at least.

Wagoner's aims are constantly in danger of being thwarted by the political situation on Earth. This is consistent with Spengler's sub-stage of late Caesarism. We are told at one point that "the West is a decadent and dying culture" (p. 119) and a quotation from Spengler provides the epigraph to Chapter Seven. The Western government has become as despotic as is the communist alliance of what is called the Bureaucratic State. In effect, Russia has won the cold war. The parent company which owns Pfitzner also runs the Cosolidated Warfare Service. Thus Wagoner recognizes that "politics is death" (p. 101). Realizing also that interstellar travel is not a government priority, Wagoner has the problem of shielding the actual purpose of his operations from the prying eyes of the FBI. Blish has clearly been influenced here by the McCarthyite period of American politics. But conversely Blish seems to have anticipated President Reagan. Reference is made to a past president, "a stunningly popular Man-on-Horseback who dripped *charisma* but had no brains worth mentioning" (p. 64), who made the directorship of the FBI a hereditary office. Caesarism is also characterized by a "Second Religiousness" amongst the masses. In *They Shall Have Stars* this takes the form of a conspicuous millenialist sect known as the Believers. That religious fervour can be turned to political ends is implied by the fact that *Francis Xavier* MacHinary of the FBI (who will become the US President) is christian-named for a saint.

The other half of Wagoner's plan involves the building of a massive Bridge—eleven miles wide, thirty miles high, and unfinished at fifty-four miles long—on Jupiter. The Bridge series of chapters (and the original story) constitutes perhaps the most memorable aspect of Blish's corpus. Aside from the storm-tossed Jovian setting, which is realized with a kind of violent intensity and density (pun intended) that is rare in sf and a consistently subtle and sophisticated literary style, what particularly impresses is a sense

of the Bridge's symbolic dimension. Its literal import, it must be admitted, is more than a little contrived. The clearest explanation of why this incredibly difficult project was undertaken (a question which provides an element of suspense) is provided by the Prologue to *Earthman, Come Home:*

> The building, by remote control, of the Bridge on the face of Jupiter itself, easily the most enormous (and in most other respects the most useless) engineering project ever undertaken by man, had made possible direct, close measurements of Jupiter's magnetic field. The measurements provided final confirmation of the Blackett-Dirac equations, which as early as 1948 had proposed a direct relationship between magnetism, gravitation, and the rate of spin of any mass.
>
> (p. 237)

The human operators of the remote-control system are located on the fifth moon, Jupiter V, which provides the title for each of the Bridge chapters. They are under the command of Charity Dillon, the son of a Believer—space, after all, "is the ultimate cathedral" (p. 37)—and include Robert Helmuth, the foremen whose name suggests the hellmouth that they are dealing with on Jupiter. As for the Bridge's symbolic potential, Dillon tells Helmuth, "It's a kind of bridge to knowledge" (p. 52). Noting that the men who operate the machines which cross the Bridge are not on Jupiter, Brian Aldiss claims that the Bridge "represents the joining of two incompatible systems."[17] But it also represents a bridge between life and death.

A human settlement is also established on one of Jupiter's moons in "Seeding Program", the first part of *The Seedling Stars,* and although no mention is made of the pantropy programme in *Cities in Flight,* the group on Jupiter V are contacted at one point by "Sweeney on Ganymede" (p. 89). Sweeney, it may be recalled, is the Adapted Man protagonist in "Seeding Program". As it happens, the four-part, circular structure of *The Seedling Stars,* with its first part functioning as an early history prologue, exactly parallels the structure of *Cities in Flight.*

Two threats to the stability of the Bridge make for the main action interest in *They Shall Have Stars.* In the first place one of the Bridge's caissons—shaped asteroids which have been manoeuvred into position—is threatened by catalysis, a form of erosion that is four times related to cancer (pp. 75, 76, 77, 78). This cancer analogy serves to link the Bridge chapters with the anti-agathic chapters which, as indicated above, include some discussion of cancer as a degenerative disease. The "catalysis cancer" (p. 78) is halted in time but a second threat—the climatic disturbances that will occur with the close passage of Jupiter's mobile Red Spot in conjunction with what is called the South Tropical Disturbance—is not so easily dealt with. Blish does an inspired job of describing the "great orchestra" of "uproar" that is the Bridge's response to this stress, a "medley of dissonance and cacophany":

> These structural noises were the only ones that counted; they were the polyphony of the Bridge, everything else was decorative and to be ignored by the Bridge operator—the fioritura shrieking of the winds, the battery of the rain, the pedal diaspason of thunder, the distant grumbling roll of the stage-hand volcanoes pushing continents back and forth on castors down below. (p. 112)

However, when at the end the Bridge does literally succumb to the enhanced geological and climatic forces, it no longer matters. Its purpose has been fulfilled and the symbolic Bridge, of course, lives on.

Wagoner conveys Paige Russell and Anne Abbott to Ganymede in a ship that travels at a quarter the speed of light in order to explain how the Bridge's testing of the Blackett-

Dirac equations on Jupiter—"the only body in the solar system available to us which was big enough in all relevant respects to make it possible for us to test those equations at all"—has led to the development of "The Dillon-Wagoner gravitation polarity generator" (p. 122), or "spindizzy" (p. 123) as it has been named. In combination with the anti-agathic drugs, this anti-gravity drive places the stars within man's reach. Russell, Abbott and Helmuth agree to man the first of several interstellar expeditions which must depart before the total collapse of the West. But as the mastermind behind this escape, Wagoner expects to be found guilty of treason for which the current penalty is being sealed up in the "pile-waste dump." For Wagoner, however, this is a "phony terror. Pile wastes are quick chemical poisons; you don't last long enough to notice that they're also hot" (p. 126).

The "CODA", in the *Cities in Flight* version of *They Shall Have Stars* has a subheading which does not appear in the original book publication: "Brookhaven National Laboratories (the pile-dump)" (p. 129). We are to witness Wagoner's last moments. The fire that kills Wagoner at the book's end should be related to the fire which casts shadows at the book's beginning, and both fires should be related to the imagistic clash of fire and ice which characterizes *They Shall Have Stars*. The Bridge is made out of Ice IV and much is made of the deathly cold of Jupiter and its satellites and of space. Cold seems to have both negative and positive connotations. Under the scrutiny of MacHinary, who has "a look of cold wisdom" (p. 64), a General "had frozen into complete tetany" (p. 66). But Wagoner, it will be recalled, represents Alaska. Anne Abbott seems to combine the qualities of fire and ice. Although "frozen-voiced", her features are occasionally illuminated by a "sunburst smile" (p. 63). When Paige kisses her, "After a frozen moment he could feel her mouth smiling against his" (p. 105). Like the Bridge, Anne appears, in one symbolically important passage, to mediate between life and death. At one point, "Only the fact that Anne's eyes were reddened with furious tears offered any bridge between the cold narrative and the charged memory" (p. 69) of her quarrel with Paige. Both fire and ice are ambiguous images of life and death. For example, to the extent that ice preserves, it appears to define immortality as an extended death.

This juxtapositioning of fire and ice contributes to the Wagnerian subtext of *Cities in Flight*. The *Ring*, which reflects something of the cold environment of the Norse legends from which it derives, ends in fire. Wagoner's death in the pile corresponds to the immolation of Siegfried's body on a funeral pyre. The ring of power loosely corresponds to a circular sense of the spindizzy drive and the anti-agathic drugs have their counterpart in the figure of Freya, goddess of youth (and love). Like the *Ring, They Shall Have Stars* (and to a lesser extent *Cities in Flight* as a whole) ends with a spirit of exultation. In a symbolic sense, having put the stars in reach, Wagoner, like his Bridge, does not die: "There was a constellation called Wagoner, and every star in the sky belonged to it" (p. 129). The fiery light-giving stars replace the fire that kills. Now is the time to reveal, if a reader has not already guessed it, perhaps by the conjunction of the term "Wagnerian" and the name "Bliss Wagoner" in a single paragraph (p. 104), that Bliss Wagoner and his vision represents the ecstasy of Wagner's music.

3 The Youth of Earthmanist Culture

Like many books intended in the main for a juvenile readership, *A Life for the Stars* is a coming-of-age story. In the course of his education, the boy protagonist, Crispin deFord, who is more usually referred to as Chris, learns something of "the great colonial

Exodus of 2375-2400" when "people from Earth's fallen Western culture who were fleeing the then world-wide Bureaucratic State" (p. 155) settled the planetary systems of the nearest stars, and the history of Okie or Earthmanist culture, a history which corresponds roughly to the first of Spengler's four stages: the Pre-Cultural Period and the Early Period of Culture. Clearly there is an analogy to be drawn here between Chris's youth and the youth of Earthmanist culture. And hence, as I have indicated, there is some justification for injecting what can be classified as a juvenile work (albeit a very superior and sophisticated one) into a series intended for adults.

Instead of observing the steel town of Scranton, Pennsylvania, take off, his initial idea, Chris finds himself press-ganged aboard that city and borne aloft with it. (The nearby town of "tramps" that Blish (in 1956!) names "Nixonville" (p. 138) is left behind.) Chris recalls the economic background of this new Okie migration. His father had told him that computers "had been one of the chief contributors to the present and apparently permanent depression: the coming of semi-intelligent machines into business and technology had created a second Industrial Revolution, in which only the most highly creative human beings, and those most gifted at administration, found themselves with any skills to sell which were worth the world's money to buy" (p. 145). Frad Haskins, the leader of the press gang, takes Chris to see Frank Lutz, the city manager, after explaining that Chris's status aboard Scranton will depend upon what skills he is able to offer. Because he convinces Lutz that he has some astronomical knowledge, Lutz makes him an apprentice to Dr Boyle Warner, the city astronomer. However, contact with the Okie city of New York "by Dirac transmitter" (p. 158), the instantaneous communication device that figures in much of Blish's fiction, leads to Chris's being traded with a batch of worthless people that Scranton would have difficulty feeding for two or three New York technicians. Frad convinces Chris that it would be unwise for him to attempt to escape this fate by hiding amongst the crates in an out-of-the-way warehouse.

From the gig that conveys Chris and the other immigrants to New York, their destination approximates a vision of the New Jerusalem:

> The sight . . . was marvellous beyond all imagination: an island of towers, as tall as mountains, floating in a surfaceless, bottomless sea of stars. The gig was rocket-powered so that Chris was also seeing the stars from space in all their jeweled majesty for the first time in his life; but the silent pride of the great human city, aloof in its spindizzy bubble—which was faintly visible from the outside—completely took precedence. Behind the gig, Scranton looked in comparison like a scuttleful of old stove bolts. (p. 162)

In fact, New York corresponds only to the island of Manhattan but it comes complete with its subway system. The running of the city is assisted by a battery of 134 computers known as the City Fathers. John Amalfi, a stout, bald, cigar-smoking Churchillian figure with a "bull neck" (p. 243) and "bull shoulders" (p. 371), modelled to some extent on Mayor Fiorella La Guardia of New York (1933-45), who is destined to be the hero of *Cities in Flight,* is the city's long-term mayor. Chris learns that, depending on the results of citizenship tests and the value of the skills that he exhibits, the City Fathers will decide on the occasion of his eighteenth birthday whether he remains a mere passenger aboard New York or becomes a citizen. Only citizens receive the anti-agathic drugs. These drugs prolong life indefinitely but, as his New York guardian, Sergeant Anderson, tells him, "*there is no such thing as immortality*" (p. 179). Cancer, for example, still cannot be prevented and, although it does not kill, it "can make life so agonizing that death is the only humane treatment" (p. 178).

A period of intensive education follows for Chris. Among the subjects he learns through sleep teaching is Okie history from 2021 until 3111. The major events that occurred in this early period of Okie culture, sketched in four pages of *A Life for the Stars* (pp. 167-171), will bear on plot elements that arise in *Earthman, Come Home.* They consitute a gap in the narrative between *They Shall Have Stars* and *A Life for the Stars* which amounts to more than one third of the "CHRONOLOGY OF *Cities in Flight*" that Blish prepared for the four individual volumes that Faber & Faber published. Of particular interest is (1) the Hamiltonian Exodus of 2032 (an underground political group that fled the solar system in a number of small spindizzy-powered craft but ended up no one knows where); (2) first contact with an alien interstellar culture known as the Vegan Tyranny in 2289 which leads to a period of conflict which ends with the scorching of the Vegan system by the Third Colonial Army led by Alois Hrunta; (3) the fact that in 2394 one of the cities which escaped the repressive Bureaucratic State, "Gravitogorsk-Mars, now calling itself the Interstellar Master Traders, was responsible for the sacking of the new Earth colony on Thor V" (p. 170); and (4) the fact that in 2464 Hrunta, having been found guilty in absentia of atrocities and attempted genocide[18] and having founded his own interstellar empire, declared himself Emperor of Space (following his poisoning in 3089 and the balkanization of the Hruntan Empire, his son (?) Arpad Hrunta called himself Emperor of Space in 3111, the year that Manhattan left Earth).

In the meantime, the fall of the West is generally agreed to have occurred no later than 2105. The West here includes the East. Blish cannot resist pointing out that, although the West was officially anti-Communist and the East was officially anti-Fascist, "neither state was economically either fascist or communist, and that as economic systems neither fascism nor communism has ever been tried in recorded Terrestrial history" (p. 168). We are later told that Chris was required to learn "Whole systems of world and interstellar history—Machiavelli, Plutarch, Thucydides, Gibbon, Marx, Pareto, Spengler, Sarton, Tynbee, Durant and a score of others" (p. 208). The Bureaucratic State, which established itself following the terror, collapsed in 2522. The loose confederation which then took over "proclaimed an amnesty for everyone in space, and at the same time instituted a limited by systematic program for the policing of those nomad cities which had begun to prey upon colony planets or upon each other" (pp.170-71).

Chris acquires a fat friend nicknamed Piggy who is also nearing his eighteenth birthday and is also anxious to prove his mettle to the City Fathers. After five chapters devoted in more or less general terms to Chris's education come two groups of action chapters that provide the opportunity for acts of initiative on the part of both boys. On a planet called Heaven (the locale of the two-chapter first adventure) inhabited by Russian-speaking colonists from the pre-Okie days, where Manhattan has landed to fulfil a work contract, Chris overhears a plot to occupy and disable the city. Subsequently he is imprisoned with Sergeants Anderson and Delany in Castle Wolfwhip. After an intervening chapter (in which Chris learns about the myth of the Lost City (Los Angeles?) which landed on a utopian planet where was found an anti-death drug, the myth of the runaway City Fathers, "bindlestiff" cities that rob other cities, and the Vegan orbital fort that got away) he gets to participate in a three-chapter second adventure. This time Manhattan has a work contract with Argus III whose nights have "indeed a hundred eyes" (p. 216) thanks to a nearby cluster of suns. But another city, a tramp city, which turns out to be Scranton is already there and wants to take over the planet. When Piggy and two women, who

wormed their way into Scranton, are held for ransom by Lutz, it is a case of Chris to the rescue. In his old hidey hole on Scranton, Chris meets his old press-ganger friend Frad Haskins and promotes the idea of revolution against the unpopular Lutz. The revolution is successful and eventually Frad becomes the new City Manager of Scranton.

In the final chapter Chris turns eighteen and finally gets to meet Amalfi. Not only has he passed the citizenship tests (unlike the unfortunate Piggy) but Amalfi has decided that Manhattan needs a City Manager like Scranton and that Chris is the man for the job. He has the ability "to be a first-class cultural morphologist", a term Chris recognizes "from his force feeding of Spengler" (p. 237). Chris deFord is delighted to accept the job and begin "a life for the stars" (p. 234).

4 The Maturity of Earthmanist Culture

Dedicated to John W. Campbell, Jr., *Earthman, Come Home* (originally called *Cities in Flight*), with its four component stories, is something of a structural microcosm of *Cities in Flight*. In both cases a series of works evolved essentially as afterthoughts. Just as "Okie", "Bindlestiff", and "Sargasso of Lost Cities" exfoliated from the sketch of "Earthman, Come Home", so *They Shall Have Stars, The Triumph of Time,* and *A Life for the Stars* exfoliated from *Earthman, Come Home.* Blish's belief that he spun out the Okie stories at too great a length is particularly applicable to *Earthman, Come Home* which is approximately twice as long as each of the three other books. Its time span runs from around 3602 until 3649 in the original chronology, and until 3999 in the revised chronology. In terms of the Spenglerian analogy, the concern is with the Late Period of Culture and the onset of Civilization and Spiritual Winter. However, Blish seems not to have intended very precise parallels with Spengler's characterizations of these periods. During the heyday of Okie culture, it is explained in the recapitulative and stage-setting Prologue that a metal named "germanium" was the standard currency of space trade.

With slight revisions, the first two chapters correspond to the story "Okie". As usual, Blish's opening is calculated. Three points might be noted. (1) John Amalfi, although now major of New York for more than 500 years, cannot decide whether the belfry of City Hall, from which the city is largely operated and which displays the city's motto, "MOW YOUR LAWN, LADY?" (pp. 250, 496), should be called a belfry or a bridge. The semantic problem is designed to recall the Bridge symbolism of *They Shall Have Stars* (mention will also shortly be made of a "gas giant" (p. 245) like Jupiter) and add a meaning to the term that was not operative in the first book. (2) The problem, we are told, "had once annoyed Amalfi constantly, like a bubble in an otherwise smoothly blown French horn solo" (p. 241). This musical reference serves to remind the reader of the Wagnerian analogy which is subliminally present throughout *Cities in Flight*. Soon "a quartet" of moons will circle "in a gelid minuet" (p. 245). (3) But more important here is the annoying "bubble". This, together with the reference three paragraphs later to the "spindizzy screen which completely englobed the flying city" (p. 242), suggests that the cities are like bubbles blown by a magic flute. Two paragraphs further on the bubble idea is repeated yet again: Amalfi believed "that he was the last living man on board the flying city who still had occasional bubbles blown into his stream of consciousness by old Earth-bound habits of thinking (p. 243). What is important here is the notion of the bubble as a restricting container. The imprisoning Spenglerian cycles amount to a temporal version of this spatial metaphor. At the end of *Cities in Flight* an attempt will be made to burst free

of the realms of cyclical process.

It comes as something of a surprise to learn that Mark Hazelton is now City Manager and that his predecessor deFord had been shot in 3301 "for an egregious violation of the city's contract with a planet named Epoch" (p. 243). John Clute no doubt speaks for numerous readers when he objects, in essence, that it is Blish who has here committed "an egregious violation" by so cavalierly and callously killing off a likeable character with whom the reader has come to identify in the previous book.[19] However, such things do happen and, to my mind, Blish deserves credit for applying a cold douche to the romantic expectations of his readers. In fact deFord's fate is prepared for at the close of *A Life for the Stars*. There Amalfi warns him that the "same kind of pitfall," "boldness and initiative . . . untempered by judgment or imagination" (p. 234), that undid Piggy, could do the same for him.

In the "Okie" chapters, New York, in need of supplies, approaches a system where two "dead cultures" (p. 254), a Hruntan polyp on the planet Gort and survivors of the Hamiltonians—originally "some sort of republican sect" (p. 249)—on a planet named Utopia, are fighting one another. This, in spite of the fact that, as Amalfi points out, there is no real difference between the two sides, just as there was no essential difference between the East and the West on Earth. And likewise the analogies between one Spenglerian cycle and the next indicates that a formal sameness outweighs whatever differentiating spirit may have initially led to the development of a particular culture. As we shall see, *Cities in Flight* may be read as an attempt to escape from a repetitive identity into a state of pure difference.

Every once in a while Blish's evocation of the reality of his flying city makes for an exciting *frisson* which suggests at least something of the experience of pure difference. This particularly good example occurs in the vicinity of Utopia:

> The city was in orbit and would be stable until the time came to put it in flight again. On the street, Amalfi flagged a cab.
>
> (Pp. 248-49)

The reader here experiences a literalized metaphysical image. Such moments activate the anarchic potential of the overall discordant image of space-travelling cities.

