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Science Fiction and the Future

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## *Science Fiction and the Future*

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FROM THE VERY BEGINNING of modern SF, enthusiasts, apparently unsatisfied with the mere popularity of the form, perceiving that at some level it does more than simply give pleasure, have asserted that SF serves an important educational purpose: by engaging us in the act of imagining the unknown (they tell us) SF prepares us for the future. William Rupp takes it as a "favorable sign" that 48% of a sampling of English professors defined SF as "a type of story that . . . tries to anticipate the impact of future technological developments on society." Some recent guides to the future go so far as to insist that anyone who expects to cope with the future at all must read SF. "Science fiction should be required reading for Future I," declares Alvin Toffler. Arthur C. Clarke maintains that "A critical . . . reading of science fiction is essential training for anyone wishing to look more than ten years ahead."<sup>1</sup> Though these "futurologists" refrain from claiming the kind of literal prophesy popular with SF apologists thirty years ago, they nevertheless agree with the earlier defenders in believing that SF trains its readers to anticipate the unexpected and helps them to encounter change and a future that will certainly differ radically from the present.

There is, to be sure, a genuine intellectual pleasure to be derived from imagining in the fullest detail possible a previously unknown or unthought-of machine, society, race, or environment, but this pleasure probably does not have the educational value that is claimed for it. Though SF often gives us a *sense* of facing the unknown, its true insights are generally into the known, and its primary value lies not in its ability to train us for the future, but in its ability to engage a particular set of problems to which science itself gives rise and which belong, not to the future, but to the present. At its core SF is a powerfully conventional and deeply conservative—though not necessarily right wing—form of literature which, rather than assaulting the unknown by bold risks of the imagination, tames the threat of the future and in doing so articulates one aspect of our present human situation in a way no other literary form can. In asserting that SF does not open up the future in the way its defenders wish it did, I may seem to be merely repeating what the debunkers of such literature have always claimed. The debunkers, of course, have not been entirely without truth. Where

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<sup>1</sup>Rupp, "Science-Fiction and the Literary Community," *Riverside Quarterly*, 5 (1972), 210-211. Toffler, *Future Shock* (1970; rpt. New York: Bantam, 1971), p. 425. Clarke, *Profiles of the Future* (1963; rpt. New York: Bantam, 1964), p. xiii.

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they have gone astray is in thinking that since SF is not what some of its loudest routers say, it is a cheap fraud. On the contrary, though one regrets that SF is not always all that it might be, one can perceive a value in even the mediocre hack work. My concern, therefore, is not to disavow typical SF, but to reinterpret its function.

By "typical SF" I mean SF of the sort published in the United States in the 1930's, forties, and fifties, the product of what is now called, either fondly or scornfully, "The Golden Age of SF." I am, therefore, excluding from specific consideration some good SF written in the past fifteen years which, however much it may fit in with some of what I am saying, makes a point of breaking with the traditions and conventions that flourished earlier. The idea of science in this recent SF is much looser than that which dominates the earlier work, and many of the new writers have even rebelled against the name "science fiction" itself in favor of the broader and less restrictive title of "speculative fiction." Typical SF, however, constitutes a coherent and narrow genre with some quite rigorous boundaries. In order to understand its value we need to begin by considering what it means to claim to treat "science" in fiction. Then we can go on to consider how and why powerful and often clichéd literary conventions hold the firm place they do in a form which brags of its freedom from "old ways of thought." Finally, we can examine why this supposedly future-oriented fiction must be conservative if it is going to remain true to its scientific premises. Again let me stress that my aim is not to attack SF. It seems to me that the conservative activity that most SF engages in is in fact more valuable than the "mind expanding" activity that is popularly claimed for it.

## I

We must begin our considerations with the fact of addiction. Unlike the generally literate reader who occasionally and selectively reads a work classified on the cover as SF and who evaluates what he has read according to a scale of fairly well formulated, well understood, and widely accepted values, the SF addict is indiscriminate and seems to satisfy his craving simply by being in the world of SF. The SF addict is not a connoisseur; he may have favorite authors or books, but he often reads whatever SF he can get his hands on. He has expectations that drive him, and he gains satisfactions from the experience of a wide variety of quite forgettable stories. In reading SF the addict participates in a world in which the literary experience is secondary to some larger pleasure.

