SCIENCE FICTION AS A SOCIAL PROJECT:

SUBVERSION IN THE SCIENTIFIC AGE
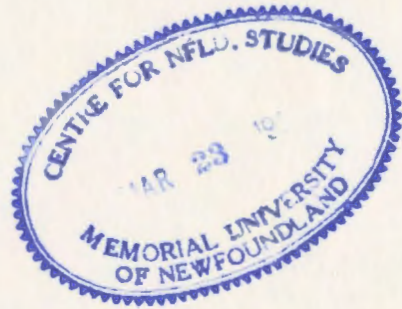
ROBERT PETER BIEZENSKI

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Subversion in the Scientific Age

by

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ABSTRACT

This study attempts to uncover the political values expressed, both explicitly and implicity, in modern Science Fiction (SF). It traces the Utopian tradition of writing, as early SF was influenced by this, but focuses primarily on the 20th century, when SF emerges as a genre. We argue that while SF can and does express both ideological and subversive values, the main thrust of innovative SF remains subversive.

We attempt to determine also the social basis for SF, finding its core in the new scientific intelligentsia, and we see how as its position in society has altered, so also have the values expressed in SF.

ACKNOWLEDGEMENTS

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"When I started to read science fiction seriously, about twenty years ago, it seemed to be offering a subversive thing, the prospect of change ... No matter what you do, or how much you try to hold back the forces of amelioration, things are going to <u>change</u>. Now, the idea of change is deeply subversive to the Establishment, it must always be ... never mind whether it is going to be better or worse, it is going to be different."
   Sam J. Lundwall (1971)

"Rather than being of therapeutic value or offering a life philosophy, the concept of change in science fiction often turns into a fixed formula, a jumble of fantastic changes .... By refusing to acknowledge limits - true, not unconditional and ever-changing limits - science fiction attains a false feeling of freedom that is not based on a careful examination of its premises but rather has its foundation in philosophical naivete and which is the reason for the intellectual and emotional immaturity of so much of it."
   Franz Rottensteiner (1975)

Introduction

  Situated as it is on the interface between science and art, bridging the gap, in a sense, between the 'two cultures', the genre of Science Fiction (SF) is open to analysis from a remarkable diversity of viewpoints; and, by the same token, is able to shed light on many very divergent areas of human experience. The primary focus of

our own study, however, will be on the sociopolitical aspect of SF; the resolution, to be precise, of the problem suggested by our opening quotations: is SF "deeply subversive to the Establishment:, an incitement to revolutionary change; or does it engender a "false feeling of freedom", serving merely to allay individual anxieties and hence uphold the status quo? Stated baldly like this, the question suggests an obvious answer: "Both, at different times." And with this we can hardly argue. But the precise nature and intensity of SF's political value-structure is a matter of considerable debate; and it is this situation which this work aims to clarify.

SF is often called the 'literature for our time'; and for the social theorist concerned with relations of power, this seems particularly apt. For the source of power in the 20th century certainly seems to be the Great God Science. Creator of Man's power over nature; legitimation for Man's power over his fellow Man. In focusing of the social effects of science, SF certainly seems to have hit on the prime variable in the power equation for both our present age, and the foreseeable future. And yet science is not some implacable, omnipotent mechanism. It is a social project, pursued by a specific social group, acting in specific (and continuously changing) historical-material circumstances, imbued with its own value-structure, its own ideals, its own interests.

Science — and scientists — have their own limitations, their own failings. Science does not (much though its practitioners might wish it) render all other decision-making groups and forces superfluous; it cannot lead with 'inescapable' logic to the 'one right answer'; this is the positivist myth which is slowly being exposed for the ideology it is, and which has never been reflected in political reality. If, then, we view the scientific/technical stratum as one pressure group among many (albeit a highly influential one), we may chart its emergence historically, as the dialectic between science and capitalism unfolds - and chart the parallel progress of SF alongside it. For one of the prime functions of SF, we shall argue, is to act as a sounding board for the ideals and interests of this group. And more than this: art is a model, not of the object, but of the relation between subject and object. In this way, SF gives us a model of the relation between Science and Society. It serves both the need of scientists to enunciate and reinforce their values; and the need of the wider society to understand how science works, and, more importantly, how it affects them.

Methodology.

As we have suggested, the multi-faceted nature of SF requires the utilisation of a variety of available

methodologies if one wishes to gain an overview of the field as a whole. Certainly, the field, not merely of SF, but also of SF criticism, is growing far too rapidly for any one person to portray it in its entirety; in this sense, a certain measure of arbitrariness must enter any selection from the literature.

Our own work begins with a relatively abstract analysis of the structure and function of SF; and for this we draw primarily from the tradition of literary criticism. Moving into more concrete realms, we may distinguish two basic areas for attack: the people, and the product. It must be stated here that no undisputed picture of the producers and consumers of SF has yet been drawn up; we shall present indications only, albeit (we feel) quite convincing ones. The materials used here include: surveys run by SF magazines at various times to determine their readership; circulation figures for the magazines; questionnaires handed out at SF conventions; studies of the SF fan 'cult', including analyses of the 'fanzines' (fan magazines) which are the focus for the SF community; autobiographical and historical accounts of persons closely involved with the inside workings of modern SF, and on the basis of these materials, we feel justified in relating them to figures charting the development of the scientific community as a whole.

Regarding the body of SF literature, a balance should

be stuck between quantity and quality. That is to say, since SF is such a large and wide-ranging body of literature, individual examples could doubtless be found in support of virtually any contention about its value-structure. Our own analysis will therefore attempt to portray the dominant values of each historical stage in SF, acknowledging that countervailing tendencies exist at all times (ever-more so, as older writers continue to write even as newer ones bring in fresh trends). To this end, we shall utilize several Content Analyses which have been produced to give us a picture of the 'typical' SF story of a given time (the normal techinque here being to take a random sample of all the stories produced in the time and place under examination); and also, on the premise that the 'best' works (in terms of both reader and critical acclaim) exert an influence and express values stronger than the merely 'average' story, we shall make special reference to those stories, writers and editors rewarded by the fans through the 'Hugo' awards (presented annually since 1953 - except for 1954 - at the World Science Fiction Convention, voted on by all attendees), and by their peers through the 'Nebula' awards (voted annually by the members of the °Science Fiction Writers of America (SFWA) since 1965), as well as the SFWA Hall of Fame, for stories published prior to 1965. In addition, this writer feels justified in making occasional reference

to stories which, although not formally rewarded, are widely recognised as significant works in the field - basing this judgement on his ten years of avaricious reading within the genre. Furthermore, it will be evident that the applicability of these materials is essentially to modern SF. SF as a self-conscious genre, we shall argue, emerged only after 1926; and so, while we shall certainly refer to the precursors and older history of SF, it is on this modern period that the prime focus of our study will lie.

Chapter 1

Theoretical Analysis

> "Science fiction is that class of prose narrative treating of a situation that could not arise in the world we know, but which is hypothesised on the basis of some innovation in science or technology, or pseudo-science or pseudo-technology, whether human or extra-terrestrial in orgin."
> Kingsley Amis (1960)

> "Science fiction is what you find on the shelves in the library marked science fiction."
> George Hay (1970)

> "... and after the holocaust a crazed cadaverous figure picked its way painfully over the blasted urban landscape. Madness flickered in its reddened eyes as its hands scrabbled frantically through the rubble searching for The Definition of Science Fiction."
> George Stone (1975)

Mr. Stone continues on from his letter quoted above in similar apocryphal vein: "...anyway there's a nasty rumour going about to the effect that once the Nine Billion Definitions of Science Fiction are completed, the sky's going to fall on our heads."[1]

Possibly Mr. Stone's mind may be eased a little by our contribution: "Science Fiction is that branch of

literature which <u>will</u> refuse to be defined."

The point behind this somewhat satirical opening to our discussion is to demonstrate not merely that there is no general agreement on the precise nature of SF, but that the multiplication of definitions has indeed reached absurd proportions. It is perhaps time to realize that no exact definition can ever hope to delineate SF precisely, no matter how cleverly worded. Furthermore, the problem here is not simply that the boundaries between one literary sub-genre and another (e.g. SF and fantasy) must necessarily be somewhat hazy. Rather, we would suggest here that we have struck a somewhat deeper problem.

> "One manifestation of reflective systems [people], often noted, is that they can be rule-following rather than rule-bound ... Rule-following itself is inconceivable unless, in being guided by rules, one is also, more profoundly and importantly, guided by principles which are categoreally different from rules and allow of genuine, if never absolute (that is, <u>ex</u> <u>nihilo</u>) creativity."[2]

> "Now it is, we would suggest, a characteristic feature of a rule that it prescribes for action only in the measure that it can do so exactly and precisely. This means, that it can so prescribe only insofar as it can pre-describe features within an action that can be exactly reproduced. What evades such pre-description and prescription, either remains incidental and immaterial to our assessment whether the rule has been followed, or belongs to what in action exceeds the limits of such prescription and with respect to whose performance the

implementation of the rule is a
necessary but not a sufficient
condition ... That is the conceptual
content of rule-like prescription is
essentially 'univocal'. This is where
rules differ from principles - which,
while they are indeed basic with
respect to rules, are different in
kind. The conceptual content of a
principle-like prescription is
analogical. What they prescribe for is
not exactly or fully foreseeable.
Principles are and have to be
intrinsically interpreted. That is,
every implementation of a principle is
at once, and for the same reasons,
inadequate with respect to its fullest
possible interpretation and a fresh
understanding of what that ideal
interpretation would be ... although
rules may be learnt by instruction,
principles are only learnt (much as
style is acquired) through initiation
into the style of action of which they
are principles. That is why a 'system'
of principles, unlike a system of rules
is never fully objectifiable.[2]

In Dr. O'Malley's terminology, SF is a 'style of
action' governed by principles learnt through initiation.
This is how every SF writer <u>knows</u> that he is writing SF,
even though he <u>cannot</u> say precisely what he is doing.
Each SF story is both 'inadequate' and a 'fresh
understanding' of the ideal of SF. Any 'definition' of SF
is thus attempting the impossible task of reducing
principles to rules, for only rules can be set down in
this way; principles are not 'objectifiable' since their
'conceptual content' is 'analogical'. As we shall soon
see, SF is a mode of writing particularly suited to the
demonstration of this analogical nature of principles, for

every SF text set in the 'not-here-&-now' may be taken both on its own terms, and as an analogy to the 'here-&-now' — an analogy which may gather new levels as our real world changes over time. However, it is apparent after just a moment's thought that so basic a philosophical distinction as we have invoked here has applications far wider than to explain the controversy over one literary genre. This is not the place to explore the full implications of this position; nonetheless, we have quoted Dr. O'Malley at some length here because the confusion of rule with principle will return to bedevil us at various points in our analysis, as differing attempts are made to turn the open-ended, principle-guided project which is SF into a closed, rule-bound one.

Now, the point to be drawn from the above disclaimer is not that we can therefore say nothing at all about the nature of SF. On the contrary; we have a large body of literature open to our analysis, representing the products of a historical project which has been unfolding for several centuries. Certainly we may make a number of observations about SF's central orientations as they have revealed themselves to us thus far.