In the course of an overly complicated plot, Mark Hazelton falls in love with a Hamiltonian emissary named Dee, New York is hijacked by the Hruntans, mention is made of the likelihood of an "Assassins' Guild" (p. 268) on Gort (something which will evolve in 1970 into the Traitors' Guild of "A Style in Treason"), and, via the instantaneous communications device that will figure in subsequent Blish stories, "the Dirac transmitter" (p. 269), Amalfi, aware that the city has violated a Vacate order, strikes a bargain with the Earth police who wish to destroy the Duchy of Gort. Thanks to the *deus ex machina* introduction of two marvels of super science (a plot strategy characteristic of space opera and particularly prevalent in *Earthman, Come Home)*—namely an invisibility machine and a friction field generator (operating in reverse)—New York is freed from Hruntan control and their leader Arpad Hrunta is killed. Gort and Utopia are both reduced by the Earth police but not before what amounts to a Second Hamiltonian Exodus takes place. This all happens in 3602 when, in Spenglerian terms, the age of Aristocratic States (e.g., the Duchy of Gort) succumbs to a rising absolutism; i.e., the King (Earth) allied with the bourgeoisie (the Okie cities) suppress aristocratic disorder (colonial factions).[20] Finally, New York, with Dee aboard, escapes and heads for the Rift.

The next two chapters, which correspond to the story "Bindlestiff", mark no new stage of Earthmanistic culture and indeed seem to have little relevance to it. Thus, the setting of these two chapters, the Rift—an "empty ocean of space that washes between galaxies" (p. 286)—amounts also to a hole in Spenglerian time. By crossing the Rift—a journey that will take 104 years—New York hopes to evade the police. By now Amalfi is about "nine hundred years old" (p. 318). Clearly, the anti-agathic drugs serve the purpose of continued character identification; but for them the temporal scale of *Cities in Flight* would involve new characters every few pages. After a star is noticed in the middle of the Rift, an ultraphone videocast is picked up which shows a city being destroyed by a bindlestiff. The ultraphone, unlike the Dirac transmitter, is not an instantaneous communicator so this must have happened years ago. A last minute broadcast, made as a number of life craft leave the stricken city, includes the statements, "We have the fuelless drive. We're destroying our model . . ." (p. 290). It is assumed that the life craft must have headed for the wild star pursued by the bindlestiff after the secret of the fuelless drive. New York lands on the most Earthlike of the star's six planets to check things out.

The inhabitants of the planet He turn out to be human and, as the name He implies, anti female. A leader named Miramon explains to Amalfi that their women are caged as representatives of that evil which altered the planet's climate when a Draysonian overturn occurred, about the time that He began its journey across the Rift. This threw "a very high civilization, a culture just entering its ripest phase, forcibly back into the Interdestructional period without the slightest transition" (pp. 298-99). The cage of women, as one would expect in Blish's work, has a symbolic dimension: it represents limited systems of thought. In return for some of the germanium and anti-agathic drugs which are abundant, it is proposed that the spindizzies be used to regularize the planet's axis and thereby improve its climate. The refugees from the destroyed Okie city do land on He only to be menaced by He's equivalent of the bindlestiff, a bandit He city. After Amalfi helps rescue the refugees, it is discovered that the bindlestiff is already on He and in league with the local bandits.

All is resolved during one of the most spectacular episodes in *Cities in Flight*—the tipping of He in 3850. In the process the bindlestiff city is magically destroyed—the stolen no-fuel drive (the invention of a non-human, a Myrdian) somehow caused it to blow up when he was enveloped by the protective spindizzy field. The tipping of He has another unexpected consequence—it causes the planet to leave its solar system and shoot across the Rift at "a speed that gulped down light years as if they were gnats" (p. 330). But after taking off from He, simultaneously with the tipping operation and the destruction of the bindlestiff, New York returns to the Milky Way. It will enter "about where the last few waves of the Acolytes settled" (p. 332).

The next three chapters of *Earthman, Come Home* originally appeared as "Sargasso of Lost Cities." Now well stocked with germanium, it should not be difficult to buy a new spindizzy to replace the defective 23rd Street one. An Okie jungle at the edge of the Acolyte cluster—more than 300 cities circling a dwarf star—suggests that the Acolytes are exploiting some kind of total economic collapse, but it is only after New York has landed on the garage world of Murphy (after being granted permission by Lieutenant Lerner of the local police) that Amalfi learns that in 3900 the galaxy-wide germanium standard collapsed and that drugs are now the money standard. New York, like the galaxy, is broke. There is another city on Murphy, discovered to be "the so called all-purpose city"

(p. 352), that the Acolytes have impounded for the dirty job, Amalfi suspects, of setting up a planethead on "a Jupiter-type planet" (a second unobtrusive link between *Earthman, Come Home* and *They Shall Have Stars*) "as an inexhaustible source of poison gas" (p. 351). Thanks to special powers that the City Fathers of the two cities have in the event of "Standard Situation N" (p. 354), another magical plot manoeuvre, Amalfi is able to implement Hazelton's suggestion that they hijack the all-purpose city. But after both cities have escaped Murphy and the cops, New York casts the other city loose and heads for the jungle.

Once in the dispiriting jungle, where the cities are graded into classes A, B and C, Amalfi observes what happens when an Acolyte trader mentions an assignment on Hern VI which will require six cities. It appears that the bidding is controlled and a wage line maintained by the one bright city—Buda-Pesht, under the command of an Okie King, a cancer victim, at least 800 years old whose "face was shockingly disfigured and scarred by the disease that still remained unconquered, unsolved, though it no longer killed" (p. 363). Amalfi, Hazleton, Dee and Sergeant Anderson visit Buda-Pesht, note the presence of an "archaic cantilever bridge"spanning an "avenue which divided the city in two" (p. 369) but serves no practical use (its function being to remind the reader of the symbolic import of the bridge idea), and confront the King of the hobos in the ancient "audience hall of the Hapsburgs" (p. 381). For his own reasons, Amalfi pretends to be opposed to the King's planned March on Earth by as many Okie cities as care to participate; it is expected that Earth will agree to bail out its citizens. The call will go out on the Dirac. Hazleton is annoyed at not being clued in, and when Amalfi tells him that he also loves Dee, now long Hazleton's wife, Hazleton demands to be put off at the next port of call. Amalfi's love for Dee does help to humanize the man but the revelation at this point appears to be part of his characteristic trickiness. Amalfi's plan involves telling Lerner to expect an attack from the jungle cities while New York visits the poor C City, low on drugs (and therefore plague-ridden), which had offered cut-rate labour, stripping that city *and* the all-purpose city of its spindizzies, and heading for Hern VI. After a battle with the Acolytes, the cities flee the system and begin the March on Earth accompanied, without their knowledge, by New York's "big drone" (p. 396).

The idea is to mount Hern VI for spindizzy flight and catch up with the fleet of cities. Some five years later Hern VI takes off at incredible speed: "More than once Amalfi stood frozen on the balcony in the belfry of City Hall, watching a star that had been invisible half a second before cannoning directly at his head, swelling to fill the whole sky with glare —" p. 404). It appears that planets can travel much faster than cities because of their greater mass. The drone pilot has informed Amalfi that an unidentified city has joined the March. This city turns out to be the legendary Vegan fort seeking a way to strike at Earth under cover of the Okie March. Plot credibility is strained at this point. We are asked to believe that Amalfi had anticipated this last desperate Vegan manoeuvre and that all his machinations have been geared towards using Hern VI to destroy the fort. When the cities arrive in the vicinity of Earth they come under attack from the Earth police. Thanks to the assistance of the Vegan fort, the Okies appear to be winning—until Amalfi arranges for the fort to impact with Hern VI. Shortly thereafter, New York, in poor shape (the 23rd Street spindizzy still needs repair), abandons Hern VI and the other Okie cities and heads for the Greater Magellanic Cloud in search of a permanent home.

In Spenglerian terms the "Lost Cities" chapters correspond to the sub-stage of

Revolution and Napoleonism which extends from 3900 until 3976. As Mullen explains, "When aristocratic factionalism has been suppressed (as in the Climax of State Form substage), the king (Earth) and aristocracy (the colonials) become allies against the rising power of the bourgeoisie (the Okies), who soon become ripe for revolution, as do the Okies after the 'collapse of the germanium standard' in 3900." The Battle of Earth "can be regarded as the 1789, and the passage of the anti-Okie bill in 3976 as the 1815, of Earthman history."[21] 3976 marks the beginning of the final Civilization and Spiritual Winter stage of Earthmanist culture. But for the rest of *Cities in Flight* the reader's awareness is essentially confined to the divergent experience of one polyp of that culture: the New York Okies' working out of the final Spenglerian phase.

Earthman, Come Home concludes with two chapters of nicely orchestrated plotting that correspond to the story "Earthman, Come Home", the story fleshed out from the rudimentary seed sketch that Campbell rejected. Knowing that the Greater Magellanic Cloud has already been partly colonized by bindlestiff cities, Amalfi decides to make an already inhabited planet New York's permanent home. As it turns out this world is under the control of the worst bindlestiff city of all—the Interstellar Master Traders. Nine of the original denizens of that city, who call themselves Proctors, lord it over a feudal native people who are actually descendants of early colonists from Earth. Heldon, one of the Proctors (his name is perhaps a contraction of Hari Seldon of Asimov's Foundation series), tells Amalfi that IMT would lose a confrontation with the technologically superior city of New York and claims that, if Amalfi and his men can help repair the IMT spindizzies, then IMT, Proctors and all, will quit the planet.

Only when Karst, one of the native serfs, sings a folk song about a legendary time when IMT made the sky fall does Amalfi realize what Heldon really has in mind.[22] He plans to use IMT to crush New York—"that old Laputa gag" (p. 449). This and Amalfi's consequent mention of "Dean Swift" (p. 450) to Heldon amount to Blish's acknowledgement of his debt to Swift for the flying city idea. Amalfi takes advantage of an opportunity to sabotage the spindizzy controls and when IMT does take off—something which is brilliantly described—it continues going right on up until the Earth police blast it out of the sky. The Proctors are here hoist by their own petard since they had alerted the Earth police to New York's arrival and warned them "to watch for an Okie city (i.e., New York) trying to make a getaway" (p. 464).

5 The End of Earthmanist Culture: Bridge that Gap

After the superior space opera of *Earthman, Come Home, Cities in Flight* concludes with a masterpiece of serious sf, *The Triumph of Time*. Thus the unity of the tetralogy is considerably enhanced by the fact that both its opening and concluding volumes are accomplished rich works of unusual sophistication. The title, *The Triumph of Time,* whether or not it deliberately echoes that of Swinburne's 1862 poem or alludes to Spengler's "Time triumphs over space,"[23] is definitely to be preferred to the alternative English edition title, *A Clash of Cymbals*—albeit that image is twice invoked in *Cities in Flight* (pp. 318, 528) and the suggestion of a musical flourish does have the advantage of recalling the Wagnerian ambition of the tetralogy. In the Author's Note to the English edition Blish points out that the original title resembled another sf title on Faber & Faber's list for that season—and hence the changed title. He goes on to mention that, had a magazine editor had his way, the original title might have been—absurdly—*The Augustinean*

Age after a reference (p. 511) to St. Augustine. As it happened, the first US edition of the book (an Avon paperback) got into print too quickly to permit serialization.[24] It should also be noted that in a letter to John Baxter dated 2 August 1962 (Dep. Blish 411/10) Blish credits Virginia Kidd with writing one third of *The Triumph of Time.*

Like volumes I and III of the tetralogy, this volume is introduced by an extract from ACREFF-MONALES' *The Milky Way: Five Cultural Portraits.* In a historical summary, thick with dates, we learn of some matters that have not been narrated—that Lt. Lerner became the Acolyte-Regent and subsequently, in 3905, proclaimed himself Emperor of Space but that he died due to "an overdose of wisdomweed" (p. 470) in a slum on Murphy shortly after the annihilation of the Acolyte fleet by the Earth police—and other events are recalled:

> New York . . . left the galaxy by 3978 for the Greater Magellanic Cloud. It left behind an Earth which in 3976 cut its own throat as a galactic power with the passage of the so-called anti-Okie Bill. Though the Magellanic planet which New York colonized in 3998 was in 3999 christened New Earth, the earlier date of 3976 marks the passing of Earth from the stellar stage. (p. 471)

If a reader checks these dates against the dates given in the Faber edition version of this passage on page 15 and the Faber chronological table, s/he will discover that each of the Avon dates have been advanced about 60 years over each of the Faber dates: for example, the Battle of Earth originally occurred in 3913 and the anti-Okie Bill was passed in 3925—after, not before, Hern VI and New York leave the galaxy. This passage provides, in fact, the clearest indication of Blish's advancing all the dates in response to the most important inconsistency that Mullen had pointed out. Although Blish acknowledges this in a note to Mullen's Afterword, it is necessary to go once again to the article from which the Afterword was extracted (see note 11) in order to discover what the problem was.

Mullen had acutely noticed that if the March on Earth, covering a distance of 63,000 light years according to page 184 of the Faber edition of *Earthman, Come Home,* was accomplished in eight years between 3905 and 3913, then cities must be able to "fly at eight thousand times the speed of light." Not only is this inconsistent with the earlier information "that the cities can fly little if any faster than five or six times the speed of light" but the lower speed is essential to the ruling assumption "that interstellar commerce would be impossible without anti-death drugs."[25] Blish corrected this major problem by altering the distance concerned to "sixty-three hundred or so light years" (p. 398), changing an originally estimated travelling time of fifty-five years (Faber, p. 188) to "one hundred fifty-five years" (p. 401), and having the trip take approximately seventy years instead of the original eight. As we have seen, the Okies arrive in 3975 instead of 3913.

As it happens, Blish does not actually mention any dates in the "Lost Cities" and "Okie" sections of *Earthman, Come Home.* It was, then, only necessary to look for dates that needed to be advanced in *The Triumph of Time.* Unfortunately these changes must have been made from memory at the last minute and, in the light of the revised chronology at least 9 dating and numerical errors remain in the Avon text of *The Triumph of Time.*[26] However, the original chronology does offer one explanation of how it was that a writer of Blish's mathematical fussiness originally calculated an impossible 8 year time span for the March on Earth. He had decided that the tetralogy and the universe as we know it were to end in the year 4004. Blish chose this number for its symbolic significance. The parallel numbers suggest a double enclosure, an image of one circle within another. Thus the

original date is consistent with and reinforces the theme of containment. The revised date, 4104, still expresses something of the same idea but less absolutely—and this, as we shall see, may be another of Blish's characteristic improving afterthoughts.

It is 4101 when *The Triumph of Time* opens. Amalfi is bored with planet-bound life. The disproportionate amount of space that Blish wastes describing a popular "time-wasting" (p. 486) pet, "the half-plant, half-animal"svengali "from Altair IV" (p. 485) is symptomatic of a playful, lazy, spineless sentimentality that for Amalfi sums up life on New Earth. His affection for Dee continues and we learn, in what is virtually the only reference to his sex life, that "He was amazed to discover that she had taken into her household however briefly every companion whose bed he had honored during the officially celibate years" (p. 489). She would like to bear his child but he explains that, as a result of the centuries he has spent in space, his "germ plasm is damaged beyond hope" (p. 491). Amalfi can think only of death: "For a man, he knew, life is a process of dying . . ." (p. 492).

By way of counterpoint, there are the two youngsters, Webster, or Web, the son of Dee and Mark Hazleton, and his friend, Estelle, the daughter of Jake Freeman, the astronomer. The juvenile interest provides a link with *A Life for the Stars* and helps augment a sense of the tetralogy's unity. But then there is an additional irony: the youth of Chris deFord parallels the youth of Earthmanist culture: it is the fate of Web and Estelle to be in at the death of both Earthmanist and the universe, although there is hope in the notion that the end of the universe coincides also with the moment of origin. In one way and another, Web and Estelle (and the games they play) provide a kind of symbolic reverberation which echoes major plot elements. The name Estelle, for example, ties in with Jake's announcement that a new star has been discovered. The star turns out to be the planet He. Its inhabitants, having discovered how to control their planet's flight, are on their way to Earth to impart the bad news that (1) an alien super-culture known as the Web of Hercules is seizing control of the universe, and (2) that, while in the Andromeda galaxy, they discovered that time is about to end. Web, then, points symbolically to the Web of Hercules just as Estelle points to the "star". Webster's name, in fact, might be construed as a contraction of both elements: Web-star.

Amalfi, in the company of Dee, Web and Estelle, travels by ship to He and it is there that they hear the bad news from Miramon's lips. There is more discussion and hypothesis in *The Triumph of Time* than overt action (something of a relief after the frenzied pace of *Earthman, Come Home*), and now a good deal of sophisticated exposition ensues. It is decided to head for "the center of the metagalaxy, the hub of all the galaxies of space-time. It is only there, where all the forces of the universe lie in dynamic balance, that anyone can hope to take any action to escape or to modify the end which is coming" (p. 508). There the monobloc will come into being and, if indeed there is an anti-matter universe, related in some mysterious way to the material universe (something entailing a system of sixteen dimensions), then two very different universes would issue from the same monobloc. Questions about science and mysticism arise culminating with the reference to "the scientifically oriented man who does not know that he too is as thoroughgoing a mystic as a fakir lying on a bed of nails" (p. 512). And references to "God" as "He" (pp. 511, 512) make for an interesting confusion with the planet He and suggest that He will act as God's stand-in when the apocalypse or Ragnorak (to recall Wagner's *Ring of the Nibelung*) occurs.

The coming event is compared specifically with the "Ginnunga-Gap" of "Scandinavian mythology" (p. 515)—and this is the term (previously used in "The Weakness of RVOG") that the author of *The Milky Way: Five Cultural Portraits* employs. Not only does the Scandinavian source accord with *The Ring of Nibelung* but as a Magic Void between a region of frost and mist and a region of heat where Earth was created, the Ginnunga-Gap recalls the ice and fire imagery of Volume I. It is He that will attempt to cross, or bridge, this gap, just as He previously crossed another gap, the Rift. It is at this point that something of the careful architectonic structure of *Cities in Flight* becomes clear. There are, in fact, three major "gaps" in *Cities in Flight* and an initial further one related to them: (1) the "reality" gap (which masquerades as a temporal gap) between the world of the reader and the world of shadows with which the tetralogy opens (a gap which my opening discussion of "sources" attempts to bridge); (2) the temporal gap of more than 1000 years between Volumes I and II that Chris deFord's history lesson goes some way towards bridging; (3) the spatial gap of the Rift; and (4) the Ginnunga-Gap, which involves space, time and reality. There is also the transitional gap between Spenglerian cultures to be considered. Here the gap relates specifically to the mystery of origin. Spengler's contention that the spirit of one culture does not survive into the next implies that a culture must originate from a realm of pure otherness, pure difference. The Bridge symbolism with which the tetralogy opens is now to be related to the Gap symbolism; "the problem of how to cross the information barrier of the coming Ginnunga-Gap" (p. 551).

An experiment which involves sending an anti-matter-missile—"Object 4101-Alephnull" (p. 556) ("Alephnull" being the first transfinite number and therefore appropriate to the realm of anti-matter)—proves the existence of the anti-matter universe and that some form of survival is possible. (As it coincidentally happens a research team on New Earth has been at work on anti-matter.) Just before it disappears, the missile looks like a "spherical smoke-wreathed ghost" (p. 557) by way of analogy with both the spin-dizzy englobed flying cities and the cyclical process of history. This spherical ghost is then associated in Amalfi's mind with lines having to do with the problem of origins:

> I grow not out of salt nor out of soil
> But out of that which pains me. (p. 557)

Readings of the "energy level on the other side" indicate that the present universe will end "on or around June second, year Four Thousand one hundred and Four" (p. 562). The missile also records evidence of another missile. The Web of Hercules also knows what Amalfi and company know. Whoever gets to the monobloc area first will have the opportunity to imprint his, her, or whatever's consciousness—in some very mysterious fashion—on both the new universes of matter and anti-matter.

But before this happens there are matters of more domestic interest. Before Dee and the children are recalled to New Earth (because of the Hevian prejudice against women) Web and Estelle explore what used to be He's major bandit city and there play "an elaborate chess game called Matrix, rather like run-sheep-run combined with checkers except that it was three-dimensional, for it was played in a twelve-story building with transparent floors so that one could always see the position of the other players, and with strategically placed spindizzy and friction-field shafts for fast transmit from one floor to another" (p. 520). The relationships between the term "matrix" and the title of Chapter Three, "The Nursery of Time", the name Web, and the Web of Hercules make the game Matrix a symbolic analogy for the structure of both the tetralogy as a whole and *The*

Triumph of Time in particular. After sleep-learning Hevian, they also play a game of truth and lies. This game provides a playful analogy for a strategy that Amalfi will use in dealing with a problem that has arisen on New Earth during his absence.