As to what it is that particularly attracts the addict, it is important to note that, though fancy machines abound in SF, the mere presence of yet unknown technology does not satisfy his craving. While clichés such as ray-guns somehow hold him in thrall, the ingenious machines that make islands fly in Book III of *Gulliver's Travels* bore him. The reason is, I suggest, that the addict is interested not only in exercising his ingenuity, but also in trying to cope with the controlling presence of science, and Swift is simply too safe from his scientists and their productions. Though modern ideas of science are clearly present in the early part of the eighteenth century, to Swift they offer a repellent *alternative*, not

a *necessary context*; they do not shape his life.

On the other hand, since it is this scientific context rather than the surface details of technology that appeals to the addict, the presence of obsolete or impossible machines need not discourage his enthusiasm. Though accurate scientific detail helps to establish the context, a “mistake” such as the ramp up Pike’s Peak which launches one of Robert Heinlein’s early rockets, while it may provoke a smile, does not seriously mar the story’s satisfactions. As it actually functions in a story, technology is usually as magical as it is scientific. Michel Butor wisely observes that the difference between a spaceship and a flying carpet is not that we really understand one better than the other, but that the spaceship signifies a world of science.<sup>2</sup> Any particular technological development is an arbitrary event; its absence might change the surface shape of the world somewhat, but it would not create contradiction or confusion. The deep structure of the world, as interpreted by science itself, remains unchanged in spite of the random creations of the engineers.

SF answers a craving, not for a new and plausible technology, but for a science which will mediate between a conviction of the necessity of events—that is, a strict determinism—and a belief in creative freedom. On the one hand, “the laws of physics are the decrees of fate.” By investigating “the remorseless workings of things,”<sup>3</sup> scientists understand necessity. But, on the other hand, science converts that understanding into a means for freedom, for the very regularity of nature, as revealed and interpreted by science, permits us to transcend nature’s limitations through control, prediction, and invention. By understanding the law of gravity we can escape Earth. Thus, to a partial extent, science functions like religion. A “law of physics” is every bit as absolute as a “law of God,” and both laws promise security and perhaps even transcendence to those who understand and obey. Unlike religion, however, science advances with man’s acquiescence and contribution. The final catastrophe, formerly God’s to initiate or forestall, is now man’s. The problem is that we do not experience in actuality the awesome freedom that this idea of science promises. For the scientist himself, science represents not heroic challenge and freedom, but an abstract, narrow pursuit which results in, at best, minor victories won at the cost of enormous drudgery and frustration. Even the most major individual contribution to science changes the course of things only slightly. For the non-scientist the ease of ignorance does not make any lighter the sense of inexorable destiny that science imparts. The understanding of necessity does not liberate. Science, as we experience it, oppresses.

By means of *fiction* SF restores to the myth of science the promise of freedom and control that experience fails to give it. Whereas science deals with necessities, fiction offers freedoms. Whereas science explores and explains what absolutely must happen, fiction creates its own sequences and consequences. The paradox of the name, “science fiction,” encompasses, therefore, a wide range of fiction

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<sup>2</sup>“Science Fiction: The Crisis of its Growth,” trans. Richard Howard, *Partisan Review*, 34 (1967), 595.

<sup>3</sup>Alfred North Whitehead, *Science and the Modern World* (1925; rpt. New York: Free Press, 1967), pp. 10-11.

that, while ostensibly treating of the inevitable, offers fancy. This paradox is, I suggest, in itself an important source of pleasure for the addict. He can read and sincerely enjoy stories that engage this paradox even though by conventional literary standards they are worthy of contempt. He enjoys on a level other than that to which the usual critical questions probe.