The Formal Analysis of Darko Suvin

By far the most sophisticated literary analysis of SF yet developed is that of Yugoslav expatriate

Darko Suvin.[4] Suvin snares our rejection of "the vexed and by now rather irrelevant subject of a precise definition of SF."[5] and seeks to characterise the core, rather than delineate the boundaries, of SF. His basic position may nonetheless be stated succinctly: SF is the literature of 'cognitive estrangement', as determined by the literary device of the 'hegemonic novum'.[6]

This terminology naturally requires some explication.

The 'narrative novum' is:

> "a locus and/or dramatis personae that...are radically, or at least significantly different from the empirical times, places, and characters of 'mimetic' or 'naturalist' fiction ....[i.e.] deviating from the author's and implied reader's 'norm of reality."[7]

Now certainly every poetic metaphor is a novum in a sense; what distinguishes SF is that here the novum is 'hegemonic' or

> "'totalizing' in the sense that it entails a change of the whole universe of the tale, or at least of crucially important aspects thereof (and that it is therefore a means by which the whole tale can be analytically grasped)."[8]

Furthermore:

> "The novum is postulated on and validated by the post-Cartesian and post-Baconian scientific method. This does not mean that the novelty is primarily a matter of scientific facts or even hypotheses ... But ... what differentiates SF from the 'supernatural' literary genres ... is the presence of scientific cognition as

the sign or correlative of a method ... identical to that of a modern philosophy of science. Science in this wider sense cannot be disjoined from the SF innovation ... though it should conversely be clear that a proper analysis of SF cannot focus on its ostensible scientific content or scientific data...

"Thus, if the novum is the necessary condition of SF ... the validation of the novelty by scientifically methodical cognition into which the reader is inexorably led is the sufficient condition for SF. Though such cognition obviously cannot, in a work of verbal fiction, be empirically tested either in the laboratory or by observation in nature, it can be methodically developed against the background of a body of already existing cognitions, or at the very least as a 'mental experiment' following accepted scientific, that is cognitive, logic ... Only in 'hard' or near-future SF does the tale's thesis have to conform to a 'real possibility' - to that which is possible in the author's reality and/or according to the scientific paradigm of his culture. On the contrary, the thesis of any SF tale has to conform to an 'ideal possibility' ... meaning any conceptual or thinkable possibility the premises and/or consequences of which are not internally contradictory...

"Thus science is the encompassing horizon of SF, its 'initiating and dynamizing motivation.'"[9]

In his insistence on the 'cognitive' nature of the novum, then, Suvin is tying SF firmly to scientific rationality, thereby differentiating it categoreally from other genres which take the reader out of his empirical situation, e.g. wish-dreams, myth, fairy tales. SF has no place for metaphysical or supernatural agencies, in the

sense of an agency going beyond nature. It can and does make use of mythical and god-like themes and figures (e.g. the work of Delany and Zelazny), buy these do not retain their original meaning and significance; rather, they must be reinterpreted from within the modern scientific worldview. As Suvin is at pains to point out, this scientific rationality is not that of the positivists; rather, a far more open-ended understanding of science is called for (a point that we shall return to later).

Now, as a result of the introduction of the novum,

> "the essential tension of SF is
> one between the readers, representing a
> certain number of types of Man of our
> times, and the encompassing and at
> least equipollent Unknown or Other
> introduced by the novum. This tension
> in turn estranges the empirical norm of
> the implied reader..."[10]

It is the concept of 'estrangement' which will form the basis for much of our own claims to the subversive nature of SF. Suvin begins with Brecht's definition:

> "A representation which estranges
> is one which allows us to recognize its
> subject, but at the same time makes it
> seem unfamiliar."[11]

Suvin exands:

> "The effect ... is one of
> confronting a set normative system ...
> with a point of view or look implying a
> new set of norms ... the look of
> estrangement is both cognitive and
> creative...
> "In SF the atitude of estrangement
> ... has grown into the formal framework
> of the genre."[12]

In entering the different and strange realms of SF,
the reader experiences a 'culture shock' which may be
compared to the experience of the anthropologist on first
entering a foreign culture based on different premises to
his own. The vividness of first-hand experience cannot,
of course, be reproduced fully through literature; on the
other hand, the SF story may strike closer to home through
the introduction of a novum into a society still
predominantly that of the reader, i.e. set in the near
future. (Certainly this will apply only to a certain
segment of SF; nor do we mean to imply that this segment
is in some way 'superior' to the rest - merely that its
meaning is more explicit, and less analogical. This may
give it more immediate impact; on the other hand, such a
story is more open to the danger of becoming rapidly
'dated'.) The message here, inherently subversive, is
simply: things can be different. As Suvin notes,
protesting the often-levelled charge of 'escapism':

> "The escape is, in all such
> significant SF, one to a better vantage
> point from which to comprehend the human
> relations around the author. It is an
> escape from constrictive old norms into
> a different and alternative timestream,
> a device for historical estrangement,
> and an at least initial readiness for
> new norms of reality, for the novum of
> dealienating human history."[13]

Now, the use of estrangement is found also in myth;
and indeed SF is often called the 'modern mythology'.

Certainly both take the reader out of his immediate empirical world; but the resemblance ends there. Myth (using the term in its strict sense here) is the expression of a wholly different worldview to the scientific. Mythology and science are both modes man has adopted to order his universe, to explicate his relationship to external nature and to other men. One of the crucial differences between them lies in the 'timeless' approach of myth: myth claims to explain once and for all the essence of phenomena; it absolutizes and even personifies apparently constant motifs from static societies; hence it presents human reltionships as fixed and supernaturally determined, thus denying the role of man as an active agent in history and serving to preserve existing relations of domination.

Science, on the other hand, is a dynamic project; it constantly presents us with something new from its ceaseless exploration of the universe. SF thus comes to see the norms of any age, including its own, as unique and changeable. The general observation may be made that through the course of recorded history, mankind has moved from an essentially passive self-image, re-acting to overwhelming external forces, to an ever-more active role, making history rather than merely being made by it. The scientist-figure, in this connection, may be seen as a powerful symbol of man's growing power, serving as the

epitome of the cognitive approach to the world. From this
we draw the crucial concept of <u>change</u>, and of man as the
key to its instigation, all this in direct opposition to
the picture presented by myth. SF sees the mythical
static identity as illusion; as an explanatory mode, myth
was an important step in the development of mankind - but
it could not stand up to the forces of social change, SF,
on the other hand, flourishes precisely in times of great
upheaval, such as the Renaissance and the present
century. This is not to say that myth no longer has
anything to teach us; only that it is not and can no
longer be our dominant mode of viewing the world, and must
needs be reinterpreted (as we have said) through
scientific cognition. But it can never have the
inherently subversive orientation of SF, which constantly
delineates and proposes <u>alternatives</u> to the status quo.

Or rather, this is the potential of SF. As Suvin puts
it:

> "A potential cognitive tendency
> ... is allied to the rise of subversive
> social classes and their development of
> more sophisticated production forces
> and cognitions. However, an opposed
> tendency toward mystifying escapism
> dominates in second-rate SF and shows
> even in the masters ... formed as it is
> by the practical and cognitive
> limitations of fiction steeped in the
> alienation of class society and in
> particular by the stagnation of a
> whilom subversive class."[14]

The emphasis of SF on the future, by the same token that

it gives special opportunities for the presentation of
change, also gives opportunity to the perpetuation of the
status quo. The projection of existing values into the
indefinite future preserves the illusion of change, while
denying its reality; lip-service is paid to the truism of
change, while the actual orientation is closer to that of
myth: the values presented come to seem 'eternal',
because 'natural'; the implicit orientation is that there
are certain things which will endure, however mighty the
forces of change may appear to be. (This should not be
seen as a return to myth, despite the similarity we have
noted; for myth is an overtly static value-structure,
while SF such as we are discussing here can only emerge in
a society with a basically positive orientation towards
change, where its 'smuggling in' of a static world view
must thus be seen as a form of ideological deceit.) The
future depicted here may be seen as 'the mixture as
before, only with fancier gadgets'. For the difference,
we submit, between subversive and ideological SF lies
largely with whether the change portrayed is restricted to
technology, or whether it extends also to new human values
and social roles. To be subversive, the novelties
portrayed by SF must be value-informed, not merely
'value-neutral gadgets'. Indeed, the very existance of
such gadgets is the first deceit. For one of the prime
lessons of (subversive) SF is that any significant change

in technology will necessarily bring with it changes in social structure, morals and values. Further, Suvin's identification of ideological with 'second-rate' SF is not to be held due to intellectual snobbery, his own subversive beliefs, or even merely an empirical analysis of the literature to date; rather, it is the attempt to portray the future while rejecting the basic fact of change which must inevitably lead to an internal inconsistency and a fundamental weakness in the very format of the work.

Subversive and Ideological SF

We have made at this point the distinction between 'subversive' and 'ideological' SF; and so a preliminary definition of the terms is in order (reserving a more thoroughgoing account of their applicability to the realm of SF for our conclusion). 'Ideology' is a term which has been much maltreated over the years, ranging from Destutt de Tracy's use of it in denoting the school of 'ideologists' to the pejorative sense which practically takes it as a euphemism of 'lies', through an extended debate in the field of the sociology of knowledge. Commonly, it is taken to mean something like: a symbol-system which distorts true knowledge in order to further the interests of one class, and is often opposed to 'value-free' scientific knowledge. We do not wish at

this time to get into the complexities of epistemologicl argument underlying this usage,[15] rather, we shall simply state our rejection of the positivist thesis of value-neutral knowledge, and our acceptance of the basic tenet of the sociology of knowledge that since all knowledge is produced by human beings, it must inevitably come from within some social context which will provide an underlying value structure for that knowledge. The distinction between 'truth' and ideology is thus seen as meaningless: we do not have access to some God-like, eternal Truths, but must necessarily use human conceptual frameworks, with all the imperfections which they inevitably contain. Given this, some further usage must be found for the term 'ideology' lest it simply meld with and be lost in the broader terms 'knowledge' or 'symbol-system'. Now as Marx's principle concern regarding ideology was certainly its use in the legitimation of class domination, we would accord with Anthony Giddens' proposition that:

> "the chief usefulness of the concept of ideology concerns the critique of domination."[16]

Gidden continues:

> "In the approach I wish to suggest ... there is, strictly speaking, no such thing as an ideology: there are only ideological aspects of symbol-systems ... any type of idea-system may be ideological. There can be no particular objection to continuing to speak of

'ideology', or even of 'an ideology', so
long as it is understood that this is
somewhat elliptical: to   treat   a
symbol-system as an ideolgoy is to study
it as ideological ...
        "To analyse the ideological apsects
of symbolic orders, I shall argue, is to
examine how structures of signification
are   mobilised   to   legitimate   the
sectional   interests   of   hegemonic
groups ...
        "I shall argue that the principal
ideological forms are the following:
1.   The   representation   of   sectional
interests as universal ones ...
2.   The   denial   or   transmutation   of
contradictions ...
3.   The naturalisation of the present:
reification.   The interests of dominant
groups   are   bound   up   with   the
preservation of the satus quo.   Forms of
signification   which   'naturalise'   the
existing   state   of   affairs,   inhibiting
recognition   of   the   mutable,   historical-
character of human society thus act to
sustain such interests."17

The concept of 'naturalisation' was not designed with

SF in mind; nonetheless, we would argue that the

uncritical portrayal of current values as enduring in

effect ad infinitum (since many such stories are

ostensibly set thousands or even millions of years in the

future) is a process closely akin to this, albeit not

precisely identical - a 'first corollary', let us say; and

therefore that we are quite justified in terming the

process and the stories utilising it as 'ideological'.