There has been mention in Chapter Two of a fundamentalist religion gaining ground on New Earth, the Warriors of God led by one Jorn the Apostle, and an alternative "philosophical group called the Stochastics" concerned with the constructing of "a complete philosophy . . . using modern physics as the metaphysical base" (p. 487). Hazleton tells Amalfi that, although Jorn's main body of Warriors is nowhere near New Earth, Jorn plans to take control of the planet because Amalfi and the Hevians are "meddling with the pre-ordained Armageddon and jeopardizing their (i.e., the Warriors') chances of salvation" (p. 536). Towards this end, the Warriors have Dee, Web and Estelle as hostages. However, thanks to *his* skill at the lying game, Amalfi, back on New Earth, scares Jorn with the story that New Earth "is a hotbed of stochasticism" (p. 545) and is able, with Hazleton's assistance, to give the impression that the local Warriors are being corrupted. Jorn, being basically a good guy, calls off his blockading fleet and tells his followers to return the three hostages but not before telling Amalfi a few home truths: "I know well that you are fabulously inventive; but human lives should not hang upon the success of a work of art." But the "elaborate fiction" of Jorn's religion is also "a work of art" (p. 547). Thus the Hevian game of truth and lies, like the Matrix game, is associated with the art of *Cities in Flight*.

The editor with whom Blish was discussing the abortive magazine version of *The Triumph of Time* wanted to cut the Jorn material.[27] Although this material could be cut without any real damage to this one volume, such a cut would damage the design of the overall tetralogy. The Warriors correspond to the Believers of Volume I. As a manifestation of that Second Religiousness which presages the end of a culture, the Warriors are an indication that the Spenglerian sub-stage of Caesarism is threatening to reign on New Earth as it reigned on the old Earth in Volume I and thereby follow hard upon and displace the previous sub-stage, Transition from Napoleonism to Caesarism (manifested by the materialistic Stochastics).

Finally, with Amalfi, Mark and Dee Hazleton, Web and Estelle, and the New York City Fathers aboard, He heads for the metagalactic centre. En route, the musical analogy re-emerges. Hazleton recalls the Stochastic teaching that the natural state of the universe was noise: "Touring the universe by ear alone . . . you would hear nothing but a horrifying and endless roar for billions of years; then a three-minute scrap of Bach which stood for the whole body of organized knowledge; and then the roar again for more billions of years" (p. 574). Nevertheless, they attempt to impose some kind of human identity on the new universes of matter and anti-matter that are expected to issue from the coming catastrophe. Provided, of course, that the Web of Hercules does not beat He to the area of the monobloc. The contest here amounts to a replay, on a much grander scale, of the climax of *Jack of Eagles* where Danny Caiden, ascending a "sigma-sequence" of alternate worlds, ensures that the worlds most favourable to the villain do not come into being. As it happens, the Web of Hercules, when it does arrive and manifests itself as "a sphere with a diameter of about a light year" (p. 588) englobing He, is quickly wiped out like a biological cancer thanks to Hevian science. This last magical strategy in *Cities in Flight* is "explained" by the fact that Hevian sciences have progressed by leaps and bounds since the planet was first met with in *Earthman, Come Home*.

It now seems that more than two universes may be involved. According to Retma, a Hevian scientist: "Each one of us that makes that crossing (the Ginnunga-Gap at the metagalactic centre) may in a few microseconds start a universe of his own, with a fate wholly unpredictable from history" (p. 578). By an act of individual volition it may be possible to create a universe which is not constrained by cyclical historical and cosmic processes. In any case, it seems to be a matter of "Everyman his own monobloc" (p. 593), or his own bridge. Five disparate meanings of the bridge concept are subtly alluded to as time moves towards its inevitable triumph: (1) there is the reference to scientists playing "bad poker and worse bridge" and conducting post-mortems on "bridge hands" (p. 559); (2) the reference to "Tudor Tower Place, bridging 42nd Street" (p. 568); (3) Dee hitting Amalfi "on the bridge of the nose" (p. 568); (4) "the tenuous bridges of stars which connected the galaxies like umbilical cords—bridges" discovered "by Fritz Zworkyn in 1953" (p. 577); and (5) a final reference to the Hevian "control bridge" where the "Survivors (anyone judged capable of following the instructions for the crossing) met in almost continuous session" (p. 582).

Just prior to the end, Amalfi "goes to the toilet" (p. 592) and sips at a sacramental glass of wine, acts of bodily elimination and replenishment that he will re-enact on a cosmic scale. After everybody has suited up—here as in *A Case of Conscience* an image of conceptual containment—Amalfi decides that he does not wish to create a universe which is simply another "version of the standard model". He wants to escape from repetitive sameness and identity into a realm of pure difference. By touching the detonation button "over his heart" (p. 596) while crossing the Ginnunga-Gap, Amalfi hopes that any universe which issues from him will be completely unknowable, totally unaffected by his preconceptions and biases. The dyastolic and systolic action of the heart, it might be noted, provides a natural metaphor for the successive expansions and collapses of the pulsating universe. Poe's *Eureka* provides one instance of this image. Retma provides mankind with a characteristically Blishian epigraph: "*We did not have the time to learn everything that we wanted to know*" (p. 596).

Cities in Flight concludes with the words "Creation began" (p. 596). That another universe and another form of life did succeed the book's catastrophe we know from the introductory passages from *The Milky Way: Five Cultural Portraits* by ACREFF-MONALES. The Web of Hercules is referred to as "the Milky Way's IVth great civilization" (p. 471)—although "culture" would be the more accurate Spenglerian term. The Vegan and Earthmanist must have been the Milky Way's second and third great cultures. We have no way of knowing whose the first great culture was or whose the fifth, nor how many great cultures have intervened between the time of Amalfi and the time of ACREFF-MONALES. We know simply that in Amalfi's time "Only eleven non-human civilizations had ever been discovered," including the Lyran and the Myrdian but not the Vegan—"Earthmen did not think of them as human, but all non-human cultures did" (p. 321). The Hevians would count as one among numerous human civilizations.

ACREFF-MONALES points out that "it is due entirely to the Web of Hercules that we still have records of galactic history before" the Ginnunga-Gap and know about "the dramatic and fruitful exeunt which" the Earthmen "in this timeless moment of chaos and creation . . . wrote for themselves into the universal drama" (p. 471). What we are told about the destruction of the Web of Hercules cannot then be the complete story. Somehow this alien race was able to record everything and ensure that these records

survived the Ginnunga-Gap.

Of Amalfi's own success at bridging the Gap there can be no doubt. The name ACREFF-MONALES is an anagram of AMALFE SON FORCE, or SON-FORCE AMALFE, if we are to make use of the hyphen. This anagram is obscured only slightly by the replacement of an "e" for the similarly sounded "i" of Amalfi. By the same token "son" can be read also as "sun". The universe of ACREFF-MONALES, whether it be composed of matter or anti-matter, or something else, whether it be subject to cyclical process or not, derives from the sun-burst of Amalfi's heart.

Notes

1 See "In Conversation: James Blish Talks to Brian Aldiss," *Cypher,* No. 10 (October 1973); the substance of this interview is reprinted in "Introduction by James and Judith Blish" to "The Cities in Flight Series by James Blish" in Frederik Pohl, Martin Harry Greenberg and Joseph Olander, ed., *The Great Science Fiction Series* (New York: Harper & Row, 1980), pp. 86-87. See also Blish's statement in Robert Reginald, *Contemporary Science Fiction Authors II,* 2 vols (Detroit: Gale Research Co., 1979), II, 820. By way of further misprision, Blish misdescribes the man on the cover, to Aldiss as standing in, and in Reginald as looking down at, the rocketship yard.

2 For Blish's denial of Sam Moskowitz's suggestion in *Seekers of Tomorrow* (New York: World, 1966), p. 76, that *Cities in Flight* may have been inspired by the Hamilton serial, see *More Issues at Hand* (Chicago: Advent Publishers Inc. 1970), p. 39. See also Robert A.W. Lowndes, "James Blish: A Profile," *The Magazine of Fantasy and Science Fiction,* 42 (April 1972), p. 68.

3 Author's Note to the 1965 reprint of James Blish, *They Shall Have Stars* (London: Faber & Faber Ltd., 1956), pp. 5-6.

4 Damon Knight objects, with some justice, that the analogy is false. The Okie cities are, or easily could be, self sufficient. They do not need to look for work. See *In Search of Wonder: Essays on Modern Science Fiction,* rev. ed. (1956; Chicago: Advent Publishers, 1967), pp. 153-54.

5 *Contemporary Science Fiction Authors II,* II, 820. See also the Author's Note to the 1965 reprint of James Blish, *Earthman, Come Home* (London: Faber & Faber Ltd., 1956), p. 9; the Foreward to James Blish, ed., *The Best of John W. Campbell* (London: Sidgewick & Jackson, 1973), p. 10; and *The Great Science Fiction Series,* p. 86.

6 See the Bodleian Library Blish Papers, Dep. Blish 414/7. This deposit includes eight letters from Campbell written between 20 October 1949 and 26 April 1964. In the *Cypher* interview Blish notes, "The main thing that Campbell contributed was this: the most valuable thing that these migrant workers could transfer in a situation involving fast interstellar travel was not gold, uranium, diamonds, the ability to drill for oil or whatever, but *information.* These cities were the pollinating agents of the galaxy, and this idea became the central focus of the whole series. It absolutely ruled out power politics in the intergalactic-epic sense." See *The Great Science Fiction Series,* p. 86.

7 See Author's Note to *Earthman, Come Home,* p. 9.

8 See Author's Note to *They Shall Have Stars,* p. 6.

9 All parenthetical page references are to James Blish, *Cities in Flight* (New York: Avon Books, 1970). It should be noted that a number of inconsistencies have been cleaned up for this combined edition, making it the nearest thing to the definitive text (see notes 12 and 26 below), but that the dedication of *They Shall Have Stars* to Frederik Pohl has been dropped, probably accidentally.

10 See Robert H. Canary, "Science Fiction as Fictive History," *Extrapolation,* 16 (December 1974), 81-94.

11 "Cathedrals in Space", *Skyhook,* No. 19 (Autumn 1953), reprinted in *The Issue at Hand* (Chicago: Advent Publisher Inc., 1964), p. 60. In "Another Case" (April 1962), also reprinted in *The Issue at Hand,* p. 60, Blish mentions Robert A.W. Lowndes' use of Spengler in *Believers' World* (1961).

12 "Blish, van Vogt, and the Uses of Spengler," *Riverside Quarterly,* 3 (August 1968), 172-86. A revised and shortened version of this article, with the two van Vogt sections omitted entirely, appears as the Afterword to *Cities in Flight,* pp. 597-607. In a note to this Afterword, Blish mentions correcting "a large number of" inconsistencies "pointed out to me by Dr Mullen, where I agreed that they *were* inconsistencies" (p. 599). Checking the Faber editions with the Avon edition and the list of inconsistencies, which appears only in the *Riverside Quarterly* article (176-77), it is apparent that Blish made at least the following relatively minor corrections: in *Earthman, Come Home* the statement "that nobody had dusted the city's ancient subways since the management of deFord" (p. 434) replaces the earlier statement that the subways had not been used since New York first went

into space when deFord was city manager (Faber, p. 244)—a statement which contradicts both the "edgy roar of the subway trains" (p. 171) and the account of deFord's becoming city manager in *A Life for the Stars;* to conform with the implication of the Faber chronological table and statements in the text (e.g., p. 169) that there was virtually no emigration from Earth between 2039 and 2375, a reference in *A Life for the Stars* to "the great Colonial exodus of 2375-2400" (p. 155) corrects the earlier "2200-2400" (Faber, p. 42); the chronologically inconsistent reference to Amalfi's being "less than a century old" and later to his being mayor "for six hundred years", and to the Okie King being "two thousand years old at a minimum," and to New York's having been in space for 1200 years in the Faber edition of *Earthman, Come Home* (pp. 16, 18, 145, 147) is changed to "just 117 years old" (p. 242), "five hundred years" (p. 244), "eight hundred years" (p. 363), and "about five hundred and eighty years" (p. 361), respectively. One particularly important inconsistency that Mullen noticed is discussed in section 5 of this article.

13 *The Issue at Hand,* p. 60.

14 Brian W. Aldiss, *This World and Nearer Ones: Essays Exploring the Familiar* (Kent, Ohio: Kent State University Press, 1981), p. 39; Brian M. Stableford, *A Clash of Symbols: The Triumph of James Blish* (San Bernardino, Calif.: The Borgo Press, 1979), p. 22.

15 "Science in Science Fiction: The Astronomical Story," *Science Fiction Quarterly,* 1 (November 1951), p. 112.

16 Blish seems to have a fondness for cold places. *The Warriors of Day* (1953) opens with the hero killing a bear on Kodiak and Antarctica figures positively in *Midsummer Century* (1972).

17 *This World and Nearer Ones,* p. 45.

18 Dale Mullen astutely points out that in this way human guilt concerning the Vegan War is assuaged. See "Blish, van Vogt, and the Uses of Spengler," 181, or the Afterword to *Cities in Flight,* pp. 602-603. It must be admitted, however, that this notion is not explicitly pointed up by Blish's text. What comes across more directly is simply a sense of the kind of reversal that is characteristic of routine space opera. The history of the Hruntan Empire, it should be noted, most clearly corresponds to Spengler's two sub-stages of Early Culture: the Formulation of Feudal Order and the Breakdown of Feudal Order.

19 John Clute, "James Blish", in E.F. Bleiler, ed., *Science Fiction Writers: Cricital Studies of the Major Authors from the Early Nineteenth Century to the Present Day* (New York: Charles Scribner's Sons, 1982), p. 292.

20 Mullen, Afterword, pp. 603-604.

21 Ibid., 604.

22 In an article entitled "Eine Kleine Okie-Musik." *Australian Science Fiction Review,* No. 12 (October 1967), pp. 10-12, Blish points out that he wrote the folk song to the tune of the "Siege of Kazan" (Karst mentions a town of the same name as presumably the one on which IMT fell) from Moussorgsky's *Boris Goudonov.* For purposes of this tune, Blish further points out, "IMT" should be sounded as a single word. He also mentions that an American fan, G. Evans, wrote a different musical score for the same song, and that Karen Anne Emden (Virginia Kidd's daughter by her first husband) wrote a sonnet entitled "The Okie Children."

23 Blish talks about the title "bowing to Swinburne" in his Author's Note to the 1965 reprint of *The Triumph of Time* (London: Faber & Faber Ltd., 1959), p. 5. While noting that the theme of *The Triumph of Time* "is not especially Spenglerian," Mullen does observe that both the theme and the title could have been inspired by this passage on Spengler's final page: "Time triumphs over Space, and it is Time whose inexorable movement embeds the ephemeral incident of the Culture, on this planet, in the incident of Man—a form wherein the incident life flows on for a time, while behind it all the streaming horizons of geological and stellar histories pile up in the light-world of our eyes" (quoted, Afterword, p. 605).

24 Author's Note to *The Triumph of Time,* pp. 5-6.

25 "Blish, van Vogt, and the Uses of Spengler," 177.

26 If there is ever a new edition of *Cities in Flight* the following corrections should be made in Book IV: "3948" (p. 475) should be "3998", "3944" (p. 480) should be "3994", "3995 (p. 488) should be "4095", "a century and a half ago" (p. 494) should be something like "a little over a century and a half ago", "seventy-five years into the next millenium" (p. 499) should be "ninety-five years into the next century," "one hundred and fifty" (p. 501) should be "two hundred and fifty", "end of the Third Millenium" (p. 512) should be "beginning of the Fourth Millenium", "seven centuries" (p. 548) should be "eight centuries", and the title of Chapter Six, "Object 4001—Alephnull" (p. 551) should be "Object 4101—Alephnull."

27 Author's Note to *The Triumph of Time,* pp. 5-6.

John Silbersack was formerly an Editor of G.P. Putnam's Sons and a Senior Editor of the Berkley Publishing Group, where he worked with such authors as Philip K. Dick, Robert Heinlein, Elizabeth Lynn, Robert Kennedy, Jr., John Coyne, Philip José Farmer, and John Varley. He has also been an editor of several small non-commercial publishing enterprises. His publications include No Frills Science Fiction, Roger's Rangers, *and* The Berkley Showcase. *At present he is working on a novel and contemplating an expanded version of his 1983 anthology,* A Sampler of Caribbean Poetry.

Back in 1979, in Foundation *15, Peter Nicholls commented on the extraordinary lack of decent criticism of a writer of Frank Herbert's stature. The situation has hardly altered since, and though a mammoth* Dune Encyclopedia *is promised this will not exactly be a critical survey. To begin to fill the gap, we're delighted to bring you the following by Mr Silbersack, originally written as introduction to a Gregg Press re-issue, a project which alas is in limbo for the time being.*

Quantum Leap to Consciousness: Frank Herbert's "Destination: Void"

JOHN SILBERSACK

"Quantum physics is stranger than science fiction." [1]
—Gary Zukav: *The Dancing Wu Li Masters*

"Quantum mechanics is very impressive but I am convinced that God does not play dice." [2]
—Albert Einstein

"Consciousness may be associated with all quantum mechanical processes . . . since everything that occurs is ultimately the result of one or more quantum mechanical events, the universe is "inhabited" by an almost unlimited number of rather discrete conscious, usually nonthinking entities that are responsible for the detailed working of the universe." [3]
—E.H. Walker: "The Nature of Consciousness"

In a field uniquely suited to the thoughtful study of science it is extraordinary that modern science fiction has often ignored the philosophical and metaphysical ramifications of increasingly sophisticated theoretical physics. Frank Herbert, however, consistently one of science fiction's most intellectually demanding novelists, delivers in *Destination: Void* a tour de force on the theme of consciousness, informing a complex and deeply reasoned philosophical novel with the spirit and conceptual wealth of the new physics renaissance.

As Herbert well knows and has amply demonstrated in *Destination: Void* the proper business of science fiction is science, and particularly the humane and prophetic use of science. This has been a consistent thread throughout his work from *Dune* (1965), which dealt in a substantial and informative way with the burgeoning science of ecology to the psychological theme of *The Dragon in the Sea* (1956) and the exotic biology of *The Dosadi*

Experiment (1977). The best of Herbert's fiction is philosophical in nature, and unlike traditional "mainstream" philosophical novels which do not care to do so, his work deals most often with the implicit foundations underlying all science.

Since Max Planck's formulation of the quantum hypothesis in 1900 philosophical speculation rather than invention has been the stock-in-trade of the research physicist. In writing *Destination: Void* Frank Herbert has drawn heavily on the conceptual framework that has been engendered by the new science of quantum mechanics. He has made a career of tackling large bodies of awkward or unwieldy information, giving them shape and form for the layman. And, in 1965 when *Destination: Void* was written, it would have been hard to think of a field of study more roundly misunderstood and unappreciated by the unspecialized reader.

In its simplest form quantum mechanics is a way of describing or measuring the material universe by including the observer. Until 1900 this notion flew in the face of all scientific common sense and conventional (Newtonian) physics which held that the material universe could be measured objectively without any reference to the observer. John Von Neumann, defining quantum mechanics in his *The Mathematical Foundation of Quantum Mechanics* (1955), writes that the science ". . . deals with propositions defined by processes of preparation and observation involving subject and object and obeying a new logic; not with objective properties of the old object alone." This observation was as radical a revelation as Copernicus' heliocentric solar system was to Renaissance astronomers. Quantum mechanics entailed a complete shift in world view, and for many, for the first time since the 16th century, science was merged with mysticism. According to the traditional Newtonian belief, reality was something that existed quite separately from ourselves. The new physics, based upon a philosophy of pragmatism, holds that reality does not exist independently upon " 'absolute truth,' but upon *us.*"[5] Our ability to understand, to form ideas, even to feel, predicates reality. This notion was expressed by Niels Bohr in his Copenhagen Interpretation of the rather surprising experimental findings of quantum mechanics: findings which could not be explained according to traditional Newtonian physics. In a sense this interpretation held that the time-honored scientific method was no more valid an account of reality than was metaphysics.

At the time Herbert undertook to write "Do I Sleep Or Wake", the first, serialized version of *Destination: Void,* quantum mechanics was in its third flowering. By the mid-1960s the influence exerted by the new science had far surpassed its original "job description" as the study of sub-atomic particles. Concepts first proposed as descriptions of particle behaviour had been found to have implications extending into information theory, metaphysics, relativity theory, and the physiology of the brain. Do I sleep or wake? Even sleep can be said to resemble aspects of quantum theory. An endless list of consequences and anologues appeared because the epistomological foundations of quantum mechanics provide a whole new viewpoint for looking at the universe: a viewpoint that if not supplanting the Newtonian system has at least supplemented it. And *Destination: Void* at its core is a novel about scientists taking this new viewpoint, this new scientific method, and posing the questions scientists are still posing today.