Whereas conventional fiction is bound by the laws of the probable, SF, though its *subject* is just that reality that binds normal fiction, is free from that bond. Paradoxically, SF is one of the least scientific of fictions because it owes hardly anything to the facts of experience. Unlike conventional fiction, which accepts the necessities of experience as given and fantasizes from there, SF sets up fictional necessities and then obeys them. SF closely resembles pure fantasy in that it escapes nature's rules and makes its own. SF addicts, however, insist that there is an important difference between SF and fantasy. What seems to pacify the SF addict is the bow to science, even if it is a mere gesture, that SF makes, and what disturbs him about fantasy is that it acknowledges no law that prevents the freedom of imagination from seeming arbitrary. The SF addict wants to feel the tension of the paradox of freedom within a structured imperative. It may be the desire for this paradox that accounts for the repeated attempts of writers and readers of SF to define prescriptive rules for the genre.

Though the surface message of a novel or story may assert a simple ideology, the paradox of science as a liberating understanding of necessity still functions at a deep level in SF. Optimistic SF, which while promulgating a view of the easy freedom science will bring often exults in brute power and totalitarian control, might seem to deny the element of freedom in the paradox. As fiction about science, however, it still engages the whole paradox even as its surface vulgarizes and trivializes it. In a similar way, pessimistic SF, by attacking science as simply oppressive, on its surface limits the range of the paradox, but in its deeper form reasserts it. The two ideological poles of SF differ in which public attitudes they engage: pessimistic SF appeals to the audience's anxieties about science, optimistic to its audience's hopes for science. But they still share a deep structure that unites in some way scientific necessity and imaginative freedom.

## II

Given the paradox that lies at the heart of SF and the importance of the freedom represented by fiction, it may seem inconsistent that the genre, which one might expect to explore the possibilities of fictional styles and forms, has traditionally conformed closely to a clear and powerful set of stylistic and narrative conventions. To a certain extent the conventionality of much SF can be attributed to the narrow views of the editors of the pulp magazines that dominated the field in its early years of popularity. John W. Campbell, the very influential editor of *Astounding*, advised writers that the ending of a story "must solve the problems directly raised in the story—and do it succinctly. Quick and sharp."<sup>4</sup>

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<sup>4</sup>"The Science of Science Fiction Writing," in *Of Worlds Beyond*, ed. Lloyd Arthur Eshbach (Chicago: Advent, 1947), p. 100.

No wonder, given such a narrow conception of fictional form, that punch-line stories abound in the SF of the "Golden Age." Yet, however appalling Campbell's dogmas may appear as literary criticism, to judge by the large number of satisfied addicts they are sound principles in marketing. The conventionality of SF may be in part simply the result of the dominance of hack work in the field, but since many addicts seem to get more pleasure from conventional work than from experimental work, we may suspect that, far from being an obstruction to the addicts' enjoyment, the conventions actually add to the appeal of the form.

We must distinguish the inherent consequences of the form from the conventions. The former develop naturally from the importance of science to the genre and entail an emphasis on idea and a de-emphasis on character. The conventions, however, are purely literary; they derive from the experience of works of SF rather than from any intrinsic quality of science or of fiction. On the most obvious level, the conventions consist of a group of plots and situations that are frequently repeated, and one can easily understand why most of them are popular. More important for our purposes are the conventions that the form has taken on for no apparent reason, the gratuitous insignia that mark a story as hard core SF and to which an addict immediately responds. The most powerful of these arbitrary and self-chosen conventions are a limited and stereotyped cast of characters and a limited set of languages.

Conventions offer the security of the recognizable and thereby cushion the impact of any new idea, of anything unknown. The addict usually experiences a new idea gradually rather than suddenly; he begins a story by settling into the known world of SF and then discovering what is new there. The non-addict doesn't experience this gradual, at times quite subtle, development of the new idea; for him the very conventions are unknown, and he may get the impression that SF is more daring than it actually is. On the other hand, the mechanical way the conventions are often invoked will probably offend the newcomer more than the addict, for the newcomer will see only the awkwardness and not experience the consolations that compensate the addict.

Once the field of convention is strong enough, the skillful writer can create the feeling of the unknown simply by breaking the convention. The powerful aura of mystery at the end of Clarke's *Childhood's End* owes much to the solid conventionality of the first half of the novel. The addict's sense of confusion and rediscovery in the last parts of the novel is caused in large part by the collapse of the conventions originally invoked and the discovery of a new set. Whether or not one actually conceives anything new in *Childhood's End*, one gets a sense of *what it is like* to comprehend a reality and a mind beyond the range of normal human perception and thought.