Now certainly, any SF story will utilise current values to

some extent, just as we have said that all knowledge is

ideological in a sense: not only is it inconceivable that

a writer should be able to create a whole universe <u>ex</u> <u>nihilo</u>, but such a universe would be of o interest to anyone: no reader would be able to identify with any facet of it. Despite this, we may call a story 'subversive' if it depicts values "radically or at least significantly different" from the present - to return to Suvin's definition of the novum. (A story may also be subversive, certainly, if it contains overt criticism of the status quo, e.g. the satire, whose efficacy in SF depends usually on precisely the insertion of today's values into a future scenario - usually in exaggerated form. This should be seen as a certain form of 'limit-case' of SF; a point we shall return to later.)

A word should perhaps also be said about our insistence on the term 'subversive', rather than, say, Karl Mannheim's more commonly accepted oppostion between ideology and 'utopia'. Certainly our purposes would seem to be admirably served by Mannheim's definition of utopia as: "...that type of orientation which transcends reality and which at the same time breaks the bonds of the existing order..."[18]. Nonetheless, as we shall shortly embark on a lengthy discussion of the genre of Utopian literature, to utilise the work in two such similar, but distinct, senses, would be to promote confusion. Furthermore, the term has its own problems: in its popular sense of a perfect (or perfectly emancipated)

society, it may perhaps serve as a pole towards which SF may tend, but it allows of no distinctions between actual historical trends in 'anti-ideological' thought; while the distinctions which Mannheim himself makes within the 'Utopian Mentality'[19] seem inapplicable to the trends which we shall describe in the development of SF. 'Subversive', on the other hand, would seem to be a term open to infinite variation, and eminently suited to our purposes. (Thus, should new subversive forms of SF arise in the future, they could be incorporated into our schema without - hopefully - major difficulty.)

Now, a further point needs to be made here regarding Suvin's linking of ideological SF with "the stagnation of a whilom subversive class". It is one of the most basic points of Marx's class analysis that as new productive forces emerge, existing relations of production come increasingly to form barriers to the emergent strata, and overt class conflicts appear. This stuggle will manifest itself ideologically as a clash between competing 'principles'; and the class engaging in a revoluntionary struggle for power will fight in the name of absolute human rights, presenting its ideas as "the only rational, universally valid ones."[20] In this way the revolutionary class will try to invoke the aid of others to assist its rise to power; but once power is attained, the character of the once-subversive class becomes

transposed into a defence of the existing order, i.e. of its own hegemony, and so a new stability is sought. This process will, in time, repeat itself again and again; but what distinguishes Marx's conception from Pareto's static 'circulation of elites' is his relation of revolutionary change to the historical process as a whole. As Marx states:

> "Every new class achieves its domination only on a broader basis than that of the previously dominant class, whereas the opposition of the non-dominant class against the new ruling class later develops all the more sharply and profoundly."[21]

Thus the expression of the consciousness of a revolutionary class in subversive SF will become rigidified and ideological, even though its basic tenets remain the same, as that class attains dominance over time. Nonetheless, progress has been made: each new class project, each new pahse in SF, is 'inadequate', but still a 'fresh understanding; of the ideal of freedom. To characterise such writings, as some critics have done from their vantage point in the (original writers') future, as merely 'reactionary' is to do it grave injustice.

The Analogic Model of SF

To continue now with Suvin's analysis: Suvin wishes to distinguish his own 'analogic' model of SF from the earlier 'extrapolation' model, as enunciated, for example,

by Robert Heinlein:

> "In the speculative science fiction story accepted science and established facts are extrapolated to produce a new situation, a new framework for human action.[22]

Suvin protests:

> "...radical estrangements can, no doubt, be <u>anticipated</u> in a chronological future, but they cannot, scientifically speaking, be extrapolated ...
> "I [have] noted that any futurological function SF might have was strictly secondary, and that stressing it was dangerous since it tend to press upon SF the role of a popularizer of the reigning ideology of the day ... It seems clear that SF is material for futurology (if at all) only in the very restricted sense of reflecting on the author's own historical period and the possibilities inherent in it ...
> "Any significant SF text is thus always to be read as an analogy ... while extrapolative SF in any futurological sense was (and is) only a delusion of technocratic ideology - no doubt extremely important for the historical understanding of a given period of SF, but theoretically untenable. For extrapolation itself as a scientific procedure ... <u>is a one-dimensional, scientific limit-case of analogy.</u>"[23]

SF is not prophecy. Certainly, a large number of intelligent, reasonably well-informed persons writing about the future means that the occassional correct guess will be made. But this is not the function of SF, and SF should receive no special praise for it, just as it should not be scorned for incorrect guesses. The ideal of the

SF-as-extrapolation proponents would, as it were, be a reduction of SF to an anticipation of the naturalistic fiction of the future. That is to say, that if only Wells (say) had been _right_, his near-future works now would be of the same _type_ as the mainstream (non-SF) works being written today; the only difference would be that he wrote them eighty years before anyone else. But this is a gross misrepresentation of SF; for it eliminates the central point of estrangement.

Every since the development, in the early part of this century, of writers who were self-consciously SF writers, as opposed to writers who occasionally wrote SF - in effect, as we shall argue, since the development of the SF community, or sub-culture - the distinction has been made by SF 'people' between SF and the 'mainstream', i.e. all other fiction. In so far as this is valid, Suvin characterises this distinction as that between 'naturalistic' and 'estranged' fiction. Naturalistic fiction is that literature which attempts to illuminate human relationships "by endeavouring faithfully to reproduce empirical textures and surfaces vouched for by human sense and common sense..."[24] Estranged fiction, on the other hand, attempts to illuminate such relationships "by creating a radically or significantly different formal framework."[25] The approach here is fundamentally different; were Wells to be proved 'right'

or 'wrong' regarding today's world is irrelevant to his purpose, which was to present his audience with alternative pictures of the world.

Suvin completes his typology by further differentiating within the realm of estranged fiction. As we have said, SF is 'cognitive', i.e. scientific-rational estrangement. This should be opposed to 'metaphysical' estrangement, such as myth, fairy tale, fantasy; for SF does share with naturalistic fiction the basic rule that physics stand in no significant relation to ethics, so that it is the activity of the protagonists, interacting on (in this sense) equal terms, that determines the outcome of the story. Metaphysical estrangment, on the other hand, postulates a world which is not neutral. Thus in the folktale (later fairy tale) the world is oriented positively toward its hero: magic weapons and helpers are at his beck and call; in fantasy, the world is negatively oriented: the hero is helpless agianst external forces, whatever he may do; in this way, ethics coincides with physics, through some magical or religious means. In rejecting this, SF not only becomes more 'scientific', but places the emphasis on man, rather than some overwhelming 'destiny' - an essential for any truly subversive literature.

Criticism of Suvin

Peter Fitting has written that the concept of

'cognitive estrangement' "despite its merits, limits SF to a form of knowledge, to an understanding of the present."[25] And this is indeed its main flaw. 'Estrangement' must by its nature be always estrangement from a base value, i.e. the writer's present. For the literary critic who is also social critic (as Suvin is) this may indeed seem SF's prime function; and yet it is a curiously negative orientation. The writer who is attempting to criticise the staus quo is nonetheless still frimly tied to that status quo: the mirror can only reverse what is there already, it can add nothing new to the scene. We have said that SF's future scenarios may always be taken either on their own terms, or as analogies to the present; but Suvin's analogic model discards the first half of this conception. This is why he invariably refers to the 'literary device' of the novum; he is not concerned with the novum per se (so long as it remains cognitive, and does not slip into the metaphysical mode), but only with its estranging effect. The manifest content of the novum, separate from its analogic equivalent in the present day, thus becomes virtually irrelevant.

But SF has also a positive apsect which Suvin ignores. The worlds which SF creates live: they have their own structure, their own values; they are in themselves positive alternatives to the world we know. Modern SF is primarily an open-ended exploration of human

possibilities purely for their own sake, bound only by strictures of scientific rationality (we repeat: in its broadest sense). As Lundwall said in our opening quotation: "never mind whether it is going to be better or worse, it is going to be different." Suvin is certainly correct in relating the efficacy of the novum to aesthetic quality in SF (a very important point, for it means that literary critics judging SF solely by the standards of naturalistic ficion arrive at an inadequate perception of it. This is not to say that SF should be exempt from ordinary literary standards; but that even the most hack SF story may acquire a certain compensatory value through the bold presentation of an exciting new concept); but he goes too far in wishing to judge the novum according to its 'degree of relevance".[26] This Sartre-like appeal for relevance, or commitment, would, if taken to its logical extreme, have the effect of turning SF into propaganda - and hence into bad art. For the richness of art lies in its drawing from, depiction of, commenting upon, the whole fabric of life. Skewing this to focus solely on political implications would reduce art to a one-dimensionality which would not only impoverish art (or any segment thereof, such as SF) as a whole, but would also be self-defeating - for no writer may know the full implications of what he writes for the future: seeming incidentals he inserts in his tale solely for the

sake of giving a full, more convincing picture, may become crucial issues to future society. All works of art are meant to be read into: a rich, insightful portrayal will grow with its audience. Suvin states: "Not all possible novelties will be equally relevant, or of equally lasting relevance, from the point of view of, first, human development, and second, a positive human development.[26] Certainly; but how are we to judge today what may not become relevant for our future, without falling into precisely the sort of one-dimensional extrapolative thinking which Suvin warns us against? Suvin continues:

> "This connects with my argument ... about validation for SF being based on science as an open-ended corpus of knowledge, which argument can now be seen to be ultimately and solidly anchored to the bedrock fact that there is no end to history ... It follows that SF will be the more significant and truly relevant the more clearly it eschews final solutions, be they the static utopia of the Plato-More model, the more fashionable static dystopia of the Huxley-Orwell model, or any similar metamorphosis of the Apocalypse."[27]

Here, Suvin recognizes (indeed, emphasises) the open-ended nature of both science and SF; and yet he still wishes to pre-judge and pre-describe the direction in which SF should go. Not surprisingly, his only concrete criterion is again a negative one: the 'eschewing' of final solutions. But, we submit, the impulse behind the writing

of SF can hardly be of such a negative form. The SF writer (indeed), any writer has something which he wishes to put down: an idea, a concept, an image. Certainly, the new world he creates can and will contain criticism (implicit or explicit) of the present; but it will also be (if it contains a true novum) a coherent alternative, self-contained (up to a point!), and worthy of being judged on its own standards, rather than insisting that all "significant SF is in fact a specifically roundabout way of commenting on the author's collective context..."[28]

Furthermore, this makes SF a far more subtly (indirectly) subversive form of literature than Suvin's analysis might lead us to believe. Dr. Fredric Wertham's (1973) analysis of fanzines (fan magazines) clearly differentiates them from the radical 'underground' press. Contemporary political issues are not a major topic of debate in fanzines; fans are not political activists. By Suvin's standards this should represent a 'failure' on the part of contemporary SF. But our own analysis would portray this somewhat differently. The SF fan lives in alternate worlds; he is interested in the exploration of possibilities for their own sake. Now, this orients him to an acceptance of the inevitability of change; no status quo-ist ideology will appeal to him. But simultaneously, it serves as on 'opiate': it helps to reconcile him to

reality. This is not 'escapism' in the usual sense of an escape into unreal fantasy; rather, it is a 'sublimation' of creative protest into the realm of the imagination. SF's alternatives are deemed worthy of exploration for their own sake.