Subject/Object

In *Destination: Void* Herbert obeys a new logic, to paraphrase John Von Neumann. This is a deceptively playful novel, as so many philosophical fictions are, with no clear

frame to lend perspective to the reader. In fact the reader is never once given opportunity to quantify the book's "objective properties" since it has none: it is a shifting kaleidescope in which subject and object subtly reflect each other. But Herbert displays his toy admirably and the perspicacious reader is given to see many sides of a simple story and a complex question.

Briefly stated the plot *is* quite simple: Four "human" clones (Raja Flattery, psychiatrist and ship's chaplain; John Bickel, electronics engineer; Gerrill Timberlake, life-systems and electronics engineer; Prudence Weygand, medical doctor) make up the umbilicus crew of an experimental Voidship being sent, with a cargo of 2999 colonists in suspended animation onboard, to the Tau Ceti system. Although colonization is their ostensible goal, Flattery and Weygand are secretly aware that the real purpose of the "experiment" is to develop under carefully manipulated conditions an artificial mind at a safe distance from Earth. When the three Organic Metal Cores (human brains, in vitreo, wired into the computer system that navigates the ship) run amok, John Bickel, who has been honed since infancy to a fine edge of creativity (the four clones have been subtly programmed by Moonbase to fulfil their mission), is given the incentive he needs to implement his theories on the subject of consciousness. Working in uneasy concert, the four undertake to define and then construct an artificial consciousness to run the ship by augmenting and redesigning the ship's computational, navigational, and communications systems. Their efforts are successful and the ship is brought to life: awakening an unimaginable capability and purpose.

Herbert's novel is an echo chamber of ideas: of proposals, counterproposals, experiments, and reactions. Subject and object are curiously wedded on the Voidship Earthling; in a very real sense Herbert has written a book set in a test-tube and its contents cannot be presumed to bear any relationship to the world outside the laboratory. Even the four crew members are clones, "born" and raised in a sterile environment isolated from normal humanity; they have no conventional reality. As characters in a novel they have less to say about what makes human nature tick than does Frankenstein's monster. And like Mary Shelley's *Frankenstein* (1818), from which Herbert draws many of his epigraphs, the creators are themselves artificially created, themselves monsters. This very notion is a wry reminder of the structural and philosophical artifice that is at the core of *Destination: Void.*

Conventional character development is therefore conspicuously missing in the novel. Instead each of the clones seems to be merely the product of his or her specializations: merely a cog in the larger machine. Analyzing the relationship between human and machine, Norbert Weiner, the man who coined the term cybernetics, observed, "What is used as an element in a machine, is in fact an element in the machine."[6] Herbert too seems to view the microworld of Voidship Earthling as a complex machine modeled, as is a computer, after organic structures. But the image of the umbilicus is a strong one too. Whether the individual consciousnesses aboard are simply elements in the machine or the cellular building blocks of life is a crucial question for Frank Herbert because it includes the more basic question of determinism in human nature, the great stumbling block in any theory of human consciousness.

Herbert complicates and compounds these questions by cataloguing a variety of "artificial consciousnesses." All serve to suggest the infinite complexity, and in all likelihood, the infinite probable variety of intelligent or nearly intelligent life. The four

clones, for instance, over and above their evident qualifications for a hard and tricky job, have been prepared for this mission to be an intellectual and psychological unit that bears all the hallmarks of an alert gestalt consciousness. On one level the crew perform their complementary tasks as a team in the best tradition of systems management as taught by the Harvard Business School. But their consanguinity is too complete and goes far beyond the conventional examples. The only complete parallel is the human brain: Bickel is the center of ideation, the "creative discover" and "organ of analysis" (pp. 177, 151) with properties of initiative, calculation, and intuition (see especially pp. 1, 15, 23); Timberlake is the center of deliberation and regulation of action, both related to spatial construction; Weygand, calculation; and Flattery, presumably conscience. The parallel can be extended (and Herbert almost does so himself) to the four lobes of the neo-cortex. Moreover, the crew's persistent and profound manipulation by Moonbase further emphasizes Herbert's playfulness on this point with overtones of the conscious/subconscious bifurcation.

Other examples reinforce and refine the complex philosophical concepts with which Herbert is working. Just as the crew members may be regarded as four individual "artificial" consciousnesses, so too must the three destructed Organic Metal Cores (OMC's); Myrtle, Little Joe, and Harvey, each of whom show not only signs of wakening consciousness but also insanity. Indeed in light of subsequent events, insanity would seem to be spectacularly heightened consciousness. Prudence Weygand's secret experimentation with narcotics is an example of a largely undeveloped instance. And toward the conclusion of the novel each of the characters begins to experience instances of enhanced intelligence and perception described by Herbert as heightened and obviously alien if not artificial consciousness. On still another level, ship and human unite to form another imitation consciousness. This unity occurs during the crew's shifts at the master-board, when Flattery's stateroom "field-generator sorter" (p. 237) produces the *mood* of the inanimate ship, and, of course, when Bickel evinces special sensitivity to the ship's awakening computer.

> "To separate subject from object there has to be a background of some kind. You have to be able to see it against something."
>
> —*Destination: Void* (p. 26)

Various sub-plots and subtleties complete Herbert's narrative but the search for consciousness is theme and substance of *Destination: Void.* In their desperate gambit to conclude the Voidship Earth's mission the four crew members propose and examine by turn all manner of theories pertaining to intelligent life. The subtle quality that separates man from animal and that may turn a ship's computer into a thinking, reasoning, and self-aware being is the subject of extensive scientific and metaphysical speculation. The background of artificial consciousness is the organic mind. By defining the human consciousness, and by correcting Moonbases' probably erroneous definition of consciousness as "pure awareness" (p. 56), the four hope to develop a consciousness analogue in their computer. Their first step is a careful and protracted self-examination. It is their intention to imprint their own consciousness upon the awakening computer. The following table lists the characteristics or conditions of consciousness given in *Destination: Void* as observable in human beings.

Consciousness is *not* pure awareness (p. 56).

Consciousness is a relationship between an I entity and the organism of this entity, plus objects (p. 56).

Consciousness is a field phenomenon growing out of three or more lines of energy (p. 57).

Consciousness is *not* introspection, sensing, feeling, or thinking (p 57).

We're (our consciousness) is more than our ideas (p. 58).

The whole (God) is greater than the sum of its parts (pp. 49, 73).

Consciousness is capable of creation, reproduction (pp. 76, 78, 211).

Consciousness is a wave form, intermittent (p. 93).

Consciousness weeds out the insignificant, focuses only on the significant (p. 93).

To be Conscious you must surmount illusion. There's nothing concerning ourselves about which we can be really objective, except our physical responses (p. 94).

Consciousness can derive from erroneous data significant results (p. 94).

Consciousness as a field phenomena is a relationship between raw experience and self, Huxley's "spatio-temporal cage" with its "confused swarm of ideas" (p. 107).

Consciousness does not derive simply from memory of self which is, in fact, experience (p. 128).

Since it is possible to ask "Am I really conscious" it may be that Consciousness exists in *degrees* (pp. 128, 130).

Consciousness may depend upon a *threshold* of experience impulses. A hyperconscious subject has a low threshold; attention or danger lowers the threshold of awareness (pp. 87, 130, 131, 193).

Consciousness, like all natural functions, is rhythmic. Oscillation (pp. 133, 134).

There may be no seat of consciousness. It may be a motile phenomenon (p. 136).

Consciousness as a data-processing bio-electrical function transmits impulses in ways that resemble both wave form and particle form, rather in the manner of light energy (p. 136).

Consciousness resembles a holographic field (p. 137).

Consciousness mediates an energy balance, like a homeostat, over impulses to and from the analytic portion of the mind. Synergism. A field-regulating sensor (pp. 138-139, 243, 255, 57).

Consciousness must be goal seeking. Negative feedback (pp. 140, 213).

Consciousness makes use of symbols (p. 141).

As a field regulating function Consciousness must be capable of rhythmic scanning to retreive and correlate information (p. 143).

Consciousness is a game where the permissible moves aren't arbitrarily established in advance. The sole object is to win. Free Will (p. 150).

Consciousness is a type of behaviour (pp. 176, 203, 211, 213).

Consciousness may be multi-dimensional and infinite. Psychospace and psycho-relationships (p. 200).

Consciousness may be a valve whose function is to simplify. All the complexities have to flow through it and be reduced to an orderly alignment. Entropy (p. 235).

Consciousness has an internal counting mechanism. Exists in temporal space (p. 242).

Cause and effect doesn't square with consciousness (p. 267).

> "And the most critical word in the whole problem is the word *consciousnesss.*"
> —*Destination: Void* (p. 141).

Because they are scientists, the four crew members tend to speculate about consciousness against the background of their specialities. Nearly all of these speculations are expressed in the peculiar languages of physics—a language made up of equal parts poetry and abstruse mathematics. A crucial lesson of *Destination: Void* is that human nature, and what has been for centuries regarded as man's divine soul, is subject to mathematical description. Not that personality can be expressed as a function of integers but the bio-electrical process of the brain *can* be described since they adhere to the same laws as any other natural physical process. By extension the faculty of consciousness is not supernatural; it is assumed to obey the laws of nature, even if it does so in ways that as yet are hardly understood.

Herbert makes another important assumption about the nature of consciousness. He has Bickel reject the "pure awareness" theory held by Moonbase (pp. 56, 57, 94). The rest of Herbert's hypothesized theory of consciousness rests on this decision and with it he returns to the subject/object theme that in so many ways can be seen to inform *Destination: Void.*

Because consciousness is not seen as "pure awareness" Bickel is able to reject the somewhat modernized Platonic proposition that consciousness (or "soul") is a product of intellect and introspection and somehow distinct from the body. Consciousness, he

decides further, is more than the aggregate experience of intellect and body (in which body is the composite sensory organ, an experimental window on the world). Subject and object are only two-thirds of the whole. The often repeated maxim that "We're more than our ideas" (pp. 49, 55, 58, 73, etc.) hints at the third: "It's neither subjective nor objective. It's a relationship" (p. 58), the particular and elusive *relationship* between inner and outer reality. This relationship is variously described by Herbert in terms of field phenomena, as a homeostat, a rythmic motile phenomenon, and as a holographic field. Wherever the seat of consciousness or whatever its precise physical nature, Herbert has pointed to an important lesson of modern physical theory—that the sum of two parts can indeed be greater than the whole, or at least of a higher order. The relationship between subject and object is resonant and perhaps open-ended. True consciousness, self-awareness clearly goes beyond simple knowledge and may imply all-knowing.

Moreover, this conscious relationship between inner (intellectual) and outer (experiential) reality neither permits nor supposes either contending realities to have other than a pragmatic existence. "Pure" reality has no more meaning than "pure" awareness. Instead the only useful description of reality is, as conceived by William James and reiterated by Henry Pierce Stapp in his discussion of the Copenhagen Interpretation of Quantum Theory, that "an idea is true if it works"[7] Or as expressed in Niels Bohr's Interpretation, "quantum theoretical formalism is to be interpreted *pragmatically.*"[8] Or again from Bohr's *Essays on Atomic Physics and Human Knowledge* (1958), "In our description of nature the purpose is not to disclose the real essence of phenomena but only to track down as far as possible relations between the multifold aspects of our experience."[9]

This notion of a special relationship between subject and object such that they "obey a new Logic" is the essence of the philosophic underpinnings of quantum theory and one of the most startling contentions in the history of science. The Copenhagen Interpretation of this theory, formulated by Niels Bohr in unknowing concert with James and the early Wittgenstein, states that the material universe is an uncertain arena of change and that consciousness (the relationship between subject and object, the observer and the observed) is the complete account of reality as exhibited by the universe. This interpretation in turn decries the Platonic notion of absolute truth and anticipates the mystical conclusion of *Destination: Void* by suggesting that individual consciousnesses define for themselves quite individual and comprehensive realities: man's metaphysical fetters described simply as a lack of imagination (pp. 128, 193, 200, 240 and following).

After concluding that consciousness is a relationship Herbert pursues several possible engineering approaches to the problem. For the lay reader Herbert's engineering pyrotechnics is probably the most confusing aspect of a very intricate work. The nuts and bolts technology of *Destination: Void* is necessarily well hidden. Herbert is too wise an author to attempt to describe what doesn't exist. Instead terms like Eng Multipliers, Organic Metal Cores, and AAT's represent a futuristic nomenclature of present-day engineering concepts (negative feedback, brain-machine interface, and symbol capability, by turn), that are familiarly used by physicists in laboratories and class-rooms. Although not a scientist himself, Herbert has often expressed his notion of the thoroughly competent man—the individual, who without any special expertise has a solid understanding of the mechanical and biological sciences and has a pragmatic approach to science. It is precisely on this level, as the intelligent observer of science (particularly the developing science of computers) that Herbert fashions the necessary "props" of his most

thoughtful novel. *Destination: Void* makes use of the new physics to examine the nature of consciousness in a way that is sadly rare in modern fiction. Herbert makes a valiant and convincing argument that now is the time for science and art to be once again wed in a new humanism.

Notes

1 Gary Zukav, *The Dancing Wu Li Masters* (New York: William Morrow & Co., 1979), p. 110.
2 As quoted by Zukav, p. 92.
3 As quoted by Zukav, p. 88.
4 As quoted by David Finkelstein in his Foreword to Zukav, p. 20.
5 Zukav, p. 63.
6 Norbert Weiner, *The Human Use of Human Beings* (New York: Avon Books, 1967), p. 254.
7 Henry Pierce Stapp, "The Copenhagen Interpretation and the Nature of Space-Time," *American Journal of Physics,* 40, 1972, p. 1103.
8 Stapp, p. 1105.
9 Stapp, p. 1105.

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Portions of *Destination: Void* were first serialized in *Galaxy* Magazine under the title "Do I Sleep or Wake" in 1965, and in expanded form was published by Berkley Books in 1966 as *Destination: Void.* In 1978, the book was revised and reissued, the chief alterations being the addition of a prologue and division into 31 chapters, each introduced by fragmentary documents taken from the records of the ship's crew, and by passages from Mary Shelley's novel, *Frankenstein.* Approximately 5000 words of text were added. The version referred to here is the revised text of 1978.

In 1979, Frank Herbert in collaboration with Bill Ransom wrote a sequel, *The Jesus Incident* (Berkley/Putnam), which concludes themes begun in *Destination: Void,* and examines further the complex relationship between free will and determinism.

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Lightning strikes twice, illuminating further the Herbert landscape. From one of that author's earliest books, Destination: Void, *we move on to one of his most recent, which seems at first atypical. Here Peter Brigg explains why* The White Plague *is written the way it is.*

Mr Brigg is 42 years old. He teaches sf, the modern novel and modern drama at the University of Guelph, Ontario, Canada. He has published scholarship on Clarke, Le Guin, Herbert, Del Rey, Sax Rohmer, Philip Wylie and others. He reviews books for SF and Fantasy Review, *and has a book forthcoming, in the Starmont Guide series, on J.G. Ballard.*

Public and Private: Narrative Structure in "The White Plague"

PETER BRIGG

> If we say, on the one hand, that our world suffers from a certain kind of disease that brings on these recurrent crises, then under present conditions of dependence upon words, the disease we "have" becomes more important than who we are as a people. This could be why we, as a society, suspect the large social diagnoses of the engineers and psychiatrists. We know with a sure and ancient instinct that to be treated and "cured" of such a disease could take from us both the why and the who of our identity.
>
> Frank Herbert[1]

In his review of *The White Plague* in *Foundation* 27, Colin Greenland aptly points out that the novel shifts from its mode as a biological disaster novel to a study of private individuals. "The greatest mass murderer in human history wanders the leafy lanes like an innocent, haunted by the uncertain flicker of atrocious conscience, and by the nameless boy, ghost of a mute and uncommitted future."[2] I should like to propose that Herbert has undertaken *The White Plague* to embed his perception that "we as people" are as important as "the 'disease' we have," the crisis of the moment. This in turn leads to questions of how he does this, why it is done, and whether it has been done successfully in terms of the fiction and its impact upon its readers.

Herbert's method of attaining a new concentration on individual characters is not so much original in its devices as it is in the degree to which he involves them. First of all, the "need" to concentrate on a couple of characters is, at least to a considerable extent, built into the plot. After loosing the white plague on the world molecular biologist John Roe O'Neill returns to Ireland to view the destruction which he has produced. The Irish, in turn, suspect that the man posing as John Garrech O'Donnell is O'Neill and the odyssey which he takes through Ireland with Joseph Herity, Father Michael and the silent boy are arranged to reveal O'Neill so that he can be punished or used either to effect a cure for the plague or as a counter in international politics. The thoroughly developed characterizations of the little party and their interactions form a major part of the novel.

One of Herbert's standard techniques is then brought to bear upon the telling. The chapters of the odyssey are interrupted by chapters set elsewhere in the larger world. On one level this provides an opportunity to watch both the hunters and the quarry, but in a very real sense there are two quarries involved in this hunt; O'Neill himself and the cure for the plague. The simple sleuths-and-criminal model is complicated by the fact that the reader can see that finding O'Neill may play very little role in solving the plague problem since O'Neill, mentally confused as he is, may be unwilling or unable to assist. Moreover, throughout the entire odyssey Herity is with O'Neill, so that the sleuths have already got their man, subject only to the very difficult and uncertain task of making him give himself away.

What is achieved by Herbert's interspersed telling is somewhat different than it is in his other novels and in novels such as John Brunner's *The Sheep Look Up*. Usually narratives of this type are very heavy on information and a sense of world-wide events, but their close-ups of a few characters making their way through the crisis are of necessity sketchy and only examplars of the general situation. In *The White Plague* the Irish odyssey is an intense and complex focus of attention and it comes after the plague has been launched, during the hiatus which would inevitably follow such a shocking cataclysm while the world adjusted, sought solutions, and a new normalcy evolved. In effect the world-scale action is suspended and the private, human story—a story of guilt, psychological complexity, and the results for individuals—is the story in the forefront.

If one thinks of Herbert's novels such as *Dune* or *The Jesus Incident* as written in the style of the ten o'clock news, with segments from many locations and various ideas thrown together for the reader to assimilate into a whole meaning, rich with implications and intellectual questions, then *The White Plague,* at least through its long and important central section, reverses the priority, making the single detailed "story" (in the newsroom sense) the centre and offering the chapters dealing with the researchers, hunters, and governors like the world news, something scale and distance force most of us to treat as a distant background to the central functioning of our everyday lives. That the two fields are of course interlocked is an obvious truth, but our normal perspective and the perspective of much traditional fiction places the microcosm in the foreground. That is what Herbert has done in *The White Plague*. He keeps us aware of the cause of the Irish odyssey by inserting the other chapters and he keeps us aware of how the larger frame impinges or threatens to impinge on the microcosm, but the attention is on the individuals in a fashion unusual for Herbert's fiction and for science fiction in general.

Why has this approach been chosen for the construction of the novel? A little presumptive speculating on this can help to suggest its success and lead to some general evaluation of the book. From a structural point of view Herbert obviously wished to keep John Roe O'Neill as the central character of the novel and, as the consequences of his act were to take place outside the disaster area it behooved the author to move him into the central scene. The psychological truth of this manoeuvre is made explicit in the speculations of the team trying to build up a profile of O'Neill. He has become a very strange sort of schizoid in the course of events, and the working out of his inner dilemma is a miniature of the state of man in general who is moved to violence by violence all the while wishing that no violence need be done and feeling an immense guilt for his actions. O'Neill's changing nature, minutely detailed, centres around coming to know (one can hardly say coming to terms with) what he has done, and again we are aware of the way the

whole world is coming to a realization that the kind of senseless violence which killed O'Neill's wife and the twins is the source of a more general "world guilt" being faced by those contemplating the course of events. As with other exemplum figures focused on in disaster novels, O'Neill serves to humanize and localize the disaster, giving the reader a human-scale entry into events which are, in a very real sense, beyond normal comprehension. In this respect the approach is similar to John Brunner's in *The Sheep Look Up*, another major non-war disaster novel, but whereas Brunner's characters are shown in hopeless positions of being innocent or unconscious victims of vast forces in the political, economic and technological spheres, O'Neill's small party wanders through Ireland with the strangely mad-yet-not-mad perpetrator of the plague and his principal keeper, the Provo officer who detonated the bomb which killed O'Neill's wife and twins and set the whole reign of terror in motion.