SF that relies strongly on conventions may justly be termed conservative, for the conventions, whatever their virtues, impose limitations on the imagination. They define the areas in which the unknown can appear and delimit the restructuring of reality that can take place. Those who attack SF often seize on this aspect to justify their scorn, but the addict is not being simply unimaginative when he engages in this convention-bound activity. In fact, insofar as the addict takes pleasure in exploring the "unknown" in the context of the "known,"

that is, within the frame defined by the conventions, he is recapitulating in significant ways the activity of normal scientists. Science itself, in the formulation of Thomas S. Kuhn,<sup>5</sup> is a tradition-bound activity; the normal scientist does not discover new realms of knowledge; he solves puzzles that are defined by the "paradigm" that the reigning theories postulate. In solving such a puzzle a scientist makes a previously unaccounted-for event conform to the dominant theory. A scientific "revolution" involves constructing a new paradigm; it takes place only when the old paradigm proves itself incapable of explaining the observations it engenders. Like the scientist who works within a paradigm and depends on it for his questions and his goals, the SF addict has a paradigm which consists of the conventions of the form, and he knows how to discover pleasure in the puzzles that the conventions allow. Like a good paradigm, a strong convention tells the reader where to look, how to look, and what to look for, and, as in the situation of the normal scientist, the rewards are not new structures by which to organize experience or understanding, but a reinforcement of the paradigm or of the conventions. The SF addict is a "puzzle-solver" just as the normal scientist is; like that scientist, the addict does not really discover new frameworks; he exhibits and enjoys his mastery over what he already knows.

"Normal science" can, of course, become stultifying. Similarly, in SF the conventions can easily become simply and only limitations that insure that no truly imaginative or creative act will occur. Not all conventional SF is so complacent, however. When it is stimulated by constant contact with new ideas, the conventional becomes an expanding context that develops with each new work in the form and which gradually grows into increasingly accurate and subtle modes of depicting realities. But, even at its most lively, the convention always defines limits which SF cannot completely abandon without losing much of the real pleasure and attraction it has for the addict. The conventions anchor SF, give it a form of believability, though the dependable aspect that the SF addict recognizes and trusts is not a semblance to a known physical reality as in ordinary fiction, but a set of purely literary mannerisms. The conventions stamp a work as SF and thereby assure the addict that his habit will be satisfied. And just as the paradox of "science fiction" contributes important tension and is in itself a source of pleasure for the addict, so too the play of literary convention against scientific ingenuity creates a paradox whose pressures are pleasurable.

### III

The conservatism of SF, which we have likened to that of normal science, is easily confused with *political* conservatism, a connection encouraged by the politics of some of the main writers of SF. In a recent essay in *Ramparts* on the politics of SF, Richard Lupoff suggests as a general rule that those writers who are optimistic about the possibilities of science tend to be right wing and that those pessimistic about science's possibilities tend to be left wing. Again, the

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<sup>5</sup>*The Structure of Scientific Revolutions*, 2nd ed., enlarged (Chicago: University of Chicago Press, 1970).

strong influence of John W. Campbell, optimistic about science and politically conservative, may be partly responsible. But Lupoff derives the dichotomy from something more essential, something inherent in a mode of thought. "Whatever else divides these traditionalists," he argues "they are united by their engineering mentality and its preference for violent, repressive solutions to the political problems posed in its novels. These people seem convinced that the application of the right materials and the right forces will solve any problem. It is obvious in their fiction." This same "engineering mentality," Lupoff claims, leads to fiction that "by virtue of its dedication to control, to predictability, to the finite, closed-end solution" is unable to cope with humans, only with machines.<sup>6</sup> The word *engineer* does a lot of hard work here, not all of it respectable. Also, though Lupoff's theory is clearly accurate if applied to a select group of SF writers, and though his criticism of these writers is well taken, the generalization does not stand up. To use his own test of political position (the attitude expressed towards the Vietnam war in ads in *If* magazine in 1967) a number of writers clearly belonging to the optimistic "engineering mentality" turn out to be left wing. The optimism about science and the political conservatism of much SF do not seem to be functionally related.