Now if this were the sum total of SF's subversive nature, it might be judged a very poor form of subversion indeed. But remember: at no time have we denied any of the basic points raised by Suvin. His characterisation of subversive elements in SF remains (we feel) valid; we have merely sought to round out his portrayal through the introduction of more postive elements.

The only distinction we have made thus far within SF is that between ideological and subversive SF; but we have noted that different forms of subversive SF may exist - and indeed Suvin's analysis will characterise certain of these perfectly. We may begin, for example, with satire in SF.

Satire

Satire in any form consists of the attempt to censure human follies and vices, through the device of appearing to say something other than what is genuinely intended. Often feigning a certain naivete, it ridicules through a shift of reference to another object than that purportedly dealt with; i.e. criticism is by analogy. Satire is

inherently moral in tone: it exposes wrongs and injustices. By overstatement, it tries to instil in us an attitude of condemnation. This would seem to be Suvin's SF par excellence; and yet satire is the harshest form of laughter. The satirist, being tied to this world, can never reach the freest ranges or loftiest heights of the artistic imagination. He cannot show the postive side, the gaiety and harmony, of laughter. For satire combines laughter with anger; and in doing so loses sight of the need for positive ideals to counterbalance its destructive strength.

With its analogic nature and relative boundlessness, SF would seem the perfect genre for the satirist. And indeed, we may give this example from Pohl & Kornbluth's famous novel 'The Space Merchants', in which an executive of one of the Corporations which control the world is giving his report to the Board:

> 'I don't have to tell you men that Point-of-Sale has its special problems,' Harvey said, puffing his thin cheeks. 'I swear,the whole damned Government must be infiltrated with Consies [Conservationists]! You know what they've done. They outlawed compulsive subsonics in our aural advertising - but we've bounced back with a list of semantic cue words that tie in with every basic trauma and neurosis in American life today. They listened to the safety cranks and stopped us from projecting our messages on air-car windows [!] - but we bounced back. Lab tell me,' he nodded to our Director of Research across the table,

'that soon we'll be testing system
that projects direct on the retina of
the eye.'"[29]

Suvin mentions 'The Space Merchants' as an example of
extrapolative SF; 'justly famous',[30] but still
presumably a 'limit-case'. Now certainly the "If this
goes on...." device lends itself most easily to SF satire;
but it is not the only one employed. Consider this
passage from Robert Sheckley's 'Dimension of Miracles', in
which his hapless time traveller Carmody is discussing the
'hadrosaur problem' with Borg, who is "very much a family
man, no conversationalist, just a decent, dull,
middle-class tyrannosaur":

> "'Your son said they were a real
> problem.'
> 'Well, they are,' Borg said, a
> little too defiantly.
> 'In what way?'
> "They're lazy. Also sullen and
> surly. I know what I'm talking about;
> I've employed hadrosaurs as servants.
> They have no ambition, no drive, no
> stick-to-it-iveness. Half the time
> they don't know who hatched them, and
> they don't seem to care. They don't
> look you forthrightly in the eye when
> they speak to you.'
> "'They sing well, though,' Carmody
> said.
> 'Oh, yes, they sing well. Some of
> our best entertainers are hadrosaurs.
> They also do well at heavy
> construction, if given supervision.
> Their appearance works against them, of
> course, that duck-billed look ... But
> they can't help that. Has the
> hadrosaur problem been solved in the
> future?'
> 'It has,' Carmody said. 'The race
> is extinct.'

Perhaps it's best that way,' Borg said. 'Yes, I really think its' best.'"[31]

'Overstatement' indeed: race relations among dinosaurs! And yet if we add to the aforementioned authors the works of Kurt Vonnegut, Jr. (who continues to protest indignantly that he is <u>not</u> an SF writer), Harry Harrison (who has made a specialty of the somewhat incestuous mode of satirising the excesses of 'thud-&-blunder' Space Opera (c.f. Ch. 3)[32] and isolated works scattered throughout the genre, we arrive at a sum total of satire in modern SF which is surprisingly small.[33] The reason, we suggest (although such psychologising must remain unprovable), is that while such writing <u>exaggerates</u> the present, it does not truly <u>transcend</u> it; and hence while the SF devotee may appreciate such artistry, he is yet not fully satisfied by it. Thus without our knowledge of the Negro stereotype, the Sheckley passage becomes pointless; it cannot, as it were, stand on its own. It is because of this, rather than due to its predominantly extrapolative character or the fact that it is 'only' humour, that we have called satire a 'limit-case' of SF. Furthermore, we have chosen satire as an example because it is the clearest form of a limitation which characterises much broader areas of SF - being, as we shall argue in Chapter 4, the predominant mode of significant Soviet SF. But the fullness of SF

encompasses a direct concern with the _future_. Many critics, Suvin included, have noted how the 19th century saw imaginary literary realms move from 'distant islands' to 'the future'. But this is more than a shift from 'spacial' to 'temporal distancing' (although it is certainly that), which, while it may have occurred for very important reasons (which we shall explore later), leaves the essential _process_ of estrangement unchanged. Rather, an important dimension is added: the imaginary island, even if it existed, would still be distant from the reader; but were the potentialities presented in an SF story to be realised, they would affect the rader directly in his future life, or at least his children, his society. This forces the reader to consider SF's images on their own terms. Not merely in the sense of: what if this _does_ come about?; But in being presented with new possibilities, possibilities demanding of value-judgements from their audience: would this be a good future to work towards? would this be a future we should fight to prevent? Now, put in these terms, SF would again seem to be a call to action; but we have already denied that this is the case. Rather, we are suggesting that SF serves to broaden the mind to new potentialities which the scientific age is throwing up, potentialities which _may become real_ some day, _if we make them real_. Now, in a sense what we are proposing here is a modified

'extrapolation' model for SF; but the difference lies in our rejection of any 'superiority' for 'probable' over 'possibile' stories in SF. Rottensteiner, in one of our opening quotations, laments the refusal of SF to acknowledge limits - "true, not unconditional and ever-changing limits"; and yet if the scientific project (indeed, the human project) is truely open-ended, then it would seem that ultimately, the only limitations on man are those that he imposes on himself - or at least, that we cannot at this point (or, perhaps, ever) posit any a priori limitations on him.

This somewhat visionary approach may be seen as the positive complement (not denial) of Suvin's essentially negative characterisation of SF: the 'carrot' to Suvin's 'stick', as it were. And this same duality may be seen more explicity in SF's more overtly political cousin, the tradition of Utopian literature.

Chapter 2

Utopia and Early History

"However expressed, it [utopian thought] is essentially a critique of the defects and limitations of society and an expression of hope for something better."

Paul B. Sears (1965)

"Compared with even the simplest manifestations of spontaneous life within the teeming environment of nature, every utopia is, almost by definition, a sterile desert, unfit for human occupation."

Lewis Mumford (1965)

In popular usage, the term 'Utopia' has come to be identified with a project inherently unrealizable, a never-never land completely divorced from everyday reality, a pastime for impractical dreamers. And yet in instant rejoinder the words of the anonymous French student come to us from the turbulent days of the 1960's: "Let us be realistic; let us demand the impossible!"

The Utopists (this being the term we shall adopt for writers within the genre), were practical men, who kept their very pragmatic objectives always to the fore. Indeed, as we explore the genre, we find that it is for

their supposed _failures_ of the imagination that they have been most heavily criticised by the intellectual establishment, rather than for their impracticality.

For Thomas More, Utopia was a very real possibility. The dawning Renaissance was to be one of the great transformative periods of human history; vast new powers were being called into play, and More was one of those who hoped to help channel these - a not unreasonable dream for the Chancellor of England! The breakup of the authority of the Church at this time brought about a 'democratisation' of education which spread reading to the new merchant elite for the first time. Now, the dominant worldview of this class was not yet the grim, much-vaunted 'Protestant Ethic'; it was rather an Erasmian humanism, a utopian belief in the perfectability of man. Before the Renaissance, 'only religious activity had been morally charged; truly 'important', 'meaningful' work was that performed by the priesthood; all else was mere drudgery necessary to ensure survival. But now, ordinary work was made meaningful; production attained moral significance. And it is the passion stirred up by this morally charged utopian vision that was one of the main driving forces behind both early capitalism and early science.[1] It was only later, with the Counter-Reformation, that the entrepreneurial class was driven towards the Protestant Ethic; for at this time the inescapable choice was

presented: were you Catholic or Protestant? In this way, social progressives were forced under the banner of Protestantism.[2] Their guiding light became no longer Erasmus, but Luther.

But Thomas More wished to found society on a sanctification of everyday life and the inculcation of the moral value of labour in a very different form from the strict, repressive moral code of Calvinism. On the basis of the rising merchant class, More wished to explore the potential of capitalism for rebuilding social relations; its greater economic efficiency was clearly secondary for him. More's tremendous achievement lay in the development of a concept of society as a domain open to investigation and rational reconstruction. It was the enunciation of a notion of the 'good life'; something unproblematic and inherent in traditional society, made here problematic due to the possible transformation More posited.

Utopian thinking provides an appraisal of the social possibilities of the develpment of productive forces and calls for a rational reorganisation of all aspects of social life on the basis of the overthrow of outmoded social norms.[3] It contrasts the fragmentation of social relations by the forces of change with the potential for a more human consolidation, and attempts to place production in a wider context of social interaction. It is a conscious reflection on historical processes, an

anticipation of the realm of freedom through an appeal to the common understanding of the 'good life'. This focus on emancipation may be seen in its mode of literary presentation: usually, the 'traveller' is simply shown the workings of everyday life; in this way, the concrete patterns of society are made both accessible and understandable, thus demonstrating a rationality grounded in the communicative reality of interaction (a 'normative order') as the guiding principle of social organisation.

A Utopian text is an 'interpretation', i.e. a critical commentary on existing society in the light of rational possibilities. It takes the suppressed possibilities of ordinary life and organises them in the form of an alternative society, by lifting them out of the realm of the private and presenting them as if they were common and general - substituting social rationality for normatively validated relations of domination. This is, in effect, the process of hermeneutic understanding assuming an active, creative role: where hermeneutics attempts to recreate the process through which the subject finds meaning in the stucture of symbols and values surrounding him, utopia repeats this in the context of what might be, rather than what is - it is "the completion of a discussion blocked by reality."[4] The construction of a utopia reproduces the 'Hermeneutic Circle', where each separate element of daily life becomes a manifestation of

a consistent whole whose significance is in turn revealed through each of its concrete parts.[5] The movement from 'part' to 'whole' in the utopian presentation is governed by reason based on discourse; the general principles of social organisation that the utopian society embodies must be accessible to discursive validation. The utopian exercise thus fulfils an interest in social reconstruction already present in everyday life, but terminated through the legitimation of prevailing social relations. For basic to utopian thought is the premise that the underlying interest in rationality will, in its quest for total emancipation, lead to greater practical effectiveness - and not to chaos. Utopia, therefore, should be viewed not as it is usually presented, as a static picture of an impossible future, but as an exercise in practical reason, as a tool for orienting social change.