Another reason for putting the Irish odyssey at the novel's core is to make the disaster more vivid. Here there is a particular difficulty because this is a disaster by subtraction, the women are gone and Ireland is nearly empty. Herbert has seen that for patriarchal Ireland this is essentially a domestic disaster, that is to say its roots are the destruction of personal relationships, the collapse of the mutual supports of familial and sexual intimacy. This can only be demonstrated close up and the answer is to have a small party travel through the nearly deserted land meeting the evidence of loss. To convey human disasters involving bombs and comets is a question of vivid-on-the-scene descriptions, but the problem in *The White Plague* is to convey the anguish and nostalgia for a lost world. This is best done through intimate observations from a few roving detailed characters.

The most important reason for the intense private perspective of so much of the novel is expressed in the quotation from Herbert's 1975 essay "Science Fiction and a World in Crisis" which opened this paper. It is the essential assertion that individual men, not masses or groups, make events, even disasters, for distinct reasons and causes, and in turn, individuals react to these events and can change and adapt to meet them. It is, as the quotation asserts, a refusal to accord the troubles we are in to vast forces, to a "world disease", but to insist that individuals both privately and as the focuses of the forces which shape them determine the courses of events. Thus the whole Irish odyssey is flavoured with the consideration of why Joseph Herity and John Roe O'Neill did what they did, and how it is affecting them, and how they see it is affecting others, particularly the other two members of their party, the silent boy and anguished priest. In Joseph Herity all of the Irish cause with its immense frustration, violence and intricate mixture of intellectual justification and rationalization is cast into a living, complex human being so that the reader has no way of splitting the person off from the beliefs and attitudes. We know, vitally, that Joseph Herity actually pressed the button on the bomb, and that he is travelling incognito with the man whose suffering from that bomb has led to the plague. In John Roe O'Neill we see the desperate adaptation of madness, the escape from all-encompassing grief into a revenge which the grieving man, in his rightful self, could not morally have undertaken. Herbert's picture of a split personality is fully grounded with cause and is no simplistic representation of two-in-one but an aware and informed vision of the agony of the vague awareness with which O'Neill lives. O'Neill has adapted, however horrible that adaptation may seem. Herity copes, a mixture of guilt, violent arrogance, cunning, and self-justification. Around them Ireland copes, but on the odyssey this is seen primarily in terms of individuals.

In O'Neill's creation of the plague Herbert has found the ideal expression of the assertion that individuals, not governments, can change the world. Colin Greenland points out in his review that the novel seems to shy away from examining the implications of a world with few women but I take this ommission as an expression of Herbert's sense that individuals do not foresee the outcomes of their actions. In *The White Plague* the mad scientist is mad for good reasons, sees and reacts to what he has wrought, and that is the central subject of the book.

It seems to me that any evaluation of *The White Plague* must take what has been said here into consideration. Several other things warrant consideration as well. The outcome for John Roe O'Neill seems stylistically awkward at first glance, for even Ireland would seem an unlikely place for a human character to turn into a mythic being lapping milk from dishes on doorsteps at night. Yet I am not seriously troubled by this outcome, for O'Neill's horrifying achievement is the stuff of myth, his guilt an easy match for Cain's. Moreover, as with so many events which are the stuff of myth, from his act of great wrong it appears there is going to spring great good in the form of disease control and other genetic engineering.

Much more important to judgement of the novel as a whole is the importance of its central ideas and the way in which the private central narrative is the "right" structure to bear them. The novel's first principle, as suggested above, is that the dream of the mad scientist is now a reality, that with genetic recombination (as, perhaps, with the separation of certain dangerous brain chemicals and other advances) one man could quite easily change the world. This, in turn, produces a story which turns on that one man, asserting that in his choices lie the future of humanity. By implication this brings moral behaviour, the actions of man to man, into the place which is often occupied by theories of groups and masses. That place is the key to the future. From this it follows that the novel must feature this principal actor, showing in all possible depth why he acts, what he does and, of absolutely vital importance, how he reacts to his own undertaking. This is why the basic idea of *The White Plague* is best communicated in the intense and private experience of the Irish odyssey of John Roe O'Neill and Joseph Herity.

Notes

1 Frank Herbert. "Science Fiction and a World in Crisis", ex. *Science Fiction: Today and Tomorrow,* Penguin, New York, 1975, p. 75.
2 Colin Greenland. *"The White Plague"*, ex. *Foundation* 27 (Feb., 1983) p. 83.

Letter

Dear *Foundation:* January 1984

Naturally I was appalled to read Christopher Priest's review of *Staying Alive,* not only because of the ad hominem nature of the attack but because if Priest really is sincere, the unfortunate insularity displayed goes far to explain why what was once a very Transatlantic genre has degenerated into the present situation where so many British writers of worth are failing to find either audiences or publishers in America.

Priest is dead wrong about the Boom, the Bust, and the present situation in American sf publishing. In hindsight, it is quite obvious that what has occurred is not simply two more swings of the cycle but a complete transformation. The American audience for sf most certainly *has* been permanently enlarged. Straight sf novels appear regularly on the bestseller lists, more books are being published now than before the Boom if not as many as at the peak, and as far as the generality goes, what has happened is that the fate of the sf writer is now little different from that of novelists in general. Advances span the whole spectrum from best-seller levels down in some cases to the same $1500 that was being offered 20 years ago for first novels.

Priest is also entirely wrong-headed about the SFWA Model Contract. *Of course* it is heavily weighted in favour of the writer! It's a *Model* Contract, a negotiating instrument, no more meant to be crammed down a publisher's throat whole than most publishers' boilerplate is meant to be swallowed whole by any but the most naïve writer.

But it is Priest's attack on my "dreadful prose" which is most wrong-headed, parochial, and in the end, dismayingly self-revealing of an entirely constipated approach to writing English which I can only hope is idiosyncratic and not endemic to British writers, sf, or otherwise, in general.

Parenthetically, it is also entirely dishonest, for Priest constantly refers to "Spinrad's prose" as if the style of the marketplace which I adopted for *Staying Alive* were the style in which everything I wrote was written. I refer him to *Bug Jack Barron, The Iron Dream,* and *The Void Captain's Tale,* three novels whose prose styles are as entirely different from that of *Staying Alive* as they are from each other.

Particularly revealing is the fact that many of his corrections of my supposed mistakes in English are themselves entirely in error. Karma is *not* at all synonymous with destiny. Seppuku is *not* synonymous with hara-kiri. Maven has passed over into American English from Yiddish via Hollywood, and despite the *OED,* it now connotes someone in charge, someone with power, for alas the mavens of publishing and media these days are far from being "experts" or "connoisseurs" of anything.

Moreover, and perhaps at the heart of the matter, is that so many of the passages he quotes as difficult to understand are quite clear to an American, and what he claims is lacking in irony if anything is overburdened with same, that irony arising precisely from the free juxtaposition of slangs of various sorts tossed into the sorts of sentence structures one might find in academese and from the general concept of a mutational English arising from a mutational and fragmented culture to which Priest is so utterly tone-deaf.

In short, his whole plaint reeks of the sort of uptight defence of the purity of the King's English more commonly (one hopes!) found in the ludicrous attempts of French aca-

demicians and even governments to protect the purity of the French language from treasonous Anglicisms.

But of course the whole genius of English, or at least American English, is that instead of protecting its purity, it has borrowed words and constructions from other languages with the avidity of a pack-rat and made them entirely its own, to the point where the extended English vocabulary is something like *double* that of any other language.

Priest complains that I interpret the meaning of words in the loosest possible manner. Fucking-A, Chris! For when it comes to writing fiction, and science fiction in particular, it is precisely the mutational looseness of English grammatical structure, the richness of its many strains of slang, the fact that the same word can have many connotations, some of them even contradictory, and most of all the fact that English allows the writer to create new connotations, even new meanings, which are readily comprehensible in context, which allows the fiction writer and most particularly the science fiction writer to adopt prose styles that arise out of and express the consciousness of the character, culture, and ambience being depicted, rather than some standardized "good English" culled from textbooks on rhetoric and the *OED.*

In short, it is in fact possible to write prose styles, emphasis on the plural, which relate to the world, real or imagined, rather than merely to some agreed-upon and quite thoroughly embalmed consensus of what is appropriate "high style" for "fine literature."

It occurs to me that the failure to even comprehend this concept may be why such British writers of substance as Priest are now failing to find American publishers or an American audience. Interestingly enough, certain British sf writers who are at least open to this possibility, such as Aldiss, Moorcock, Brunner, and Tanith Lee do not seem to have quite the same trouble.

Norman Spinrad *Los Angeles*

Editor's Note:

Ironically, since the above letter was received we have heard the good news that Christopher Priest's new novel, The Glamour, *has been accepted by an American publisher who has agreed to pay a very large advance (certainly the largest sum that Mr Priest has earned so far in the USA, and one of the biggest advances that has ever been paid to a British sf author).* The Glamour *will be published in Britain in October 1984 by Jonathan Cape Ltd. Meanwhile, Mr Sprinrad's recent novel,* The Void Captain's Tale, *is reviewed by John Dean elsewhere in this issue of* Foundation.

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(November)

Reviews

New Worlds: An Anthology
edited by Michael Moorcock *(Flamingo, 1983, 512 pp, £3.50)*

reviewed by Nick Pratt

Twenty years have passed since Michael Moorcock took over as editor of *New Worlds* and quickly consolidated a forum for that burst of experiment and creativity generally referred to—with more convenience than precision—as the British new wave. Twenty years is a long time in the late twentieth century, long enough, perhaps, to justify a retrospective anthology of this kind, especially as Moorcock has tried to avoid material frequently reprinted elsewhere. With a surreal cover by Joan Miró, a 19:8:2 combination of fiction, non-fiction and poetry, and a predominantly English—and very predominantly male—range of contributors, his selection recaptures something of the flavour of a typical issue. However, as he points out in the introduction (a lively blend of history and polemics, substantially the piece published in *Foundation* 15 as "New Worlds: A Personal History"), it would be futile to attempt to recapture the original "ambience." The magazine was very much a product of its times, and "it is anger, impatience, optimism and idealism, not nostalgia of any sort, which creates the most worthwhile and lasting changes."

In view of that the captious might question an index which takes 130 pages to list the contents of every single issue (for serious students this "deliberately idiosyncratic" appendix will be useful but not infallible; for many casual readers it is likely to be an irrelevancy). Even so, when it comes to the text Moorcock's point remains a sound one: to quibble interminably about inclusions and exclusions would be an exercise in nostalgia. Better by far to consider the book as it reads today.

First and foremost, the contents are remarkably varied. Few anthologists (or magazine editors, for that matter) would have time for both David Masson's "Traveller's Rest" and "The Eye of the Lens" by Langdon Jones, the first a meticulously developed story cast in a traditional sf mould, the second a heavily allusive kaleidoscope of powerful and fragmentary images. Poles apart maybe, but the other contributions fill up the intervening spaces easily enough, all the better to refute those dedicated classifiers who noted only the most extreme and superficial features before labelling *New Worlds* a licentious hodge-podge of violated grammar. In fact less than half the stories gathered here take even the slightest of liberties with the linear narrative, and even fewer have any sexual content.

But no amount of juggling with statistics will reveal a *New Worlds* pattern because there never really was one. At most a motley collection of writers found themselves linked at the level of intention, where the refusal of *any* prescriptive straitjacket is—like their pervasive disdain for galactic saviours, unequivocally happy endings, and other such soothing simplifications—the natural consequence of a determination to look within and discover individual approaches appropriate to a world transformed by rapid social upheaval, a communications explosion, and a loss of scientific certainty (in "hard" and

"soft" sciences alike).

Intensely curious, many of these authors assumed (rather too readily perhaps) that their audience shared that curiosity and was no longer content to be lulled into passive acceptance. And so they set out not only to amuse but also to stimulate readers' own speculations. Meanings are often veiled—in today's parlance, connotative not denotative—and the literal and the metaphoric blur into each other: the ambition was both to explore and to express rich juicy chunks of contemporary experience, and the results might be as straightforward as Charles Platt's thinly fictional exposé of the disaster story's escapist appeal; as slyly knowing as the humorous fusion of guilty lust and the space programme's latent eroticism in "Gravity" by Harvey Jacobs; or as radically elliptical as the "condensed novels" of J.G. Ballard (here "The Assassination Weapon"). What matters is that the work demands to be read much as modern life must be lived, with a finely tuned sensitivity to inference and ambiguity, and a willingness to harmonize apparent incongruities.

Because this kind of immediacy called for an alert and inquisitive eye rather than a propensity to approve or disapprove, a great deal of it has remained perfectly fresh and accessible whilst more pontifical reactions from the Sixties have shrivelled into short-sighted quaintness. After all, volatility and uncertainty have lost none of their clout in the Eighties, however much our—subjective—susceptibility to surprise may be dwindling.

That insidious interplay between subjectivity and perceived reality was itself a constant fascination for most of the contributors to *New Worlds*. Well absorbed, it gave rise to a fiction of vivid and highly personal glimpses, with backgrounds shaded in lightly to hint at a bigger world rushing onwards and busily recompiling just offstage. In "The Valve Transcript" Joel Zoss gives a participant's view of a minor industrial incident. A tissue of certainties, misapprehensions and divagations, his first person narrative is all the more convincing for ignoring such self-evident matters as time, place or identity. Hilary Bailey wastes no words in "Dr Gelabius" on her implicit brave new world, but goes straight for the human conflict it generates; Robert Meadley's "Conversations at Ma Maia Metron" is confined to a brief casuistic interlude in the—presumably eventful—life of a quasi-mediaeval soldier-penitent. In their different ways all these examples recognize that no situation is ever completely knowable, that cause and effect always ripple tantalizingly out of sight. Life, they assure us, cannot be grasped as a seamless whole or subsumed under a single set of rules, and fiction would be dishonest to suggest otherwise. In "Mr Black's Poems of Innocence" D.M. Thomas is more emphatic: there can be no question of using the same scales to assess the relative merits—or distortions—of Jimmy Black's lyrical schizophrenic perceptions and the cold professional detachment of his conditioner. Each may act upon the other, but essentially they exist in different realities.

Such discontinuities are fundamental to the contributions by Aldiss, Ballard and Moorcock, which probably explains the frequent assumption that these three epitomize the *New Worlds* ethos. Each offers an idiosyncratic vision of a world grown so complex that consensus reality collapses beneath the seemingly arbitrary intersections of separate value systems. Aldiss includes psychochemical fallout, but for the others the broil of contingency which already surrounds us makes rationalization redundant; and all three acknowledge confusion without admitting despair because it is the nature of these catastrophes to liberate individual fantasy—given sufficient conviction, one way to manipulate an environment of metafiction is to write your own script.

In "Multi-Value Motorway" Charteris does so with a messianic faith in the utopian possibilities released by the acid-head war. But few of those around him are able to abandon themselves as joyfully in the flux, and Aldiss notes strengths and weaknesses in each tendency. Moorcock's Jerry Cornelius prefers to work with style, breezing through "The Tank Trapeze" with his usual panache until he is unexpectedly murdered by a former associate, the wild card who cannot stomach flamboyance in a business that conventionally calls for a troubled conscience. Love or loathe Cornelius, the sudden squalor of his death is shocking; a cryptic resonance is left echoing back and forth between his snuffed confidence and the story's otherwise unrelated sub-headings (bulletins on the Russian invasion of Czechoslovakia). The obsessive Traven of "The Assassination Weapon" is at first sight the most enigmatic protagonist of the three. But because his shifting fetishes are transfigured elements of the everyday, and because Ballard's dispassionate prose brings out their iconic significance, the suspicion grows that Traven may well be tracing some deep stratum of psychological truth. Certainly his final reverie, emblematic of Duchamp's new sensibilities, carries intimations of an opaque and private fulfilment.

Success or downfall, privacy is the way of it: generalizations cannot hold when the collective ontology becomes increasingly syncretic and shaky; and as the once-comforting assurances of established rules of conduct fail to adapt, individuals are obliged to devise their own survival strategies. This is precisely what Charteris, Cornelius and Traven do, embracing their times without reservation, taking their chances and pursuing identity as best they can. Outwardly amoral, each is scrupulously loyal to his own code, prepared to exploit the world but never to pass judgement upon it. With objective standards falling apart around them there's a peculiar innocence in that.

Guilt can be every bit as peculiar, and one of the most exemplary achievements of *New Worlds* was to foster the understanding that the buck never really stops. Scapegoats have an undeniable appeal, but M. John Harrison provides none in "Running Down." Instead he takes a rigorous and compassionate look at numbed human dignity being confronted and ground down by the intractable. It would be a relief to know that Lyall is beset by some occult malediction, and perhaps he is; but whatever the clinical details of the situation, they are beyond his hapless grasp or that of the simultaneously appalled and fascinated narrator. Blame, that first precondition of a solution, is quite impossible to assign. The magazine's more pyrotechnic experiments may have fizzled into obscurity, but it deserves to be remembered for work like this, combining an unflinching awareness of life's circumstantiality with a readiness to grant significance to the ordinary and uninvested individual.

Though Moorcock refused to call it a "best of", the book is well stocked with examples. That combination sits at the heart of "Masterson and the Clerks", one of the finest of John Sladek's parodies of bureaucracy. Even Masterson, who comes on like an ogre, goes off like some shabby and deluded Superman, and Sladek's habitual and irrepressible sense of the absurd is an effective counterpoint (and initial sugar-coat) for the story's growing pathos. Not that recusancy is any safer than complaisance: when the combination turns up again in "The Heat Death of the Universe" it carries a sharp reminder that few of us have the impervious egocentricity of the true outsider. Here Pamela Zoline's loose application of the second law of thermodynamics is an artful metaphoric conceit which allows her to blend (to their mutual intensification) a movingly personal

crisis-in-suburbia with the claustrophobia latent in our affluent society. Sarah Boyle is a unique and complex human being, and no handy definition can encapsulate her or explain her breakdown; but as Zoline demonstrates with wry economy, we all walk that knife-edge in a culture which is at once munificent and omnivorous, capable of offering Everything whilst stripping everything of meaning and making a nonsense of discrimination.

But for an ironic appreciation of how subtle and unrecognized enmeshment can be, it's hard to beat Thomas M. Disch's picture of a near-future New York. Driven by curiosity and their need for individual expression, the frustrated adolescents of "Angouleme" realise full well that absolute innovation is beyond them and settle for a plot with purely personal significance. Even so, they are doomed before they start because their grand romantic gesture requires a concentration guaranteed to erode impersonal resolve; and doubly doomed by the simple fact that if ever they carry it out it will lose all its lustre and become just one more statistic. Poor kids—yet what they have in mind is murder. Where then should sympathy lie? Disch gives no clues: like his characters, his readers are faced with an uncompromising realism in which easy answers have no place.

This celebration of the world's intricacy runs through Moorcock's selection of critical essays too. The original desire to popularize may have given way to a more illustrative intention here, but the impatience with parochialism still comes through loud and clear. As contributors discuss the seepage of scientific preconceptions into everyday life or examine the work of Eduardo Paolozzi (nowadays conspicuous in the revamped Tottenham Court Road tube station) they reaffirm that a sizeable part of communication is in the eye of the beholder. That inevitably makes any cut and dried demarcations—not least those of genre—look pretty chimerical.

The more bookish pieces are equally quick to expand their fields of reference. "Colvin" delivers an exhortative—and over-optimistic—speculation on imminent socio-literary maturity. Clute instructively applies general critical standards to sf. Harrison divines links between the bookshelf and the street as he considers the popularity of fudging and cut-price apotheoses. Even Adolf Hitler makes an appearance when a reprint of *Mein Kampf* moves Ballard to sum him up as a "half-educated psychopath inheriting the lavish communications systems of the 20th century" and to liken him to Lee Harvey Oswald, similarly attempting "to grapple with the information overflow that threatened to drown him."

Amidst that torrent *New Worlds* seemed like a canny life-belt to some and merely additional spume to others. Once the sf community swallowed its feelings of outrage and intimidation it began to loot the magazine for new possibilities of language, viewpoint and subject matter, although for the most part it still regarded the moving spirit behind these innovations with incomprehension or outright distaste. But without that sense of the wondrous and terrible proximity of the unknown, such spoils are nothing more than tricks of technique to be absorbed and sanitized by the old didactic conventions. Which is a shame: sf is at its strongest when striking out into unmapped terrain, not following over-prepared paths where value judgements loom through thin fogs of allegory like regular and reassuring road-signs. For new readers (or those with short memories) there's plenty of persuasive and entertaining evidence to be found in this anthology.