There is, however, an element of conservatism, not political, which is inescapable for those SF writers who make any claim to deal in what they would call a "responsible" way with the future and which intrudes even in their most grandiose and far-fetched visions. Whether the aim is to explore fictional possibilities or actually to prophesy, extrapolation is inherently a conservative imaginative act. If we in the present are going to think about the future in any *scientific* way, we have to reason from the experience of the past. For the future to be knowable there must be some pattern of continuity, some universal process, whether of change or of stagnation, which we have already perceived and which allows us to extrapolate to what will be. This process of looking ahead, as the writers themselves insist, is not visionary; its "scientific" basis, however, dooms it to be conservative, for in one way or another it must enforce some pattern from the past on the future.

No matter how "scientific" their basis, all visions of the future that foresee future discoveries are fictions.<sup>7</sup> Thus, again, in SF's claim to treat the future scientifically we meet the paradoxical conjunction of science and fiction, of determinism and freedom, which are important sources of pleasure and interest for the SF addict. The paradox at the heart of "extrapolation" is evident in a statement of Isaac Asimov's defending the process: "it is legitimate to extrapolate from the past because sometimes such extrapolations are fairly close to what happens."<sup>8</sup> On the one hand, in claiming that extrapolation is "legitimate," Asimov implies a rigorous and knowable relation between past and future, while

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<sup>6</sup>"Science Fiction Hawks and Doves: Whose Future Will You Buy?" *Ramparts*, February 1972, p. 27.

<sup>7</sup>See Karl R. Popper, *The Poverty of Historicism*, 3rd ed. (1961; rpt. New York: Harper Torchbook, 1964), p. vii et passim.

<sup>8</sup>"Social Science Fiction," in *Modern Science Fiction*, ed. Reginald Bretmor (New York: Coward-McCann, 1953), p. 183.



on the other hand, in the qualifications *sometimes* and *fairly close*, he betrays the actual flimsiness of the logical necessity linking them. Though his statement really allows for any kind of fantasy, it invokes the conservative method of reasoning from the past to sanction the imaginative act.

One may reasonably ask whether it is possible to imagine or describe any future that is not in some way based on the past; the wildest fantasy, after all, if it is to be comprehensible, must at some point anchor itself in the known. But popular SF, rather than pushing towards the bounds of the truly unexplored, tends to be more imaginatively conservative than even its "scientific" method requires. In this respect writers as politically different as Ray Bradbury and Robert Heinlein share a similar conservatism in that they both look to the familiar past for their exotic futures. In *The Martian Chronicles* Bradbury frequently describes the future on Mars in terms of the midwest in the 1920's. In "The Roads Must Roll" Heinlein models his transport workers on the U. S. Marines. And just as institutions and images from the actual past shape the SF writers' visions of the future, the overwhelming conventionality of this form of literature makes it almost inevitable that styles, images, and figures from past literature will also dominate the futures described. Thus, the presence of kings and dukes in SF novels is less a sign of a feudal political inclination inherent in the engineering mentality than an instance of the inevitable persistence of traditional literary forms and figures in SF. This conservative prospect, in which the future is a superficial transformation of a familiar past and described in familiar terms, characterizes almost all popular SF. If SF gives the impression of facing the unknown future with daring and foresight, it is seldom because it really imagines a new future in any radical way, or because it forecasts change with any certainty or precision, but because, by relying on traditional literary conventions and forms, and by repeating historical and psychological patterns from the past, it manages to domesticate the future, to render it habitable and, in spite of a somewhat strange surface, basically familiar.

That it does not help us understand and cope with the future in the ways its apologists claim does not mean that the genre fails, however. Like other forms of literature, SF treats the present, not the future. It differs from other forms in that it engages science, not as a tangential aspect of human affairs, but as a central phenomenon, and as a genre it establishes a context within which the addict can experience the liberating paradox of freedom and necessity that science presents. At the deepest level, therefore, the addict draws his important satisfaction from his knowledge of the genre itself; he trusts it, and he appreciates individual works not so much for their ingenuity, originality, or foresight, as for the way they recognizably reinforce his sense of the genre. For this pleasure he can overlook many literary faults. That is why SF can be very popular and important and yet have few, if any, works that are acknowledged as "classics" by anyone outside of the circle of addicts itself.