Criticism of Utopia

For all its revolutionary intent, however, the Utopia which More drew and others hastily imitated was, nonetheless, a picture of stasis, and a picture containing many repressive elements repugnant to us today, such as slavery. Why should this be? For part of the answer we may turn to the man who, even before More, laid down the guidelines for Utopia; to Plato, who asks: "What is the best form of <u>organization</u> for a community and how can a

person best _arrange_ his life?"[6] Organize; arrange; the question contains the shape of its answer. A certain regimentation is implicit here already. The focus is on the _form_ of society, rather than on its guiding principles. While More could foresee change, could call for change, still the experience of change was not ingrained in him by everyday experience, as it is in us. Faced with the inevitability of change, with this awareness brought home to us by SF, we may see that _any_ static society must have some rigid authority-stucture to _prevent_ change. As new social forces, new social groups begin to emerge, any group attempting to preserve the status quo, no matter how benevolent they be, no matter how sincere in their belief that they are fighting a decline into relative barbarism, will develop means of repression; and thus have already forsaken Utopia. Now, in saying this, we are making plain our own understanding of the principle underlying the utopian dream: that of Freedom - like any principle, never fully realizable, nor even fully definable; but certainly negated by repression in any form.

As to the values which come to inform Utopia: More, the true genius (genius, we propose in passing, is the man who can first capture and make explicit the currents which are passing inchoate through his world), blends remarkably the diverse underpinnings of the emerging entrepreneurial

class: the new Erasmian-Christian humanism; the old medieval collectivism; the folk longings for peace and material abundance seen previously in the Earthly Paradise or the Land of Cockayne; and the new forces of secularization. While we have argued Utopia is further from us than the projections of SF, yet it is incomparably nearer than the metaphysical realms of mythology, the religious Heaven, the departed Golden Age, or even the timeless blueprint of Plato. Utopia takes us out of eternity and into history; into the world of men. As Suvin notes: "It is a nonexistent country on the map of this globe, a 'this-worldly other world.'"[7] Though he be canonised; though he was a deeply religious man; yet More's 'Utopia' was a vision deeply subversive to established Church hierarchy, both implicity and explicity. In the more open-ended and democratised religion it portrayed, it presaged the turmoil which the Church was to face over the coming years, as the rising middle class made its impact on society.

New Atlantis: the first SF story?

Yet all too soon we see these same middle class values become repressive as society polarised and rigidified. Tommaso Campanella's 'City of the Sun' (1623) provides the ultimate expression of religious absolutism in the name of the pseudo-science of astrology, portraying one of the

most rigidly Ordered societies man has yet conceived. Francis Bacon, on the other side of the division, provides in 'New Atlantis' (1627) the earliest and most straight-forward expression of the rising creed of technocracy; the inhabitants of his 'House of Solomon' are practically a separate race from the ordinary mortals to whom they occasionally throw a bone in the shape of some marvellous new invention. 'New Atlantis' has strong claim to being the first work of Science Fiction ever written; certainly it is the first work to focus on the transformative power of science to change the world - but on the other hand, its aim was far more practical than that of the modern work of SF. Campanella, though he languished for many years in papal prisons, yet strove to persuade the Pope to build his City of the Sun in actuality - looking, for a time, to have some real possibility of success. Bacon, similarly, was propagandising quite explicitly for the establishment of the Royal Society; his triumph was the beginning of organised science in England, preceded only by the Accademia del Cimento, in Italy. 'New Atlantis' is the vision of a new stratum in society: of a small elite of scientists coalescing for the first time into a self-conscious group. This is a process we shall see repeated on a larger scale in the SF written immediately

preceding the Second World War, as science gathers itself to make another quantum leap upwards in scale. And the same criticisms will apply: the vision is subversive, for it is the expression of the leading edge, the new 'revolutionary class' in society; but it cannot transcend its own Weltanschauung: it can portray the new class, and their new values, as dominant in a transformed society; but once the new plateau is reached, there can be only the maintenance of the stauts quo - for its hegemony is only 'natural', based as it is on "the only rational, universally valid" principles conceivable.

After the Renaissance

As literary historians have often noted, Utopias appear in waves on the literary scene. And as is rapidly evident, these waves coincide with periods of great social upheaval: the Renaissance; the Democratic Revolution of the late 18th - early 19th centuries; the fin-de-siecle of 1870 - 1910. Now this is not merely, or even primarily, we would suggest, because such inherently subversive literature is officially suppressed and only breaks to the surface in such periods of unrest (although there are certainly many historical examples to support the validity of this thesis); but because the two phenomena have their common cause in the emergence of new, dynamic social strata. Utopian writing is the literary manifestation of

these social changes; it is the dream-fantasy of the new group, the declaration of principles, as it were. This is why we maintain that the essential difference between SF and Utopian writing is the pragmatic character of the latter. Utopian writing is on the border-line between literature and political manifesto. However divorced from reality Utopia may appear to be, its intent is invariably to address concrete political issues of the day, be it directly, satirically, or by more esoteric analogy. Thus in fact utopian writing comes closer to literature over time, and further from political pamphlet, as the direct issues the author addresses become less relevant, and his direct political plea becomes more distanced. If the writer is a great one, he will tap themes which, while we hesitate to use the word eternal, are certainly of enduring significance to mankind (underlying principles, unfolding over time) and, entering the analogic mode, his words will acquire a fresh significance for each new generation as they reinterpret them in the light of new historical experience. In this way is literature a mutual creation between author and public; like all works of art, we repeat, it is _meant_ to be read into.

Now, the next wave of writings we have identified is that beginning with the Industrial Revolution, embracing the French Revolution, expressing the ideals of the new industrial bourgeoisie. In doing so, we have passed over

the great satirical works of Rabelais, Cyrano, and Swift. Certainly, volumes can and have been written analysing these complex writers; certainly, each has made a significant contribution to the literary tradition we are tracing (the 'marvelous voyage' of Rabelais, the 'planetary romance' of Cyrano, the 'state-novel' of Swift); certainly each expresses far too many positive ideals to be labelled a 'mere' satirist. Nonetheless, satire was their prime intention: biting attack on what they saw as the political stupidities of their day. And as such, they remain slighltly to the side of the main focus of our analysis. Thus the next Utopist we shall consider is Charles Fourier. Fourier saw most clearly the anonymity and waste of human potential in his society. For him, the repressive character of civilization is evidenced in the division between official morality and actual practice - hence his preaching of a 'counter-morality', opposed to the deceptions of education, marriage, and other social institiutions.[8] His aim was to end hypocrisy, to reverse the privatisation of society and reconcile the public and private realms. He felt that 'civilisation' enforced roles abstracted from everyday life and organised by a restricted set of rules, which people pretended to follow, but rebelled against in their private lives. What Fourier was describing was the process, already firmly entrenched, by which, as Habermas

describes it,

> "...ideologies in the restricted
> sense first came into being. They
> replace traditional legitimations of
> power by appearing in the mantle of
> modern science and by deriving their
> justification from the critique of
> ideology. Ideologies are coeval with
> the critique of ideology. In this
> sense there can be no prebourgeois
> 'ideologies'."[9]

Harbermas' point here is that prebourgeois society contained direct relations of power legitimated by a worldview: there was a place for everyone and everyone knew their place. But the worldview of capitalism theoretically preaches the equality of all men; hence 'ideologies' (in the restricted sense) are needed to counter this belief and legitimate social inequalities. Here we see one of the fundamental contradictions which pervades every facet of capitalist society, and which makes it truly dynamic, ever-changing; for as we shall see, new legitimations must continually be sought. Fourier, however, misrepresents his own understanding of this context of repression by supposing that it can be overcome purely as a result of technical manipulations, by restoring to the labour-process a sense of meaning and responsibility. Hence his elaborate 'blueprint' for utopia by which, in effect, he wished to regiment liberation. He believed he had a 'Newtonian calculus' by which to analyse precisely the 'passions' which

constituted human nature, and which were alienated in contemporary society. Although much more bizarre (e.g. his infamous 'oceans of lemonade'), he is quite close in this to the radical social engineering of Saint-Simon. And underlying this new wave of writings we may see one of the fundamental innovations of capitalism: a new understanding of time.

The Industrial Revolution ordered time for mankind. Displaced peasants came to the factories and had to learn to punch time-clocks. The change in worldview here is one almost incomprehensible to us today: from a life run according to the sun and the seasons, where chores 'took as long as they took', ordered only by an understanding based on tradition that certain tasks had to be performed at the right time of year, to a life meticulously scheduled according to the hands moving inexorably across the clock-face. Thus was the doctrine of Progress born: the monolithic, mechanical movement into the future. In fantastic literature, it was this, even more than the gradual elimination of uncharted lands on the map (James Hilton could still find a remote Tibetan valley in which to situate his Shangri-La in 1933; what made it his Utopia was its timelessness, a last cry for an ideal long dead. Hilton recognises his own anachronism, of course: when an inhabitant of eternity enters the 'real' outside world, she is destroyed - by the forces of time.), which changed

the focus from space to time. From now on, the alternate world would be set in the future (and occasionally the distant past) more and more, rather than in a foreign land. The orientation was one of systematic, ordered planning for the future.

Thus Utopia is no longer a static picture, it is a plan for the future. The Utopian visions now have change, continued metamorphosis built into their very frame; they are dynamic, open-ended - and this is a fundamental step in the progression towards modern SF. The consciousness of change, the interest in the future, these had entered everyday life; however, the interest remained primarily in establishing principles to follow today, rather than in alternatives for their own sake. Thus these blueprints carried their own limitations: the principles all too easily became rules, and the new societies, while free to develop, could do so only in a straight line, in accord with the monological rationality of the time. Hence the ultimate rigidity of Fourier and Saint-Simon - a rigidity we shall soon see return, magnified many times over, at the end of the 19th century.

Frankenstein

If 'New Atlantis' was the first work of Science Fiction, Mary Wollestonecraft Shelly's 'Frankenstein, or the Modern Prometheus' (1818), was the first work of

Sceince _Fiction_. As we trace the interweaving threads of Utopia and SF, there can be no doubt: '_Frankenstein_' is literature, not political diatribe. Now we may see the basis for Suvin's definition of Utopia as the "sociopolitical subgenre of science fiction."[10] '_Frankenstein_' addresses the social and political issues of its day; but it does so in much more subtle, more ambiguous form, by analogy. It does not peach, it has no program, no pragmatic aims, none of the things essential to the utopian writer; it contains instead (wonder of wonders) a genuine story instead of a travelogue, and a dark warning for the future.