Several large bookshops are displaying it as general fiction, and on balance that's probably the best place for it. The new wave may not have fulfilled the pioneering tasks spelt out in Moorcock's early editorials, but its participants often ventured into regions

which other writers have come upon by other routes. It seems fitting that the book now shares shelf-space with the likes of Salman Rushdie and Rachel Ingalls, magical realists who are certainly not direct descendants of *New Worlds* but whose equable contemplation draws no distinctions between modern life and the fancies we project into it, between the world we inhabit and the world we assume.

The Man in the Tree
by Damon Knight *(Berkley Books, 1984, $2.75)*

reviewed by Gregory Feeley

Damon Knight writes infrequent novels of unusual interest, whose uncertain position in what passes in sf for a critical canon owes more to their uneasy status as unified works than to Knight's sporadic bibliography, and still more to their peculiar evasiveness of meaning. *Hell's Pavement* and *A For Anything,* his two novels of the 1950s, are usually considered companion-pieces because each develops scrupulously the long-term implications of the introduction of a single, rather implausible invention into contemporary society; a major contrast is that *Hell's Pavement,* like most of Knight's novels, is an elaboration of earlier magazine material, while *A For Anything* was evidently conceived in its present form. More significantly, *Hell's Pavement,* which follows rather disjointedly the progress of a young rebel as he makes contact with a Resistance to the absolutist order the novel's invention has spawned, culminates with the rebel and Girl joining the resistance, whose strategy, revealed and apparently justified in the final chapter, entails the impersonal liquidation of potential recruits who prove unintelligent or fanatical. Their reasoning, explained by the idealized elder statesman of the rebellion, is accepted by the hero; and if Knight himself does not accept it, and is merely being ironical in deeper tones than 1950s sf manifested anywhere else, scrutiny of the text can bring forth no evidence for this, and the reader familiar with Knight's work must simply conclude that some level of signification was miscarried.

This difficulty in determining degree of ironic or literal intent obtains in several of Knight's relatively few novels. *Mind Switch* (also published as *The Other Foot*) describes in the manner of a shaggy dog story the accidental and unnoticed exchange of minds between an extraterrestrial hominid in the Berlin Zoo and a hapless photographer nearby. The novel recounts each unfortunate's ordeal in trying to cope with an unfamiliar body and milieu, and particularly with the photographer-become-hominid, who tortuously manages to communicate his plight. When the Zoo director, implausibly motivated, manages to ensure that the wretch is not believed (virtually everyone in the novel is a fool), the cageling resigns himself to his lot, as his counterpart outside has also done, and successfully mates. Save as a lively cartoon on the ubiquity of human fatuity, no reading of the novel or of Knight's presumed intent makes any sense, and one must conclude that Knight, who regarded *Mind Switch* as his best novel and knew, as of 1965, exactly what he was doing with any piece of fiction, intended the disagreeable exercise as just that, but thought it funny.

The Rithian Terror and *The Sun Saboteurs* are both straightforward if unusually intelligent genre novels (titles by Wollheim), informed by a manifest liberal humanism less characteristic of Knight's other novels than of his short fiction, from which they were,

perhaps tellingly, expanded. The flamboyant but rather pointlessly VanVogtian *Beyond the Barrier* and the recent *The World and Thorinn,* with its puzzling disparity between the gracefulness of its writing and tableaux and the hackneyed nature of its theme (outcast protagonist finally recognized as rightful king), strongly suggest that as a novelist, Damon Knight nurtures an abiding streak of the perverse.

The Man in the Tree, Knight's longest and richest novel, raises questions of the nature of his intentions within the text more forcefully than ever, but without prompting suspicions that Knight is nodding or cutting capers. Set in America's recent past and present, the novel details with remarkable clarity and feeling the life of a giant, Gene Anderson, who possesses a psychic ability to manipulate and duplicate small objects by reaching into nearby world-lines. Anderson's childhood in rural Oregon is evoked with an attention to mundane detail unusual (still) to the genre, and Knight shrewdly forbears to overplay either Anderson's gift (which he learns early to hide) or his incipient gigantism in his account of the child's development. Most of the book is devoted to Anderson's first forty years, which he lives as a runaway, circus freak, dilettante, and ultimate millionaire: Knight's precise prose gives leisurely rise to a sequence of unhurried chapters charged with a degree of narrative tension only by the sporadic appearance of a vengeful police chief who blames Anderson for his son's accidental death. Knight's indirection in making so much of the novel relatively independent of its speculative content may disconcert genre addicts impatient for the *frisson* of the fantastic, but his subsumption of the sf element within a context of plausible, constraining worldliness creates a strong field of conviction.

The novel's quality as sf—and as problematic text—becomes salient towards the end, when Anderson develops a belated conscience toward impending world catastrophe, discovers he can heal by laying of hands, and resolves to save the world by using his attention-getting powers to preach a platform of amity and ecological awareness. Christological parallels appear, which the reader pounces confidently upon, but the characters themselves remark the parallels and discuss them inconclusively, evaporating hopes that the correspondence may prove a signpost to some palpable subtext. To the end of the novel is appended an epigraph from a 21st century scripture presenting Anderson as messiah, but in contrast to (say) the structurally identical tag in Kate Wilhelm's *Let the Fire Fall,* whose ferocious and schematic irony makes plain its author's feelings toward the foregoing, Knight's quote offers no pat meanings; his intention remains elusive.

And what non-boor would have it otherwise? A work of art should *be* not *mean,* as we dutifully learned when the New Criticism was new; and any fiction of perplexing aspect not immediately identifiable as incoherent must be allowed the benefit of doubts. Such deference to modernist supersession of clarity-as-virtue seems inappropriate when considering Damon Knight, however, whose short stories have always been models of lucid shapeliness, the significance of which, once gleaned, do not give to quicksands of ambiguity. Knight's style renders events in largely visual terms, without ornamentation, tending to objective description of characters' actions from which motive and response can be inferred. This attention to the implications of small actions is characteristic, as is Knight's recurrent interest in the steps by which things are done (e.g. the description in "The Country of the Kind" of how to terrify by splashing a cold liquid upon a victim who thinks you have a scalding one, or the account in *Thorinn* of how Thorinn retrieves his sunken sword). Both techniques achieve effects through apparent artlessness—"Masks" and "Down There" remain among the finest short stories in sf—and both inform Knight's

major influence upon Gene Wolfe, which has gone largely unrecognized. But these are the tools of a denotative art, essentially classical. Knight's novels incline, more and less successfully, toward something else.

Near the end of the novel, one character believes he understands Gene Anderson's nature. His conclusions paralleled mine, but he was proven crucially wrong at one point. If this suffices to discredit his theory, and if grounds for sounder conclusions are available to the reader, I missed the evidence for both. Knight's clarity ends in enigma, possibly explicable, certainly provocative. It defies dismissal.

Superluminal
by Vonda N. McIntyre *(Gollancz, 1984, 298 pp, £8.95)*

reviewed by Brian Stableford

Like Vonda McIntyre's award-winning *Dreamsnake* this novel is expanded from a shorter piece that has already shown some form in the Hugo and Nebula stakes. It is in many ways a similar novel, focusing on the difficulties and anxieties of its characters, who have ill-defined and problematic roles to play in their society and Herculean labours to undertake which might just pave the way for the salvation of mankind.

One can easily see the attractions of this kind of story. We are all beset by uncertainties regarding our place in the world, and we all worry about the anxiety-ridden business of entering into intimate relationships with others. It is nice to identify with characters who have particularly intense problems of that kind, and who will pull through in glorious fashion, achieving personal resolutions by the strength of their will and their toughness in compromising with the demands of reality. The salvation of mankind appears as a kind of spinoff, a casual throwaway gesture which can hardly be matched for élan. A lot of people will like *Superluminal* because of these qualities, and will praise it for its blend of grittiness and sentimentality. They will be prepared to overlook—or not even to notice—that it is basically a silly and highly-contrived story.

The three main characters are Laenea, a starship pilot; Radu, a crewman; and Orca, a member of a race genetically-engineered for life in the ocean. In order to pilot starships, people have to undergo an operation replacing their fleshy hearts with artificial ones. The operation also tends to change their attitude to unmodified humans, making them a race apart. Laenea, having recently undergone the operation, then embarks on a brief romance with Radu which is doomed to fail because she will grow apart from him. His refusal to accept this has strange ramifications, which lead him to prove (unwittingly) that some ordinary humans *can* survive the experience of superluminal travel. The role of the pilots is thus thrown into question. In the meantime, Laenea, having disappeared on a training flight, is busy discovering the lost dimension which will open up the entire universe to human exploration and exploitation.

The point about all of this is that it makes sense only as a pattern of metaphors relating to the psychological predicaments of the characters. There is no logic to the business of replacing hearts, and no sense in the pseudoscientific claptrap describing the physics of superluminal travel. In a story more like a fable—say, for instance, Cordwainer Smith's "Scanners Live in Vain", to which *Superluminal* has many similarities—this jargon of convenience would be less bothersome, but McIntyre has pretensions to literary realism

which require us to believe in and sympathize with the awesome experiences of her characters. Some readers—and I am one—will find it very difficult to take the agonizing of Laenea and Radu seriously while the situations they are in are so patently ludicrous.

Vonda McIntyre is a capable writer in one very narrow dimension. She grips her readers like Coleridge's ancient mariner buttonholing the wedding guest, pouring out a catalogue of ghastly troubles, and one has to be impressed by the floridness of her style and plotting. She is, though, nothing more than a ham actor whose rolling eyes and terrible grimaces really reflect a failure to come to terms with the part to be played. If logical rigour and analytical flair were compulsory for science fiction writers there would be very few left, and it would be wrong to say that McIntyre is simply not cut out to work within the genre, but if she is ever to produce anything worthwhile she will need to supplement the abilities she already has—otherwise, even her fans will begin to realize that her mock-profundity and showy prose are the literary equivalent of heavily processed junk food.

Heretics of Dune
by Frank Herbert *(Gollancz, 1984, 384 pp, £8.95)*

reviewed by Ian Watson

Lately, Frank Herbert has been writing more lucidly and humanely. On the one hand there's the fierce passion of *The White Plague,* pursued with an intimately personal focus. On the other hand in the "Destination: Void" series there's *The Lazarus Effect,* a joy and relief after the dropsical babbling of its predecessor *The Jesus Incident.* And in the central Dune cycle the portentous chaos of *Children of Dune* was followed by the far more human and, yes, domestic *God-Emperor of Dune* (all be it that this novel focused on the monster-tyrant, transmuting into a sandworm).

Heretics of Dune takes up Dune history long after the God-Emperor died and dissolved into a myriad sand-trout which (capsulating shards of his consciousness in dream-quanta) have by now reverted the Duneworld back from verdant pastures to the deserts of yore, tenanted once again by the giant worms.

The God-Emperor's death and transfiguration gave rise to ages of chaos during which humanity dispersed frantically away from the old imperial hegemony, to multiply and diversify (pursuing the Golden Path of rich variety and change). Now the descendants of those who dispersed are returning and bidding for power, with the main thrust coming from the Honoured Matres, a vicious bunch who control their minions through adept sexual practices; they can induce whole-body orgasm which makes a man their abject servant.

Meanwhile, our old friends from previous volumes still maintain their continuity of purpose; notably the women of the Bene Gesserit with their breeding plans, subtle and sane and highly skilled at manipulating cultures and religions, though ruthless too—you need to be ruthless to survive in Frank Herbert's universe. Nevertheless, the Bene Gesserit are definitely on the side of the angels. Their principal adversaries are the Bene Tleilax (of the axolotl tanks, whence innumerable gholas of Duncan Idaho continue to pop forth; and of the Face Dancers, the supreme impersonators). Other organizations such as Leto's Fish-Speakers (who have become hidebound), the Ixian crafters of cunning machinery,

and the Guild navigators remain in the background. Meanwhile, on Rakis (Dune) a girl has emerged who can command the worms.

Big issues are at stake, and the basic thrust of Herbert's questioning here is, as before, the old Bene Gesserit question of "what it is to be human?" Specifically, in the matter of sex and procreation. Leto's Golden Path of apparently chaotic dispersal and enrichment of the genes at random is opposed to the Bene Gesserit's millennia-long nurturing of special human characteristics—though the Bene Gesserit are hampered by the fear that, the God-Emperor foresaw and foreguessed all, thus his chaos (after the long centuries of his static rule) is in fact the more cunning plan. In this arena the Honoured Matres, who are an evil parody of the Bene Gesserit, pose a terrible threat by making of sex not a tool for genetic enrichment but an end in itself, a dehumanizing power weapon. Nor are the Bene Tleilax—purveyors of gholas to the Bene Gesserit—pure of heart, since their axolotl tanks, as it turns out, are actually human women made into breeding *machines*.

In another sense the conniving Bene Tleilax are pure indeed, for they have been concealing for untold millennia their true purpose, which is religious—the pursuit of the Great Belief, alias the Islamiyat; and here comes one big shock, for the Bene Tleilax leadership are actually Sufi Grand Masters, a revelation which I found *wrong,* and opportunistic on the part of Herbert.

Sufism has been easing its way into sf of late (one notable exemplary instance being Philip Farmer, with his Sufi Nur in the Riverworld series, and the whole novel *The Unreasoning Mask).* But Herbert's Sufi masters are oppressive, deadly and ultimately gullible, in a manner alien to true Sufism; so that one suspects that Herbert does not actually understand the Great Belief which he now springs on us—rather, he exploits it. Yet perhaps the Bene Tleilax are corrupted, semblance-Sufis locked in an inflexible, un-Sufilike role; and in a novel of doctrinal heresies, why should this not be the case? (The answer to that is that they have maintained their tradition intact and covert for so very long.) Actually, Sufism is not inevitably locked into any Islamic doctrine; Islam is only ever the clothes worn by Sufism at a particular historical period. Yet admittedly Herbert's future *is* pervaded, as though by mélange spice, by Islam. So perhaps we have a species of Islam mimicking Sufism—Face Dancer style—rather than the other way about.

And even so, as a Sufi might say: does not falsehood point a finger towards the truth?

I have another eerie reservation about *Heretics of Dune.* A signature of Herbert's style is the way in which his characters are ever responsive to subtle clues and signs, to verbal, bodily and environmental nuances; to the face beneath the mask, then to the truer face which lurks further beneath. Characteristically Herbert's people operate in a milieu where it is fatal to misread such signs, and where immense stress is laid on correct insights.

Yet from page 266 (in the Gollancz edition) onward intermittently, to my ear false notes abound—as though a face dancer Herbert has mimicked the author, and not got it quite right.

Descriptions cease to be sharp. Instead of reciting the Litany of Fear, "Taraza went through the well-remembered regimen to restore a sense of calm" (284). "Well-remembered" is simply an untrue periphrasis to express the depth of Bene Gesserit training; the Litany isn't something you remember well—it's psychological life-blood. This is an evasion by an author whose stock-in-trade is the danger of evading insight. "All of her considerable mental powers in hard focus, Taraza re-examined the implications . . ." (281). No, not *all* of her powers. Specific ones; Mentat-type ones. And "considerable" is

just a banality, a fog. There are a number of instances of this strange slackness.

Then again, suddenly lots of local colour is pushed in, arbitrarily and fancifully, as filling. "Lucilla recognized the device. Users called it a hypnobong and it was outlawed on all the more civilized worlds" (328)—this, purely in passing, is amateur invention, for we never know what is it, or why. "There was a dewcarpet on the floor as soft as brantdown" (355)—more once-only arbitrary décor in a book where everything must be essential. We encounter, fleetingly, "semuta." "There was music, though—a faint susurration reminiscent of semuta. Something new in semuta addiction?" (329) At first it's hard to know if semuta is a musical instrument, a drug, or a spice—and if the music is something *new,* how can it be reminiscent?

Or consider how the military Bashar, Teg, is a Mentat who can memorize a whole complex forest route he has never even seen—and who was trained by the Bene Gesserit who can detect messages left in the wear-marks on furniture in a building which has been blown to pieces; *this* level of attention! Yet while Duncan Idaho is being guided to safety through animal tunnels (308), he reflects that "one animal tunnel appeared much like another" and wonders how his guide Ambitorm can remember the way. Duncan has been scrupulously trained by Teg, and since the awakening of his original memories has transcended even Teg's teaching. After all this, Duncan would *not* consider any tunnel to resemble any other, and he should wonder not how his guide acquired the memory-skill to identify them—skills which Teg has amply demonstrated—but rather where and why such skills were acquired by Ambitorm. Duncan asks himself the wrong questions. This is false; a face dancer is writing it, betraying himself by wrong pheromones.

Snow falls, thus footsteps will show. "Were there traitors in Weather Management?" (251). Yet later (311) "it was obvious that Gammu possessed *rudimentary* weather control" (my emphasis). So why suspect a spot of stray snow, if weather control is rudimentary?

The fleeing Duncan accepts a drink on a cold night, "then put it to his lips. Hot! But it warmed him as it went down." (309) What's it supposed to do? Chill him?

Burzmali and Lucilla are both in disguise and trying to escape notice by acting as others act. So he takes her to a "commerciel" (328) which he describes as "recommended highly." This scruffy proletarian snack-bar patronised by scurrying night factory workers wouldn't have been recommended highly by anyone; only a half-wit would have gone in at precisely the time when all the rest of the customers rush off—and then the subtleties of ordering appropriate nosh in this dive resolve into two glasses of flavoured milk which it seems *de rigeur* to slug down instantly. This is amateur improvisation, beginner's story-writing. Suddenly things don't fit; they don't make sense—no matter what sort of psychological upheavals Lucilla is going through, face to face with the nitty-gritty of Gammu gutter life.

At this point a Marxist will note that here for the first time we verge on urban working class culture (as distinct from the citified peasantry of the Duneworld's capital city); and the Bene Gesserit social manipulator is so detached from this—like an aristocratic nun—that it all comes as a disorienting shock. In which case, what price her expertise at social behaviour?

Teg, we note, expresses sympathy with the urban proletariat which the Honoured Matres scorn as scum (and Teg proceeds to transcend himself)—though actually Teg's populism resolves into the rallying of a brotherhood of ex-soldiers who all still honour

him and will die for him, and *do* die for him; which isn't populism, but veteran male bonding.

But may it not be that in writing a seedy urban scene—outside of Keeps and Temples and Guild Houses—the author feels awkward and resorts to "spaceport backstreet" clichés? (What, when Herbert in *The White Plague* feelingly addresses an urban working class problem, terrorism in Ireland? Ah, but for so much of the time he does so in a *rural* setting, keeping his terrorist to the woods and fields and byways. When *The White Plague* deals with a city, we have ruins, guarded rooms, enclaves, defence systems.) Yet I do not think that this is the principal cause of discomfort, and false signals.

A lot of false signs, which are quite unlike true Herbert, intrude after page 266 (but not before), and Herbert has sensitized us scrupulously to precisely such betraying details. The latter part of *Heretics of Dune* still delivers convincing goods, yet it keeps on lurching as though Herbert has asked an apprentice to fill in some blanks in the canvas—which is doubly puzzling when Herbert's last collaboration (with Bill Ransom, in *The Lazarus Effect*) works without any such flaws.

So what is going on? Perhaps it is a tribute to how thoroughgoingly Herbert raises our awareness of hidden imports, or revealing or deceitful signs, that when these signs crop up latterly in this novel alarm bells go off in our head. Or perhaps it is something else.

In short, *control is slipping.*

Consider how, after all the believable subtleties of Bene Gesserit prana-bindu training and of Duncan Idaho's fighting arts education, Reverend Mother Lucilla suddenly starts bragging about how she has mastered the three hundred steps of orgasmic amplification, the two hundred and four sexual positions, the two thousand and eight excitation points in sequence and combination (276). This reads like brash babble.

Consider how "too many people know about the fugutive pair and their intended rendezvous" (342). Oh yes, indeed, when in fact (315) everybody on the planet is so very busy looking out for the fugitives to help or hinder, or observing the situation, or running interference that in reality there can be no spontaneous human activity going on anywhere (*pace* semuta addicts and hypnobong patrons and the other spear carriers) which does not focus precisely upon the principals in the story. Since realistically this is impossible, actions cease to seem properly motivated. No more do huge numbers of orgasmic amplification steps make Lucilla seem more in control of the human body; she becomes a caricature instead. Control isn't tightening, but slipping.