Most obviously, '_Frankenstein_' brings the Faustian theme into the sceintific age. In doing so, it creates an archetype: our hopes and our fears about the power contained within modern science crystallize in the symbol of the monster. And in Victor Frankenstein we find the new power-figure of the era: the '_philosophe-scientist_', the 'modern Prometheus' who has stolen the fire of life itself, has abrogated the privileges of the gods - and who may yet pay for it, albeit now on this earth. In the ambivalence of her vision, Mary is perhaps more in tune with her time than the optimistic confidence expressed in the Romantic Individualism of her husband Percy Bysshe Shelley, and of Byron, Coleridge, and Blake. Mary portrays birlliantly the agonies of the new class,

> " - the intelligentsia in
> capitalism, oscillating between radical
> titanism and conservative recuperation
> ... Victor Frankenstein and his
> startling creation are a scientific
> cipher for an overhasty radical
> intellectual at the 'time of the French
> Revolution animating ... the '(hardly
> adequate) materials' ... of the broad
> popular forces.   The   philosophe-
> scientist who awakens and animates
> these victimised masses with 'no kind
> of property' in the hope of a new and
> glorious creation finds that
> persecution and injustice exacerbate
> them to the point of indiscriminate
> slaughtering ... [T]he novel is the
> emblematic self-awareness of a wavering
> and   guilt-ridden   rebellious
> intelligentsia looking at the
> implications of the French Revolution
> ... [t]he perversion of their utopian
> dreams result[ing] in ... gloom and
> misanthropy."[11]

Although Suvin himself persists in referring to SF as
part of a "submerged or plebeian 'lower literature'",[12]
he quite clearly shows us here the nature of the beast.
It is the creation of the 'radical intelligentsia',
mobilising the masses in the name of universal liberty,
but in practice to secure their own hegemony. For what we
are witnessing is not the abolition of class differences -
far from it; merely a broadening of the elite.
Momentarily horrified at what it has wrought, yet it will
consolidate its position through the stagnation of the
Victorian Era.

Whether Mary consciously sought to symbolise the
French Revolution as she wrote is perhaps unlikely; yet

this political analogy seems valid. For both focus on the same underlying rationality:

> "During the original Reign of Terror after the French Revolution, Robespierre uttered the famous and awful statement, "Virtue without Terror is powerless." And in that statement speaks all the self-assured, insouciant certainty of - eighteen - century rationalising a belief that the moral universe of right and wrong could be explored and analyzed as certainly, and with the same speculative instruments, as the physical universe of force and mass. But even at the height of that optimistic period, doubts and dissents were being expressed about the ultimate predictability or rationality of human events ... [I]t is important to realize that the archetypal figure of [Frankenstein's] monster is born out of the same foment of European thought that produced the dreams of the revolutionaries and social planners."[13]

Mary warns us, then, that when man takes power into his own hands and attempts to wrest his future from the blind forces of destiny, the threats of the disintegration of society and death for the individual are always present, no matter with what lofty ideals one may set out - as Robespierre and Victor Frankenstein both learned.

However, we should not forget that 'Frankenstein' is analogy, not description. The scientific and bouregois-capitalist intelligentsia formed overlapping strata, certainly; but they should by no means be seen as identical. Science was yet far from being the driving force behind society; the famous inventors of the

Industrial Revolution, while they almost certainly could not have appeared without the general diffusion of scientific rationality and principles through education and literature, were yet essentially thinkers.[14] It is unlikely that they took too much specific knowledge from established scientific research; indeed, scientists are more likely to have learned from their pragmatic achievements than vice versa. However, the two groups had a certain orientation in common:

> "In regard to inventors, there is some evidence to support the view that they are just as likely to have been motivated by intellectual or practical curisoity, by a love of 'tinkering' or an 'instinct of contrivance', or by a non-economic interest in 'improvement', as by economic factors."[15]

The scientists of this time were still essentially visionaries, wedded to science 'for its own sake', driven by an inner complusiion, a curiosity about the world; for there were no rewards to be gained from the outside world: no money, no respect, (other than that of their peers), no social prestige - only a vague fear, an unease as likely to manifest itself in ridicule as praise. On this basis, we may suggest why SF did not emerge as a genre, rather than the occasional works of isolated individuals, until the 20th century, despite the emergence of the scientific worldview with the Renaissance, and of science as a social project in fairly short order. In

political-economic terms: the scientific-technical stratum was not yet the 'leading', 'revolutionary' stratum in society, and so not in need of utopian expression; and in psychological terms: this handful of intense, devoted individualist geniuses did not need reminding of the values and goals of the enterprise they were working in; there was no danger of their losing sight of the bright vision of science - they lived in the excitement of the frontier day by day (thus Darwin, for example, stopped reading literature altogether - at the crux of a revolution, what need had he of other's second-hand dreams?). It is only when science becomes an ordinary job, engaged in by a large number of ordinary (albeit highly intelligent) persons, that SF must emerge to provide a value-structure for science, least the individual become lost in his own little Compartment, and his social sensibilities atrophy.

Jules Verne

If we are to continue with our differentiation, then Verne must go down as the first consistent Science Fiction Writer. Verne refurbished the marvelous voyage for the scientific age, and made the action-adventure tradition his own, at least within SF. Now, as Marc Angenot (1979) notes, the most obvious theme within Verne's works is circulation: 'Around the World in Eighty Days' (1873);

'Five Weeks in a Balloon' (1863); 'Clipper of the Clouds'
(1886), etc.. Why this endless motion, ever accelerating,
is the obvious question? Angenot takes his answer from
Lewis Mumford: Progress.

> "Progress was motion toward
> infinity, motion without completion or
> end, motion for motion's sake. One
> could not have too much progress, it
> could not come too rapidly, it could
> not spread too widely and it could not
> destroy the 'unprogressive' elements in
> society too swiftly and ruthlessly."[16]

Amd the twin spearheads of progress were science and
capitalism.

Yet it is a strange capitalism that is Verne's. For
him, it is the circulation of money and goods, the endless
growth of consumption, that is the desirable aspect of
capitalism. For 'sedentary capital', i.e. for the
'fetishism' of capitalism, for the accumulation of private
property, Verne has no place. And science here also
opposes fixed capital: it acts always as an accelerator
(balloon, submarine, airstrip, etc.). Verne's focus is
never on the gadget for its own sake, and indeed he never
takes account of the effect of society on science: the
purpose of science is invariable to take the place of
manual industry. Verne should essentially be seen as the
spokesman of the liberal bourgeois, writing at the period
when the middle class still saw science and liberal
capitalism as wholly concordant, still a believer in the

industrialist euphoria (although towards his later years,
as the Paris Commune was bloodily suppressed and
monopolistic capitalism began to tighten its steely grip,
a slight but definite note of pessimism begins to creep
in). Hence Angenot's characterisation of him as the last
'happy' SF writer.

Bellamy & Company

The last great wave of Utopian writing, and the first
to originate in the New World of America, was that
initiated by Edward Bellamy's 'Looking Backward 2000-1887'
(1888). Kenneth Roemer (1976) has documented how the
American Utopists of the late 19th century attempted to
restore the social meaning of industrialism. In a time of
crisis in capitalism, when economic collapse brought the
inequalities of 'progress and poverty' into especially
sharp relief, with old values crumbling under the pressure
of a depression which reached its nadir in 1893, as vast
impersonal forces seemed to render the individual
helpless, the Utopists expressed the wish to reinstate the
social elements in economic organisation, to subordinate
the logic of the market to a logic of social values and
reassert human control over an inhuman and uncontrollable
system of production. Essentially, these writers (abundant
in numbers, lacking in any literary quality) were small
town, middle class folks, venting their hatred of the rich

and their fear of the poor masses. Their Utopias were small-town middle class Utopias - astonishingly dull, and monotonous in their sameness. Their reforms were the ultimate expression of the social engineering which we noted emerging in the early part of the century. Basically, they were conceived as a technical adjustment to the social system - a confusion of political reform with the fantasy of technological solutions to social problems. In terms of practical objectives, the innovation which Bellamy introduced was a detailed plan of the transition from the present state to Utopia. 'The Change' was to come about with the new millenium, forced into being by intolerable oppression and poverty; and indeed many Nationalist Clubs were formed, the proposed nuclei of the new society - all to die an ignominious death.

For advanced industrial society has been able to neutralize the practical value of reform by selectively incorporating it, while retaining a socially fragmented and privatized view of the individual. Now, this has required expanding production for private consumption, with the substitution of consumable values for collective responsibility and commitment. The private sphere has become the principal agent of residual cultural meaning, so that rewards for participation in the social system are realized in anti-social forms. Furthermore, as liberal

capitalism has been pushed by its internal contradictions into 'organised or state-regulated capitalism', the state has increaingly assumed the burden of system problems. This repoliticisation of the relations of production has led to a corresponding increase in the need for legitimation, even while the continued anonymity of class rule has necessitated what Habermas terms the 'structural depoliticisation of the public realm'.[17] This simultaneously prohibits the generation of new social meaning through public participation and discourse in decision-making, while calling forth constantly rising demands for social benefits. This necessitates an ever-expanding realm of administration which requires growing legitimation even as it exposes the contingency of traditional sources of legitimation. It is due to this that the traditional capitalist substitution of 'consumable values' for 'scarce meaning' must, in the long term, be replaced by a technocratic rationale for administration based on the management of complexity. In this, the subjects of administration become the passive recipients of social benefits. It is one of the basic tendencies of the market to treat labour as a commodity; a total technocracy would take this reification of the human individual to its logical conclusion: all people would be redundant, for the aim of the system would be a perfectly efficient, totally mechanised economy. Essentially, what

is offered is the content of utopia - health, security, material well-being - stripped of the value-structure which provides it with its human meaning. The utopuan promise is replaced by its 'functional equivalent'.

H.G. Wells: an intellect vast and cool and unsympathetic?

One man it would be absurd to label an "imitator" of Bellamy, who transcended him immeasurably - 'in terms of literary quality, financial success, critical acclaim, or surely any meaningful measure; who further criticised Bellamy explicitly for his rigidity - and yet who, ultimately, arrived at a position remarkably - even painfully - similar to Bellamy's: such a man was H.G. Wells. Of the various "Fathers" that the (very) illigitimate child which is modern SF has claimed for it, it is surely Wells who has done the most to bring it into the realm of literature with a capital 'L'.

Wells stands as the cusp, the fusion of the Utopian tradition with the realm of Literature. Although the majority of his prodigious output (110 books, over 500 articles) is closer to the more traditional manifesto-like writing of the Utopias, it is for his early, more ambiguous (but still stongly political) tales that he is best remembered.

> "As Voltaire and d'Alembert were
> philosophes of an age under the spell
> of Newtonian physics, so Wells was a

> philosophe of the Darwinian age ...
> Like the philosophes, Wells was a
> populariser, a social reformer, a foe
> of an <u>ancien regime</u>. Like the
> philosophes, he sought to educate a
> newly literate public, although this
> public ... was much larger than the
> public reached by the philosophers."[18]

As Wagar further points out, Wells liked to pose as the incarnation of the <u>Zeitgeist</u>; and although he certainly lost his audience in the later years of his life, his first cycle of SF stories undoubtably captured many of the concerns of Fin-de-siecle Britain. With fellow philosophes such as George Bernard Shaw and G.K. Chesterton, Wells saw and condemned the stagnation of the Victorian era, and hoped to present new roads to follow. "He accustomed a whole generation to believe in the inevitable smash-up of the Victorian way of life, through the agency of inevitable technological change".[19] And yet his vision differed crucially from that of any of his contemporaries.

> "Of all the aspects of the idea of the
> future, the aspect that appealed first
> and foremost to H.G. Wells was that of
> the future's capability to illuminate
> the present. His science fiction
> novels were primarily satirical, and in
> them, everything terifying in the world
> around him, everything stupid, became
> more terrifying, more stupid .... He
> looked at the contemporary world as
> from a point in the distant future ...
>   Sir Walter Scott proved that only
> by assesing the past could we give a
> sufficiently profound picture of the
> present. Wells proved that one cannot
> describe the present without meditating

on the future."[20]

Kagarlitski here shows Wells' writing to be an example of Suvin's "estrangement" par excellence. His dominant concern throughout is that of providing socio-political critique; what made his unique was that he did so from a background of scientific training, and sought to apply the scientific approach to the social, as well as the natural, realm.

Without question, Wells' understanding of science was primarily based on the Darwinian biology taught by his mentor at the University of London, Darwin's famous pupil T.H. Huxley. The tremendous impact of Darwin lay in his toppling of the rigid, hierarchical model of nature which placed man firmly as "lord of creation", pre-ordained as the ultimate purpose of The Universe by God in his infinite wisdom. Rather, Darwin presented man as the outcome of change, blind natural processes, and the tooth-and-nail struggle for existence. Darwin is being questioned from various scientific sources today; but certainly Wells "... came to believe that there is no inherent virtue in nature ... and that in order to better the human lot man must control, regulate and transform nature."[21]

Now on the one hand, this forms the basis for Wells' humanism: "man is the measure", for all values can only

stem from, and refer back to, man. On the other hand, there can be no guarantee of man's unending dominance - indeed the Second Law of Thermodynamics points to the ultimate futility of all man's efforts, as Wells captured brilliantly in "The Time Machine" (1895), with its accelerating pictures of the decay and death of the world. Wells for many was the epitome of "Victorian optimism", with its complacent belief that things will inevitably work out for the best; but this representation is simply false. Always to counterbalance this there was his legacy of Huxleys's "cosmic pessimism"; that he never lost this is dramatically evidenced in his last published work, "Mind at The End of Its Tether," (1945) when in the shadow of Hiroshima, all his hopes and dreams seemed to have crumbled to naught and he gave way to despair. Wells spoke always of progress, certainly; but for him it was never an inevitability (as it was for Verne) - rather an opportunity which (perhaps) man might be taught to grasp.

It was in the latter years of the 19th century that the fruits of systematic scientific research began to outstrip the efforts of the earlier generation of "tinkerers", and to direct the course of industrial development. Thus, for example, David Landes describes the development of the chemical industry:

> "In 1856 Perkin fortuitously
> synthesised the first analine dye, a
> purple that took the French name mauve

> ... in 1869, Perkin in England and
> Graebe and Liebermann in Germany
> produced alizarin, the first artificial
> dye to replace a natural colourant, in
> this case madder ... [this] symbolised
> the arrival of an era of purposive
> research: Perkin came upon mauve by
> accident, but he sought and found
> alizarin, while Graebe undertook his
> research in direct orders from his
> master Bayer."[22]

The impact of this "purposive research", the
beginnings of modern "R & D", was swift. The 1890's

> "... saw the lusty childhood, if not
> the birth, of electrical power and
> motors, organic chemistry and
> synthetics; the internal combustion
> engine and automotive devices;
> precision manufacture and assembly-line
> production - a cluster of innovations
> that have earned the name of the Second
> Industrial Revolution."[23]

This is the background of Wells' formative years. The
transformative power gathering at this time was what Wells
saw perhaps more clearly in its potential than any of his
contemporaries, and what gave his works so much of their
impact. But Wells also saw more clearly than most the
great danger inherent in science if it was not properly
managed. For Wells,

> "(t)he misfortune of the modern world
> lies in the fact that man fails to keep
> pace with his own knowledge. Science
> knows no frontiers, yet the whole of
> the globe is intersected by frontiers
> ... Man cannot control science because
> science has the faculty for
> self-development, he cannot halt this
> personal force or foresee the
> alterations which it brings into his
> life. Science has become the master,

> not the slave, because human society
> lives according to elemental laws, it
> lacks purpose and aspiration to
> determined aims. Science is common to
> all mankind. "But mankind has no common
> aims."[24]

Spurred on by the apocalyptic vison which he presented in such works as "War of The Worlds" (1898) and which he saw confirmed at Hiroshima, Wells set himself to provide mankind with just such "common aims".

The focus of Wells' first cycle was on the disaster. Each of his famed early novels (The Time Machine (1895), The Island of Dr Moreau (1896), The Invisible Man (1897), and War of The Worlds (1898)) introduces a destructive novum to shatter the complacency of bourgeois Victorian society; each utilises a primarily biological theme to show danger and yet (more hesitantly) the marvelous potential of the forces man will soon be able to unleash. These are perhaps Wells' most ballanced works (and hence, we would suggest, those closest to modern SF and furthest from the Utopian Tradition - although firmly rooted in the latter); thus that great tale of cosmic disaster, "War of The Worlds", ends on a paradoxically reassuring note: the intellects vast and cool and unsympathetic" (representing that which we ourselves may become in the future) are destroyed by the very bacteria to which Wells compares men in the opening paragraph.

> "By the toll of a billion deaths, man
> has bought his birthright of the earth,
> and it is his, against all comers; it
> would still be his were the Martians
> ten times as mighty as they are. For
> neither do men live nor die in vain."

After this work, Wells moves increasingly from the disatrous anti-utopia to utopian blueprint. Nor is this progression as paradoxical as it seems.

> "Apocalypse and utopia, after all, are
> not really opposite as much as they are
> complementary states of mind. The wish
> that the unbearable world in which you
> live might disapear in one gigantic
> conflagration, and the desire to
> construct, or at least dream, a state
> of affairs that might make the world
> less unbearable have at least this in
> common: they are both expressions of a
> mind fundamentally dissatisfied with
> things as they are."26

David Kettener (1974) indeed, views the pattern of holocaust and transcendence as the fundamental format of the genre of SF, which he sees as partaking of "The Apocalyptic Imagination.' And it is this "fundamentally dissatisfied" mind which spoke thus to the Sociological Society in 1906:

> "... all this talk of the organisation
> of sociology, as though presently the
> sociologist would be going about the
> world with the authority of a sanitary
> engineer, is and will remain nonsense
> ...
>   I think in fact that the creation
> of Utopias - and their exhaustive
> criticism - is the proper and
> distinctive method of sociology ... I
> figure to myself a similar book, a sort
> of dream book of huge dimensions, in
> reality perhaps dispersed in many

> volumes by many hands, upon the Ideal
> Society. This Book, this picture of
> the perfect state, would be the
> backbone of sociology."[27]

By his own lights, then, Wells was to remain a sociologist for the rest of his life, (i.e. a Utopist). Explicitly, Wells owed allegiance to no class, no nation, no special interest group. Even his beloved scientists he described as "a miscellany of specialists" needing to be incorporated into the grander scheme of social advance by "the man of more general intelligence and wider purpose".[28] No, his allegiance was to nothing less than humanity as a whole, to the "radical mind" as he most often termed it. This holistic, Hegelian conception was the basis for Wells' crusade for the "World State", as outlined, for example, in "A Modern Utopia" (1905), surely the archetypal blueprint for the scientifically planned welfare state. And yet: one of the prime features of "A Modern Utopia" is the proposed formation of the clan of "samurai", a "voluntary nobility" which is essentially, as Wells acknowledges, an updated version of Plato's Guardians. The complexity of the management of Utopia is too great to permit the inefficiencies of the democratic process. Rather, a "functional elite" of experts must take charge. This vision develops in the later (both in real-time and fictional time) "Men Like Gods" (1923), where there is no government, only experts doing their

jobs scientifically and rationally. As one of the Utopians explains; "Our education is our government".[29] By means of education, in other words, the class of "samurai" has been extended to include everyone.[30] Thus, for all his pretentions to universality, is Well's social base revealed. As Wagar puts it, "His aim was to convert the world into one vast educated burgeoisie".[31]

Son of a struggling shop-keeper and himself a failed draper's assistant, Wells' background was very definitely lower-middle class; and in a sense the values this entailed never left him. On the one hand, there was the fear, and the ever-present danger of falling into the labouring class; on the other hand the ideal was not to rise to the unattainable and equally detested "upper classes",[32] but to the security of the educated professional classes. But for Wells' special genius, this is a security his family would never have known; hence the special vitriol Wells reserved for the hypocricy, egotism and complacency of the old bourgeoisie - the class most directly barring his way; and hence his ideal of a new intelligentsia which would reign supreme in his new "organic" world order. We do not wish to suggest here that Wells' background "inevitably" led to his adoption of the ideals he came to hold; nonetheless, this is the basis on which he built - and for this reason we should not be surprised at the ultimate similarity between him and the

other petty-bourgeois Utopias of Bellamy and his followers.

Wells' was the last grand fling of the monolithic Utopia. The reaction set in almost immediately with the new wave of anti-utopias; thus Aldous Huxley said that "Brave New World" (1932) "started out as a parody of Wells' "Men Like Gods", but gradually it got out of hand ..."[33] What Huxley and the others primarily objected to was the regimentation implicit in Wells' vision. Now at that, Wells was far more open-ended than Bellamy, or indeed any Utopist before him. He had far too much respect for the notion of Progress to expect it to reach some sort of plateau, and then abruptly cease its forward motion. Wells' Utopias always have room for development; and yet, it is a curiously straight-line sort of development. Although in theory Wells could hypothesise science as only the first wave in an underlying mental process of sustained free reasoning; and indeed criticise rigidity in th scientific community, still for Wells

> "science in the happier, broader sense,
> this new spirit in man's search for
> truth which Wells defined by stringing
> together adjectives like 'hard' and
> 'clear' and 'orderly' and 'candid', was
> the only possible instrument of man's
> deliverance from the confusion and
> animal drift of the world crisis".[34]

When he actually elucidates it, Wells' 'hard, clear' reason comes frighteningly close to the "intellect vast

and cool and unsympathetic" he warned against earlier.
For Wells ultimately, the evils of the world are due to
stupidity and superstition and the universal truths of
science must wash them away, leaving one rationality
accepted by all - hence Wells' development of Utopia into
an overtly global vision in contrast, say, to Bellamy's
'Nationalism'. While Wells warns us of the dangers of the
products of science, his acceptance of 'scientific
rationality' despite all disclaimers, is at base
unquestioning - and it is this which ultimately he would
impose on the world. The problems of this view of science
we shall explore further - suffice to say for the moment
that it has no place for the dialectical unfolding of
history streaming from the interactions of cultural
diversity; and that this is what places Wells primarily
within the utopian tradition, rather than that of modern
SF, which in abandoning the search for the 'one right
answer' to society's problems, allows for a multitude of
visions from its many practitioners, with a consequent
richness of divergent potentialites opened up. However
let us not misrepresent Wells; for it is doubtful whether
any other single writer has introduced so many themes into
SF as Wells - indeed, due to his crucial historical
position, it is doubtful whether any could now hope to.
Wells has been dubbed the "Shakespeare of SF"; an
exaggeration certainly, but an understandable one in

reference to the Grand Master of the genre.