Actually, what is going on by now in the action requires such total monitoring of innumerable tiny details by whole teams that any master plan would be totally overloaded. The monitoring and control system for processing real-time information and manipulating events isn't hierarchically large enough to do its job in the way it apparently does. A year's worth of analysis—of signs, clues, implications—can't be crammed into a flying visit. SWAT teams are not archeologists; as Herbert well knows, since in *The White Plague* he deploys a team of archeologists to sift one crucial destroyed laboratory. Yet *Heretics of Dune* increasingly requires SWAT teams to be as diligent as archeologists.

This is the real reason why, *in extremis* both plot-wise and narrative-wise, Bashar Teg suddenly speeds up dramatically, thus regaining control of events. Teg knows not why or how he speeds up, to perhaps fifty or a hundred times the normal human rate; nor do we discover how, except that he has been forced to a new level of consciousness and action. Nor do we hear more analysis of this quite remarkable phenomenon. But here is the way

that analytical control, falling apart through excessive demands on it, is redeemed: the pace of the control activity suddenly, mysteriously, multiplies many-fold over the events to be controlled.

What has happened (and what the betraying details signal) is that the book itself has got out of control, in a way which never occured before. Speeded-up Teg discovers the key to redeem this situation, metaphorically as well as actually, but this is a key which is too quick in its action for ordinary narrative (and human life) conditions, however enhanced and sophisticated by prana-bindu and whatnot.

Teg does rescue the situation, but he is about to render redundant everything that the Bene Gesserit (and others) train for. Thus he is summarily killed; and we accept this in the greater gore-poetry of the sterilization of the Duneworld itself—with one worm shipped out as an insurance policy.

Teg in fact almost achieves a Sufist "Khidr" state of acting simultaneously in many places at once; but since the Bene Tleilaxu are exposed as dupes, no connexion can be made between what Teg achieves, when he transcends humanity, and the now derided Great Belief.

Teg becomes the key; the key is destroyed, because the key is too powerful—and the act of destroying it is concealed by a greater destruction, of Dune itself. Perhaps that is why the destruction of the Duneworld is conducted off-stage, and almost cursorily. For it is not the true event. Regaining control, Herbert hides the nature of that control, burying it under a whole devastated planet. Such a sacrifice (despite the one escaped worm)! But such demanding necessity, too!

That destruction, so the story claims, was indeed the long-term cunning under-plan of the Bene Gesserit. As long as the Duneworld remained, with the worms encapsulating the dream-quanta of Leto's awareness, everyone would continue to feel psychologically oppressed by him; thus the Bene Gesserit manipulate events so that the Honoured Matres obliterate Dune.

In the process they also destroy Teg, who stayed behind in the middle of uninhibited desert to create a "diversion".

And so Herbert, too, frees himself from the splendid (though lucrative) tyranny of the Dune cycle. Perhaps.

Barring one worm, which can breed many.

And barring Teg's transfiguration, the transhuman miracle which inexplicably restores control, over the uncontrollable—even though this is hastily erased, in the razing of Dune.

Heretics of Dune, amidst many narrative successes in true Herbert vein, also enacts a disin-Teg-ration of the author's narrative method and of his biopsychological "teachings"; and a rescuing of the story by a miracle.

The Bene Gesserit might approve—" 'We have a problem which cannot be resolved by rational means' " Taraza said (147)—though only as a strategy, a power-ploy, a way of restoring control; and probably they would feel obliged to do away with the author of such a deviation, as Herbert himself does away with Teg. For in the end the author himself is the real heretic.

Fire in the Abyss
by Stuart Gordon *(Arrow, 1984, 322 pp, £1.95)*

reviewed by Colin Greenland

The idea is a good one. Sir Humphrey Gilbert, soldier, explorer, half-brother to Sir Walter Raleigh, hunter for the Northwest Passage, did not drown when his ship the *Squirrel* went down off the Azores on 9th September 1583: instead he was whisked through time, to 27th December 1983, by Project Vulcan, a sinister American experiment to harness marine electro-magnetism. Gilbert and eighty-six other Distressed Temporal Immigrants from seventy centuries are detained in a "transhabilitation" centre at Horsfield, New Jersey, which is intolerable. Gilbert and eight others escape and plunge headfirst into Western Civilization just as it shifts into total collapse. After a whirligig of wild adventures, Gilbert is concealed by a professor of Elizabethan history in his country retreat, and writes his memoirs. *Fire in the Abyss* is that book.

The idea is a good one. The problem is that the idea gets overlooked.

Science fiction alienates the familiar and familiarizes the alien. Sir Humphrey Gilbert writes first of his boyhood at Eton, his conversations with Queen Elizabeth, his campaigns and his home life, his calamitious expedition to the New World; but he writes of them in 1990, after six years surviving modernity. "Times change, now we are all socialists and clapper-dudgeons, beggars born and fiery men, due I think to pressures of population, cruelties of the tyrant Reason and his henchman Industry, and to the rise of the Repressed. Now I am Humf. No doubt had I the vote I'd cast it for that most interesting fellow, Mr Tony Benn." Freeways, video games, frozen food, aeroplanes, gay S&M clubs, rock music, American beer: "Humf" has opinions on them all. He is not wholly enchanted with them, but he lives with them, and with their implications, until he can't live with them any more. Stuart Gordon has wisely chosen a narrator who is in no danger of being defeated by the modern world. "Humf" is a battler, rumbustious, obstinate, short of temper. Astrologers ancient and modern tell him he's "a typical Aries." Shaven and sealed into their plastic immunity-suits, interrogated and indoctrinated by medics and hypnogogic tapes, priests and psychohistorians, other DTIs remain in shock, pine away and die. "Humf" pants and rages. Denied the world, he breaks away to embrace it, in all its mad and maddening chaos. He grapples with his double alienation.

> For how can Humf be that man who lived and moved four hundred years ago? What am I now but a mass of undigested meals? Like a babe I've sponged up all I can, I've intoxicated myself with modern image and media, I can use gadgets and turn off the TV. But I am not modern. My emotions refuse the present as my reason rejects the past. So I stay split.

The idea is a good one. The problem is that the idea is a challenge, to any author, and Gordon ultimately fails the challenge. The challenge is to maintain that sensibility, Sir Humphrey Gilbert's personality, once he has become "Humf", and to mediate the plot through it. There are images in these crowded pages that accomplish that successfully, even impressively: Humf kicking in a TV screen in San Francisco; Humf in a Devon pub called the *Sir Walter Raleigh,* having to do the washing up because Britain no longer accepts American travellers' cheques; Humf defending his violent Irish campaign of 1566 in a Californian bar in 1987, to a drunken Irish expatriate who knows his history and

thinks he is being terribly, cynically mocked. But what the pages are crowded with is eighty-six other DTIs: a Viking, a Prohibition rum-runner, a Phoenician, an eighteenth-century Welsh Methodist, and so on. Some of them, led by an Egyptian priestess called Tari, form a telepathic encounter group, which hatches an escape plan. This involves complex diversions at a Christmas party, a stolen car with hostages, and then a desperate journey through a crumbling America as Tari and Humf meet up with a rock band called Krononutz whose act is to *pretend* to be DTIs, and visit a giant rock concert where Humf accidentally takes LSD and gets up onstage, after which he and Tari go underground and travel the circuit of American "New Age" mystics and revolutionaries, but they fall out, and Tari gets shot by the FBI, and Humf goes on the bum again, and is picked up in the Salt Lake City Greyhound Station by a gay pimp who takes him to San Francisco, where he joins up with a neurotic banker who deals cocaine on the side, and, and, and . . .

As hectic thrillers go, *Fire in the Abyss* is adequate. But Gordon has not merely cast Sir Humphrey Gilbert adrift on this dizzying tidal wave of people and events; he has done so with a purpose, with a *message*. Gilbert the explorer is making a voyage of moral, political and spiritual discovery. The Elizabethan knight, the Queen's Man, has to learn the primitive anarcho-socialism of the tipi people and lead a riot in Liverpool; and he has to come to this by way of the mystical visions and telepathic excursions around the higher planes vouchsafed by Tari the Priestess and her mysterious ally Masanva the Dancer, come from the fiftieth century B.C. "to Dance the End of the Fourth World." And then he has to write it all up for Professor Greene.

Stuart Gordon has attempted too much. Unable to attend to everything properly, he takes the whole odyssey at a mad gallop. Cosmic revelations, social explosions and psychological crises whiz by in a blur. What gets lost on the way, of course, is Sir Humphrey Gilbert. That vital, brave, voracious consciousness is squeezed flat to make room for everything else.

The failure is a failure of language. While he has Gilbert describe having his fortune told at Eton May Fair, or dining with Dr Dee at the house of Cooke the financier, Gordon's Elizabethan tone holds up well. It is rich, and rhythmic, and concrete. He has done much research and transcribes it vividly, working hard to convey experiences that to us are alien, if only historically so. But bringing Gilbert to the 1980's is harder work: to describe the familiar through alien eyes. Gordon has too much else to think about to do it well, and frequently forgets to do it at all. The tension slackens. Gilbert is too readily updated into Humf. He takes too much for granted that he should at least find remarkable. He becomes a different kind of narrator altogether, lapsing into the apologetic formality of victims interviewed on TV. "We were almost all of us in such a state at that time," he writes, "that it is hard now to recall the precise sequence of events." Or, in the drama of the escape from Horsfield: " 'Never mind that!' " snapped Herbie as he slung the laundry bag in the back of the car and gestured at the woman to get out and let him in behind the wheel." Entirely appropriate thrillerspeak; but not from a sixteenth-century narrator, not if we are to believe that he *is* a sixteenth-century narrator. "I am not modern," declares Humf, but sadly, he is. His historical personality melts away, and with it, the premise of the book.

The book is not a bad one. The problem is that the idea was so much better.

The Void Captain's Tale
by Norman Spinrad *(Timescape, 1983, 250 pp, $2.95)*

reviewed by John Dean

Once upon a time there was a little boy whose name was Pip. He fell out of a boat in the open ocean. His boat—a whale boat belonging to the good ship *Pequod* from Nantucket—flew on in chase of its quarry and left Pip behind. He experienced an awful, intolerable lonesomeness. His finite body stayed afloat while his infinite soul drowned.

The document which recorded his plight informs us that Pip did not drown entirely. Rather, he was "carried down alive to wondrous depths, where strange shapes of the unwarped primal world glided to and fro before his passive eyes; and the miser-merman, Wisdom, revealed his hoarded heaps; and among his joyous, heartless, ever-juvenile eternities, Pip saw the multitudinous, God-omnipresent, coral insects, that out of the firmament of waters heaved the colossal orbs. He saw God's foot upon the treadle of the loom, and spoke it."

And when, by the merest chance, Pip was rescued—everyone considered him to be insane.

An odd story, no? What, after all, is this primal world? Where is it? In mythical, legendary, atavistic human consciousness the void occupies that ineluctable oneness of nothingness and everything which existed before the "Spirit of God moved upon the face of the waters." That is: "And the earth was without form, and void; and darkness was upon the face of the deep."

Pip's soul sank into these fulgent, primal depths in mid-ocean. Other characters have dared these exceedingly strange waters. It is a hard, haunting soulscape.

Take Ransom, in Chapter 15 of C.S. Lewis's *Perelandra.* He stares down below the surface of Venus, "down through fathom below fathom of shafts and natural arches and winding gulfs on to a smooth floor lit with a cold green light. And as he stood and looked . . . four of the great earth-beetles, dwarfed by distance to the size of gnats, and crawling two by two, came slowly into sight. And they were drawing behind them a flat car, and on the car, upright, unshaken, stood a mantled form, huge and still and slender. And driving its strange team it passed on with insufferable majesty and went out of sight. Assuredly the inside of this world was not for man."

Coral insects, indeed.

Or consider the human clones in Herbert's *Destination: Void* rocketing to Tau Ceti through the "energy void of space . . . the Primal nothingness . . . the raw stuff out of which all are created." They voyage through real space and abstract space at the same time. The clones are high-tech guinea pigs in search of consciousness. The physical, metaphysical void is the ideal medium of consciousness, "a dreaming ground . . . invoking ever new dreams." They concentrate with every bit of raw, neural fibre on finding the ultimate light. They find it. They both achieve self-consciousness and transcend it because of the purity of concentration, the fecundity of thought, the horrific ecstasy which the void inspires.

Void. Meaning: empty space, deep space, the *primum mobile,* the Pythagorean *kenon,* the source of cosmogenic nascency; and Nietzsche's *Abgrund,* Baudelaire's *gouffre,* Pascal's *Le silence éternal de ces espaces infinis.*

The silence of these infinite spaces frightens and attracts. Is this not a vertiginous theme? When used in literature to its maddening, maximum extent the void allows, invites, and seduces reader and writer to synchronize physical and metaphysical reality. Most brazenly, beatifically, and existentially of all, for modern man direct contemplation of the void discloses the abyss behind the thin, shadowy crust of mundane reality.

Enter Norman Spinrad's *The Void Captain's Tale* in relentless, brilliant pursuit of this theme.

Assuredly, *The Void Captain's Tale* is a vast, metaphysical metaphor. It is also a great story. Although, as the first-person narrator Genro Kane Gupta, Void Captain of the *Dragon Zephyr,* warns: "it would ill serve as a moral fable for the social edification of children." Contemplations of the void have a tendency to dislodge temporal principles of right and wrong.

It is a story both ancient and new. It is Pygmalion and Galatea. It is a maker consumed by his craft, a captain in love with the ocean, who discovers the full meaning of his ocean, who is able to physically realize and manifest his love for the medium through which he moves by discovering someone who is a virtual incarnation of that medium.

Captain Gupta heads a Voidship, a "free-market merchant conveying a mixed cargo of freight and passengers to Estrella Bonita," of the Second Starfaring Age. Going to Estrella Bonita means a voyage of about two hundred light years. The *Dragon Zephyr* "jumps" space through a method of condensing time and space directly linked to and relying on the pilot's body. In essence, the pilot is engine and navigator. She is also Dominique Alia Wu who has quested all her life after—what can it be called?—the ultimate experience, transcendence, satori, illumination, total, endless enlightenment.

When the Void Ship "jumps" time and space by using her special physical and spiritual attributes, she temporarily experiences this total enlightenment. It is orgasmic, to say the least. It is sexual, but we the readers and Captain Gupta must realize that sexual ecstasy is only a pallid image of "the Great and Lonely . . . the One and Only" void which infuses Pilot Wu. There is much sexual delectation in this novel. But, not altogether unlike the more puritanical *Left Hand of Darkness* by Le Guin, the explicit heat of sexual passion illuminates the meaning of "male" and "female." Yet in Spinrad's *The Void Captain's Tale* physical rapture becomes the way—the meek, mortal, ecstatic way—to translate the meaning of the void and therefore of human life itself.

This is not a straightforward book. It is excellently oblique in terms of action and language. It is written in a neologistic "anglish sprach" of the future which nicely mixes Romance languages and Sanskrit. Indeed, I think my sole complaint with this novel must be in certain moments when Spinrad is direct rather than indirect, when he avoids innuendo, when his bravura becomes bravado. When Spinrad focuses on confronting an extreme experience in *The Void Captain's Tale* he sometimes diffuses the intensity of the experience with unnecessary verbosity.

Otherwise, it is heartily recommended that you meet Captain Genro Kane Gupta and his Pilot Dominique Alia Wu. Especially Pilot Wu—this wholly tangible, credible female character, this woman who has devoured sensual and spiritual extremes all her life, who is neither quite sane nor quite sober, whose insights and experiences negate the terms, who emanates the joyous, heartless, ever-young eternity of the void. *Das Ewig-Weibliche zieht uns hinan* in *The Void Captain's Tale.*

His Master's Voice
by Stanislaw Lem *(Secker & Warburg, 1983, 199 pp, £7.95)*

reviewed by Christopher Pike

In his intelligent review of Lem's *More Tales of Pirx the Pilot (Foundation,* 30, pp 81-2), David Lake makes a number of points which apply to consideration of *His Master's Voice.* The first of these is his comment on the time gap from which Lem suffers in the West. So much of what Lem has produced could only have been written in the 60s and yet we receive it only now. *HMV,* full of the disappointments and the hopes of that decade, appeared in 1968 (when Lem's Czech neighbours heard their masters' voice). To some extent, our reception of it 15 years later is affected both negatively and positively by the time-gap: negatively, in that its picture of ignorant political manipulation of scientific effort is all too familiar now; positively, in that the quiet humanity of Lem's rational discourse on science, communication and civilization is strikingly undated.

Lake comments that "Lem's real gift is for sf on the borderland of philosophical parable," while the fly-leaf blurb for *HMV* would have us believe that Lem is here "romping through a galaxy of disciplines." No romp, this. The term may be superficially appealing against the background of such works as *Memoirs of a Space Traveller* and *More Tales of Pirx the Pilot,* excerpts from the reviews of which are printed on the back of the book in celebration of Lem's wit. But *HMV* is something quite different, a piece which is often impressively and sometimes oppressively serious. So, no romping by Lem, but perhaps a bit of yomping—yomping right over that "borderland" of philosophical parable into the very centre of its domain.

Darko Suvin (in *The Encyclopedia of Science Fiction*) sees *HMV* as a piece of formal experimentation induced by "an ideological dead-end." Franz Rottensteiner (in Patrick Parrinder's *Science Fiction. A Critical Guide)* sees it as Lem's "theoretically most accomplished novel." Furnished with suitable literary paraphernalia such as a fake editor's note and reference to other equally non-existent publications, it is a post-humously published account, by an eminent mathematician, of American attempts to understand the contents of what is probably some kind of communication from the stars, although not necessarily one directed at man. The American government has set up a heterogeneous research team of scientists to decipher the apparent signification of certain neutrino radiation patterns emanating from a point in the galaxy. The scientists, using the derived number-code as a "recipe," have created two strange substances, termed "Frog Eggs" and "Lord of the Flies," but have otherwise failed to "read" the message. The narrator and central character, Professor Hogarth, is brought in as a trouble-shooting polymath to make a breakthrough. He investigates the project, participates in a dangerous and conspiratorial experiment and fails to break the code, if code it is.

As in all parables, the events of the story are simply fictional realisations of moral or philosophical propositions. Within the framework, Lem makes the plot of *HMV* the disappearing centre of the work. The causal relationship between events is vague, incomplete or unexplained. For historical and cultural reasons shared by most writers in East European and Russian sf, Lem is high on theory, but low on its application. The means by which the scientists have "deduced" the formulae for Frog Eggs and Lord of the Flies remain almost entirely unclear, the scientists fail to elucidate even the form, never

mind the content or the purpose of the "thing" with which they are dealing. Individual events and other aspects of the story, however, have important symbolic/associative functions for the meaning of the work. Significantly, and realistically, the research team is housed by the US government in a bunkered secret nuclear research station in the desert. The apparent functions of the "message" range from the life-enhancing (in that organisms exposed to the neutrino stream develop more rapidly than normal) to the life-destructive (one possible "decoding" of the message leads to the deadly TX effect, a process which appears to promise/threaten the means of transmitting nuclear explosions at light-speed to any chosen destination). Despite his best efforts, however, man fails to abuse "His Master's Voice." It is the narrator's achievement to remove the threat of TX from mankind by secret testing which demonstrates that its effects are so random that it presents as much menace to its originators as to its recipients. Frog Eggs and Lord of the Flies themselves symbolize the apparently limitless range of possibilities: from the innocent fecundity of life to the sinister force of its transformation or anihilation. Lem does not allow us to get the Lord of the Flies = Beelzebub connection unaided: he stresses how the scientists who have manufactured it keep it two storeys underground. Will the message that has come to Earth be another fallen angel?

But all this exists only in the shadow of the narrative, a narrative (rightly described by Suvin as a *"tour de force")* which is overwhelmingly concerned with Lem's two traditional preoccupations, the nature of science and of communication. Not since *Solaris* has Lem exposed in such brilliant and sophisticated fashion the tenuous, vulnerable, ritualistic and wildly subjective nature of man's apparently objective scientific undertakings. Nowhere else has he made as clear the view that most, if not all of man's rational attempts to understand the unknown are dictated and, more often than not, vitiated by the interpersonal relations of the humans involved and a hopelessly anthropocentric method of reasoning about the universe. Even the narrator is forced to operate within the considerations of personality, protocol and career which direct the theories observable in the scientist's work and their tendency to exaggerate their "discoveries" by clothing them in mystery and even magical rituals of access and perception.

Not that Lem is anti-science. This book displays a high level of scientific/philosophical debate about the morality of science. Halfway through the book, the narrator and others debate apparently rational propositions about the good results (population control) that could flow from a nuclear war. The scientist Rappaport labels this view "logical madness":

> Baloyne named the Project "His Master's Voice," because the motto is ambiguous: to which master are we to listen, the one from the stars or the one in Washington? The truth is, this is Operation Squeeze—the squeeze being not on our poor brains but on the cosmic message, and God help the powerful and their servants if it succeeds.

Throughout, it is scientists who are concerned with this search of and by the self for morality. Fortunately, the They who sent the message have abilities beyond comprehension, abilities to protect the contents of the message not only from the scientists' misapplications, but even from their mistakes.

As the title makes clear, the predominant theme of *His Master's Voice* is communication, an elaborate exploration of Lem's linguistic concerns, concerns which reach far beyond language. This theme is presented in a structure of fine integrity which recalls the permeation of Dostoevsky's novels by dilemmas of voice. The invented Editor's Note

stresses Hogarth's reluctance to speak of the work he left in fragments, the disquiet of many about its publication, the uncertainty about the status of the major fragment which has become its preface. In the Preface itself, Hogarth takes issue with existing biographies of himself, seeking a definition of himself which will prepare the reader for the narrative to follow. The relationship between identity and communication is, of course, no accident in literature. Michael Holquist has recently taken a similar view of Dostoevsky, seeing him as "among the first to recognize that the question of what a man might be could not be separated from the question of what might constitute an authentic history."

The process of investigation of the "message" described by Hogarth is impressively complex. His discussion of the minimalization of assumptions in first approaching the problem, the difficulty of defining this communication as "letter," "thing," "recipe" or "process" and, if it was to be accepted as "letter," whether it functioned as "description" or "model," whether it was "open" or "closed" as a text—all these debates represent some of the most interesting treatments of communication issues recently seen in fiction. Further consideration of the cultural contexts of communication as they affect man and his potential to comprehend this alien communication bring Hogarth both to a glimpse of the ideal, reminiscent of the fleeting apprehensions of the truth by Tolstoy's "God-seekers"—"in that instant I experienced, palpably, Their greatness. I understood what a civilization could be based on, and what a civilization could be"—and to a resigned acceptance of human limitation and isolation, "we are like snails, each stuck to his own leaf."

It cannot be argued that *HMV* is a successful novel. Despite Michael Kandel's predictably brilliant translation, it takes some determination on the reader's part to get past the Preface. Suvin sees *HMV* as "threatening to sort out the fictional form of the novel into solipsist musings, lectures and ideational adventure." It certainly has not the balance between plot and narrative evident in *Solaris*. But, as a philosophical postscript to that novel, it is an intellectual achievement of considerable stature.

Comic Tones in Science Fiction
by Donald M. Hassler *(Greenwood Press, 1982, 128 pp)*

reviewed by John Sladek

Why is it that, whenever anyone sets out to write about humour, every trace of their own sense of humour deserts them? Is it that only certain lugubrious types—Scandinavian morticians and the like—care to take up the subject? Or does the subject itself put some kind of whammy on perfectly ordinary people, causing instant paralysis of the funny bone? Whatever the reason, the analysts of humour have always been with us. And at us. No doubt when the first australopithecine or whatever struggled to stand on his hind legs and tell the one about the cross-eyed bison, there was an australopithecine explicator close at hand to say something leaden about the meaning of humour in general, how it was an attempt to resolve the unresolvable dilemma of an emerging species; and no amount of grunting and shoving by the rest of the tribe could make him shut up.

Comic Tones in Science Fiction not only isn't exactly light-hearted, it isn't exactly about science fiction. For example, one might expect passing reference in such a book to the work of Henry Kuttner, William Tenn, H.G. Wells, Harry Harrison, Samuel Butler,

Aldous Huxley, Robert Sheckley and Karel Capek. None makes it through the fine sieve set up for this book, however. Fred Pohl makes it (though without Cyril Kornbluth), but wait a minute, so does Isaac Asimov, whose sidesplitting *Foundation* series is clearly seminal to any serious discussion of nonseriousness. In fact there's quite a lot about Asimov, comparing him to Edward Gibbon, and no doubt contrasting them too; Ursula Le Guin, meanwhile, is compared and contrasted with Jane Austen.

What seems to have happened is that Donald M. Hassler had already written an essay on Asimov v. Gibbon, a few other sf essays, and essays on various eighteenth century persons, and he decided to cook it all up into a book. But then an explanation must be sought for his chapter on Buffon, Erasmus Darwin and David Hume, so he introduces a chapter on structuralism in sf critics Darko Suvin, Robert Scholes and their "precursor", Stanislaw Lem. No sf is discussed, only sf criticism. But the subject of humour naturally leads him to the "Great Precursor", Freud. And this (somehow not so naturally) leads to a thick chapter on Buffon, Erasmus Darwin and David Hume. How are these related to science fiction? Well, for example, Darwin wrote a lush description of Venus rising from the sea, and just such a figure of Venus appears on the dust jacket of the book *Venus on the Half Shell,* by Philip José Farmer—science fiction!

Well, all these precursive chapters and stuff are fleshing out the book nicely, except... except that for the first 48 pages (out of 128, counting the Afterword and 198 footnotes) hardly a word about science fiction itself has been uttered by Hassler. One might suppose the professor is having trouble getting his motor started (a standard comic reprise in silent films) even then: half of the chapter comparing Le Guin and Austen somehow gets devoted to Wordsworth's *Peter Bell.*

So, compare and contrast: Asimov v. Gibbon (both have an ironic sense of history, or a sense of ironic history); Austen v. Le Guin (both wrote of journeys which are likened to death; the Golden Age (any golden age will do, even Asimov's) v. the Iron Age; love v. death; "prelapsarian simplicity" v. "deconstructive indeterminacy" (folks, I think that just means that ignorance can be bliss while wisdom can bring doubts).

What does he get around to saying about science fiction? This: Comic tones can be reduced to tones of irony, which in turn are reduced to ironic comparisons and contrasts, such as the meeting of alien species. Examples dwelt upon include Fred Pohl's Heeches; William Golding's *The Inheritors;* Edmond Hamilton's Artarians; two kinds of aliens from Hal Clement; two from Thedore Sturgeon; and the comment from Ursula Le Guin's Genly Ai: "For us to meet sexually would be for us to meet once more as aliens."

Ironically, Professor Hassler's tone when discussing these science fiction works themselves is lighter; it seems as though he's got so interested in his subject that he can abandon the apparatus of pedantry and float, a Pyecroft unchained. Yet most of the book is well weighted down, from its beginning—

> In what follows, I shall both describe comic balancing acts or compromises in certain fictions themselves and also balance theoretical ideas and historical generalizations from the eighteenth century to our time. More specifically, my opening chapter establishes connections among modern structuralist and poststructuralist theory, the discoveries of the great precursor Freud, and the effect of balance or compromise that can be achieved by means of the comic. From there, the rest of the book emerges . . .

—to its Afterword, in which Hassler cites Robert Langbaum's assertion that Lionel Trilling claims Sigmund Freud confirms Darwin's intuition "that there is no clear line between thinking and non-thinking." And that seems to be that.

Fantastic Lives: Autobiographical Essays by Notable Science Fiction Writers
edited by Martin H. Greenberg *(Southern Illinois University Press, 1981, 215 pp, unpriced)*

reviewed by George Hay

An important book, because it is definitive as regards the writing philosophy of key authors—also essential reading for future historiobiographers seeking detail on the ecology of the American sf writer circa 1938 onwards.

There are two sorts of essays here: I will call them "human" and "general-systems." The "humans" invite us into their lives and words: the "general-systems" writers push forward their views and findings for our own use. With Van Vogt, Norman Spinrad, Mack Reynolds and Barry Malzberg there is some overlap: with Harlan Ellison, Philip José Farmer, Margaret St. Clair, R.A. Lafferty and Katherine MacLean, hardly any—either way. Margaret St. Clair, though I would class her among the "humans," comes over as unimpassioned, almost cold. Indeed, she does not regard herself as being particularly an sf writer, and says she is opposed to space colonization—"I expect to be hanged in effigy." Well, good for her! But no excitement—

Katherine MacLean's "The Expanding Mind," on the other hand, has more genuine magic in it than all the rest of the book put together. It is delightful to become her, becoming—as a young girl—octopoids and Tarzans. Instead of calling this magic, I could perhaps have called it charity, of which there is not much about these days. Such emotional wealth can be disadvantageous; the author admits to a plethora of formulated but unwritten stories. Readers of this review are requested to write soonest to MacLean urging cessation of this holdout.

R.A. Lafferty is distinctly short of charity towards the Golden Age and all its works and pomps, which he treats in a witty/bitchy way: "Sf has been dragged back to 1946 by people named Del Rey and Silverberg and Pohl, and by other people too devious even to have names." But he scores some bullseyes: "sf is barely catching up with Joyce and Proust now." Right!

In "Amaps and Spasms," P.J. Farmer gives some riveting detail of his early life in Terre Haute, Indiana, Peoria. Riveting? Depends whether anecdotes of small-town America grab you. They do me. But if not, I think this may, about Farmer's childhood:

> There was a light from the horizon, and faint voices . . . Wordsworth doesn't mention that he saw rags of evil and fear among the trailing clouds . . . Perhaps then there was no hint of the worm in the light or the voices. And perhaps there was, since life seems meaningless unless it contains corruption and death. But it also seems meaningless unless it promises immortality. Perhaps "meaning" is just an inevitable epiphenomenon of sentiency.

You might think that fourteen pages of Malzberg on How The Publishers Did Him Wrong (again? and no, that is not the title of his piece) is not that unique. You could be wrong, though. Linking those now-familiar denunciations to his own writing history gives that pure distillation that the future historian must surely need. And, whether one accepts Malzberg's case or not, it is essential that it be put, and put well, for all our sakes. The quote I now give from his "Rage, Pain, Alienation and Other Aspects of the Writing of Science Fiction" shows why:

> *The End of Intelligent Writing: Literary Politics in America*
> by Richard Kostelanetz (Sheed and Ward, 1974, 434 pp, plus bibliography and index).
>
> Kostelanetz's basic theory, articulated over several chapters and with an occasional awesome

specificity, is that a small cabal of (mostly Jewish) intellectuals now in their fifties and sixties seized control of the major publishing/critical/review outlets shortly after World War II, exert something approaching complete control over those who would have a major career in American letters, and *won't let anyone new in.* Most specifically, Kostelanetz (himself now thirty-six) claims that almost no American writer under forty has been able to achieve a wide audience for serious work much less critical acknowledgement . . . I wish that I had come to this book a long time ago, and recommend it fervently . . . We, meaning those who toil in the wilted vineyards of commercial fiction, may soon enough be the only left to perpetuate the form. If there are any left at all.

The above was written in 1976. Does the state of British/American publishing in 1984 show that there is a case to answer here? Well, I recall a recent story by Ursula Le Guin where someone writes, "I went to town to try to buy some books, but all I could find was best-sellers." Yes, there is a case. But will it ever be heard?

Here comes Mack Reynolds, the content of whose stories I have followed with fascination through the decades, though I have often had to grit my teeth to get through his prose. Exemplified in detail in Reynolds' life-story is the whole of that side of American politics so long given the cotton-wool curtain treatment. If you want to understand the development of socialism in the United States, or what the Wobblies really were about—and you bloody well *should*—this is required reading for you. Isn't it interesting that a man with deep roots in that background became American sf's leading exponent of socioeconomics? And that that wicked ole reactionary, John Campbell, gave him carte blanche in *Astounding?* And doesn't it tell you something that only now that Reynolds is safely dead does he begin to get the respect he deserves? Take this essay and that of Malzberg, mix together, stir well, and sniff the air. Do you detect an odour? Something nauseating? Something the literary establishment thought had been safely killed and buried, long, long since?

Van Vogt's "My Life Was My Best Science Fiction Story" is absolutely *sui generis:* the general-systems approach to sf—and to life itself—as never before. Here we have in its purest form the Yankee belief that life can be divided into sections, the sections analyzed, and the results applied with benefit to all. Of late, it has become *de rigeur* to sneer at this, on the basis that, somewhere in all this analysis, the heart's essence has leaked away. To be sure, there is truth in this criticism. But tell me—is anyone happier for reading the darker pages of Ballard, Moorcock and—say—M. John Harrison? Does it mean nothing that the work put in by Van Vogt and others on General Semantics, Dianetics, and Van Vogt's own unique applications of mental and physical studies, have meant real increased benefit to large numbers of people all over the world? There is, of course, a lot missing in the formula approach. But there is a lot missing in the Beautiful-Sadness-of-It-All approach as well . . . and let me add that Van Vogt, more honest than some, is aware that he may have missed out on something, and is willing to look for it. Whereas, when it comes to his critics . . .

And now we have Harlan Ellison and Norman Spinrad analyzing the analysts, hurling themselves head-on at the lit-crit business. Both are masterly—but what a difference!

When a French fan offered to come and tell him what *The Iron Dream* "was actually about," Spinrad was, naturally, less than enchanted. But he agreed to listen, he listened, and he learned, and admits that he learned. Ellison, in like case, takes a totally different tack. In his case, one suspects there was little to learn, and, factually, one feels he may have been justified. However, one feels that Spinrad was the larger man. Larger in many ways, too: his description of "Method Writing" and his extension of it to a total life

strategy (see? there goes the formula again!) shows that, to use the title of his essay, he is indeed "A Prince From Another Land." I am not saying much about this piece, but in many ways it is the best in the book.

The grand finale consists of Harlan Ellison's definitive put-down of critical pretensions, which I hope will be made mandatory reading material at all Schools Of Writing, Milford Conferences and the like. Nothing I can set down here could compare with the reading of it. Would that I could quote at length: I must satisfy myself with an opening and a closing passage:

> I once attended a Modern Language Association conclave at which a brilliant Jesuit teacher presented a weighty disquisition on this little fable ("I Have No Mouth And I Must Scream") during which exposition he made reference to catharsis, marivaudage, metaphysical conceits, intentional fallacy, incremental repetition, *chanson de geste,* gongorism, the New Humanism, Jungian archetypes, crucifixion and resurrection symbolism and that all-time fave of us all, the Apollonian-Dionysian conflict.
>
> When the savant had completed his presentation, I was asked to comment . . . I have not been invited back to an MLA conference.

Nunc dimittis . . .

Not by Bread Alone
by Naomi Mitchison *(Marion Boyars, 1983, £7.95)*

reviewed by Leonie Caldecott

Set only twenty or so years from now, Naomi Mitchison's ecological morality tale provides an uncomfortably plausible taste of things to come. The novel centres on the discovery by two scientists working in India of new techniques in the genetic manipulation of plants. Only a few steps on, it would seem, from current experimentation, the technique (dubbed "morphogenesis"—though perhaps not quite what Rupert Sheldrake might approve of) gives rise to a vast increase in yield, size and general nutritional value amongst vegetables, fruit, cereals, pulses, etc.

Thus a breathtaking scenario emerges: the world—the *entire* world—can now be fed. No one need ever go hungry again. From this point, the imagination, especially that of the political cynic, can leap off in various directions. Who is to grow this new food, owning the means of producing it and therefore controlling who gets it? What about those who benefit from the fact of hunger, to buy labour if nothing else? Or those who might seek to use the new technology for some nefarious purpose of their own?

In the event, Mitchison settles for a scenario in which the discovery is taken up by a seemingly philanthropic non-governmental organisation called PAX, whose funds derive from a less well-publicized multinational corporation. They woo the two scientists at the centre of the work, the English Anne Tomlin and the Sikh Saranjit Singh, into placing themselves under the PAX umbrella. It is agreed that the food produced by PAX will be distributed, free, around the world, adapted to local taste wherever possible.

And of course PAX's corporate bedfellow will benefit from the consumer boom that results by freeing income once spent on food.

The whole thing smacks of the early days of nuclear power, when its proponents went into ecstasies over the electricity that would be so cheap to generate, it could almost be given away. The nuclear parallel is hinted at several times in the novel. But Tomlin and the

others are involved in a much more benign field; who would argue with the aim of creating a horn of plenty with which to feed humanity? If giving lovely bouncing babies to infertile couples warms the heart, the vision of putting an end to hunger sets up quite an emotional flutter, as for example when the biologists first contemplate the possible consequences of their discovery.

> "It might be for good, Saranjit," she said with a choke of moral embarassment.
> "That won't be for us to decide," he said, "anymore than Rutherford decided what was to be done with his split atom. If he had known . . . But I cannot think that what we have succeeded in doing can ever be hurtful."
> "Perhaps not," she said. "But it could make—a difference. You never know." She shivered. It was the air conditioning. She had never liked it.

Much of Naomi Mitchison's dialogue, both internal and external, has this somewhat tongue-in-cheek flavour. The irony, however, masks a serious intent: tackling the issue of what constitutes the quality of life, as opposed to a standard of living. Once you have filled people's bellies, have you created another kind of emptiness, another kind of hunger? Are people ever satisfied merely because they are freed from extreme want? And indeed—is total satiation altogether a healthy state of affairs? Halfway through the book, Anne Tomlin starts to worry about the bland standardization that Freefood has brought about, and observes that "bored people can get very nasty to one another."

To provide a contrasting model, Mitchison takes us to Australia, where national guilt has recently been alleviated by the creation of an independent aboriginal state, called Murngin by its inhabitants (and of course something completely different by central government). This becomes one of the few areas to consistently refuse Freefood. Some American and Canadian sects, we are told, also refused it at first, but eventually bowed to "progress"; a dig at the ephemeral nature of fundamentalist convictions as opposed to traditional cultures' staying power, perhaps?

The initiation into a different world-view comes about through Saranjit's younger son, Rahul, who after a visit to Australia with Anne Tomlin as an adolescent (PAX have another research unit working on making the Australian desert flower), is captivated by the Aboriginal way of life and returns to live with them and study the desert plants. Thus he becomes a bridge between the old world and the new, a defector from the technocratic ideal (his elder brother, meanwhile, is coining justifying newspeak for the god of technology in the PAX "ideas" department). Rahul's close relationship to Anne enables him to persuade her to declare Murngin a "control" zone, so that Freefood is not forced upon it and the Aborigines can pursue their particular relationship to the land and their natural environment. All of which, conveniently enough, occurs just at a time when Tomlin's own doubts about morphogenesis and its social effects are really building up, and when she is obliged to respond to increasing pressure from other scientists concerned about this form of genetic engineering. The doubts eventually materialize into concrete disaster, as some of the super-produce develops unexpected toxins. In the face of the human tragedy which results, Tomlin (along with the head of the Australian research station, who skips over the boundary and joins the aborigines too) becomes an out-and-out heretic to the PAX ethos.

Not by Bread Alone touches on a host of political, cultural and psychological themes, not to mention playing with some interesting scientific possibilities. There are moments when the references to a cultural characteristic, a political situation or a piece of biology (invariably filtered through the consciousness of one of the characters) can seem a bit

hasty. Lines of thought and feeling are elliptical, impressionistic touches in a large canvas. Nonetheless, much of Mitchison's characterization, if less fully developed than in early novels like *The Corn King and the Spring Queen* (which lengthy tome has recently seen the light of day once more under the auspices of Virago Press), is still telling. The lesbian relationship between Tomlin and Marie-Claire Raffray, a PAX board member with a mysterious past, is a case in point. The women appear as sketches, rather than fully rounded portraits. Yet the sketches never descend to the level of caricature.

In sixty-odd years of writing novels, Naomi Mitchison has, if anything, become increasingly playful, increasingly imaginative in her approach to human experience. And biology is still a favourite romping ground. Many of the elements that made *Memoirs of a Spacewoman* so enjoyable reappear in *Not By Bread Alone*, though in a context closer to home. For all her serious warning about the results of divorcing scientific boundary-breaking from that messy, unscientific area of human intuition and gut-feeling, Naomi Mitchison obviously has a real feeling for scientific endeavour and a fascination with the complexity of genetic exploration. Above all, she avoids being either preachy or sentimental in her treatment of subject matter which could all too easily give rise to these faults.

Not By Bread Alone is far from being a major novel, nor is it one of Mitchison's weightiest, either. It covers too much ground and hints at too many possibilities within too short a space. Nonetheless, it is well-researched, well-constructed, and above all never boring. It has Naomi Mitchison's characteristic lightness of touch, a quality not to be sneezed at in a world where the response to confusion is all too often an attempt to anchor oneself to the quicksand of collapsing certainties.

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