Chapter 3

The Modern History of SF

> "If we see SF as the updated pseudo-utopian mode of the global (and increasingly dominant) technocratic bougeoisie, as the expression of its group fantasy, then one of SF's more troubling aspects - a neo-fascist elitism ... based as it is on the projection of 'higher cultures' - becomes theoretically explicable."
>
> Sylvia Wynter (1979)

> "Not unlike the bourgeoisie, the intelligentsia aims at securing and keeping power. Until such time as it can seize power, it undertakes the unification of what it considers its territory, and appealing to an all-party union, attempts to break all opposition.
>
> That section of society which writes and reads SF has no such aims. It does not wish to take power or unify culture. It is in no way an elitist group but is pluralistic in its constitution. It has no global strategy with regard to social problems ..."
>
> Gerard Klein (1977)

First of all, it must be said that the purpose of this section is not to provide a history of SF per se; many such are already available, written indeed by persons who

lived through and were intimately involved with many of the events described.[1] Rather, our aim is to show the changing orientation of SF over time: changes in its presentation of science, in the alternatives it puts forward, and above all in its political attitudes - both conscious and unconscious. In speaking thus of the 'orientation of SF' we do run the danger of perceiving SF writers as a homogenous group, with (at any one time) identical attitudes to social issues; and nothing could be further from the truth. But insofar as it is part of our basic line of argument that SF fans so form a community (albeit a loose one), and that this community has its base in a specific social group whose changing role in society we shall chart, we may allow ourselves perhaps to speak of the 'main thrust' of SF - noting of course that deviations from this norm will always exist.

Thus far, we have focused primarily on the utopian tradition and its gradual transformation into the social-philosophical school of SF. Also, we have noted Jules Verne, the master of the quite separate school of action-adventure SF. Briefly, Lester Del Rey (1980) outlines the development of this tradition after Verne:

> "But the small adventure pulps were probably the major influence on science fiction from 1895 to 1925 ...
> Basically, adventure fiction seeks to use the action of men with strange occupations or in exotic locations to provide the sense of the unusual that

most readers seem to want ...
But the world was becoming too
well known, and men's occupations were
becoming far from adventuresome ...
There was still the future,
however, where men might walk on
strange worlds, or face alien invaders
- or almost anything.
Inevitably, adventure science
fiction developed."[2]

But the next major development in SF came from a quite

separate 'third source', a group whom del Rey describes as

"the hobbyists, who had found that
in the field of technology there were
many areas where they could tinker with
new ideas, build variations on known
devices, and generally turn science and
gadgetry into things to be exploited
for their personal pleasure."[3]

And this group had their own candidate for the 'Father of

Science Fiction' (although his role, if anything, was more

properly that of midwife): one Hugo Gernsback.

1926: "Extravagant Fiction Today - Cold Fact Tommorrow."

The quotation above was the slogan of the world's

first magazine devoted solely to Science Fiction - or

'scientification', as its editor at first called it.

'Amazing Stories' was founded in 1926 by Hugo Gernsback.

A radio engineer by training, Gernsback had founded

'Modern Electrics' the first radio magazine, in 1908; had

published in it his famous SF serial 'Ralph 124C41+',

beginning in 1911; had founded 'Weird Tales' in 1923,

which combined horror, fantasy, and SF. Now, the

progression we have traced here already shows the partial
arbitrariness in dating 1926 as the beginning of 'Modern
SF'; nonetheless, the division is a widely accepted one,
and a good case may be made for it. Firstly, the
establishment of a regular outlet for SF stories provided
for the first time a (more or less) stable financial base
on which writers who were consciously SF writers (as
opposed to writers who occasionally wrote SF), could count
for income. Secondly, Gernsback, with sure editor's
intuition, instigated almost immediately the policy of
including extensive letters-to-the-editor columns. This
brought editor, readers, and writers into close (indeed
often heated!) dialogue, and was the beginningof the 'SF
Community' of which we have spoken. The next phase of
this process followed a few short years later, when
Gernsback founded the Science Fiction League, and
Organised Fandom began, soon to see a vast proliferation
of clubs and societies (e.g. the International
Cosmos-Science Club, the Futurians, etc.) Frederick Pohl
has described the process from a fan's eye viewpoint:

"In the early 30's, to be a science-fiction reader wa
a sad and lonely thing. There weren't many of us, and we
hadn't found each other to talk to ... we had the
permanent consciousness of being alone in a hostile world
... What Hugo hoped for from the Science Fiction League
was a plain buck-hustle, a way of keeping readers loyal.

"What we fans hoped for from it was Paradise."[4]

Discounting the tongue-in-cheek dramatisation of the language, we may still see here the attitude often described as SF's 'ghetto mentality', but which may more positively be characterised as a sense of community - remembering that every community is one partly through its very distinctness from some larger, anonymous external world. Whichever; the point we are trying to make is that at this time at least, the readership of SF consisted of a small, but dedicated (N.B. - the term 'fan' was originally a simple abbreviation of 'fanatic') in-group.

The Early Ethos

Considering his technical background, the orientation which Gernsback brought to early SF is perhaps not surprising. His declared aim was to create a literature to propagandise for science, and to spread basic scientific knowledge to the masses. As he wrote of the stories he published: "They supply knowledge that we might not otherwise obtain - and they supply it in a very palatable form."[5]

Furthermore, the importance of SF for Gernsback lay in its extrapolative function; he viewed it essentially as prophecy disguised as fiction, and hoped it might even become a positive incentive to discovery, inspiring some engineer to develop in practice an idea he had first read

in an SF story.

In his search for rigorous scientific accuracy, he even enlisted the aid of a panel of scientific experts to check the authenticity of the science in the stories he published. And this was no mere window dressing' these men were respectable scientists attached to reputable institutions, and Gernsback did indeed send them stories regularly for comment. Furthermore, readers (often with advanced degrees in the sciences) would write in and correct the scientific inaccuracies that did see print - a tradition gleefully pursued by fans to this day.

And yet Gernsback as an editor was a failure; the authors he introduced are forgotten today, and the policy he advocated proved impossible even for him to adhere to. Partly this was not surprising: 'Amazing' began on a high note, with reprints of the classics of Wells, Verne, and Poe; but this wa done out of sheer necessity - for Gernsback had no-one to write for him. He had to attempt to persuade the 'stable' of writers he had producing for his other 'pulps' to write some SF. This was not easy: his readership rapidly demonstrated a certain scientific knowledge; but his hack pulp writers had none. Gernsback was soon forced to acknowledge that 'minor' scientific inaccuracies would be tolerated for the sake of a good story; and a great many wirters avoided doing any scientific research by simply coining new terms, e.g.

'neutronic pistol'. But as one reader wrote, some years later: "A tale where in the hero dissolves the villain with a protonic blast cannot claim to be Science Fiction if the science part of it consists only of the name of the weapon."[6]

Early in 1929 Gernsback lost control of the new magazines he had founded. Within weeks he established 'Science Wonder Stories' and 'Air Wonder Stories', whose policy was: "... to publish only such stories that have their basis in scientific laws as we know them, or in the logical deduction of new laws from what we know."[7]

It was for these magazines, rather than Amazing, that Gernsback's 'panel of experts' was set up. But 'Air Wonder' lasted less than a year, and its companion was sold to a pulp adventure magazine chain in 1936; and Gernsback retired from SF publishing.

It might be claimed that Gernsback failed because the sceintifically trained writers did not exist for him to draw on; and yet this seems unlikely. He had the advantage of being first in the field; he mobilised a very passionate group of aficionados; and his involvement spanned ten years, during which time other SF magazines sprang up, some of which managed to succeed where Gernsback failed. No; a more plausible explanation seems to be that Gernsback's idea of SF simply did not match that of the majority of the fans. The fans were not

interested in the 'nuts-&-bolts' of science; they were interested in its vision, in the 'Sense of Wonder' that has become a cliche among SF critics, and which old-time fans lament the loss of in today's SF. In January 1930, 'Astounding' began publication, under the title (dropped in '31) of 'Astounding Stories of Super-Science'. And as its editor, Harry Bates, has said: "Hurrah for our good old honest Super-Science!"[8] Bates' claim is that SF has only ever paid lip service to science; and with this we cannot agree. But certainly in its early years, no one but Gernsback even attempted to maintain scientific accuracy; and as we have said, even he failed.

But a more feasible picture of the emotional background to the emergence and coalescing of the SF worldview at this time may perhaps be drawn. As Patrick Parrinder (1979) has noted, modern scientific optimism reached its peak in the 1920's as a reaction against the traditionalist thinking which was thought to have caused the First World War. For many young people, science was the new magic; nothing was impossible – whatever you wanted, some new gadget would soon be invented that could do it. Combine this optimism with the very youthful age of the new SF aficionados (usually still in their teens); then remember the basic action-adventure tradition of the pulps in which SF was appearing, and you arrive at the formula of early SF: Space Opera.

1930's: Space Opera.

The sweeping intergalactic adventures of E.E. 'Doc' Smith, Buck Rogers, et al. may be characterized quite simply. They were 'Cowboys & Indians in Space'. With their stereotyped plots and black-&-white characterization, they blended a fairly naive technology-adulation with exciting adventure and little deep thought. However, the substitution of ray-gun for six-shooter has further implications besides a simple failure of imagination. Not only was the potential of technology for effecting social change not seen; there is an innate consevative ideology in the projection of 'good old-fashioned homespun American values' into the indefinite future. As the lone hero saves the world from the evil Bug-Eyed Monsters (again and again), we are having demonstrated to us the (supposedly) eternal strength of the traditional values of individual courage, strength and initiative, and fair play - and of private property, capitalist free enterprise, and U.S. - WASP supremacy over all 'aliens' (a racism which was to continue both in explicit references to other human races, and in the slightly more subtle analogous treatment of non-human aliens, up until the Second World War.) Albert Berger (1972) has suggested that SF witers of this time, hoped, like most of their fellow Americans, that despite the rapid changes going on around them due to new

technology, they would still be able to retain their rural and small-town values. And the overwhelming preponderance of 'frontiersman'-type heroes, who are laws unto themselves, certainly seems to bear this out.

Let us not forget, however, that these (super-)heroes were, at least in name, still scientists. Walter Hirsch (1958) has demonstrated in his Content Analysis of the period that for the years '26-'29, 44% of all heroes were portrayed as scientists. Further, we should note that 39% of all villains were also scientists, paricularly via the 'Frankenstein' motif. This certainly demonstrates that an awareness of the dangers of science has existed in SF even from the earliest days; however, this was most assuredly not the dominant mode of thought at this time. Thus Hirsch further finds that scientists in 'utopian' stories are overwhelmingly presented as a 'legitimate' elite, while non-scientific elites are more often presented unfavourably than favourably. In this way,

> "The reader is led to put his
> trust in the hero supported by his
> technological achievements. In the
> end, with few exceptions, the reader
> recognises that the hero has earned
> that trust well - and the dependency
> that is part of it. In contrast to the
> detective novel, however, the ultimate
> dependency is not upon a unique
> individual, but on the scientific
> method, 'that particular means' of
> organising experience on which the hero
> so visibly relies."[9]

This statement does not have the universal applicability within SF which R. Gordon Kelly claims for it; however, it fairly describes a large segment thereof. We would add only that as well as promoting the scientific method in the abstract, it also, more specifically and more importantly, promotes dependance on that social group which is its representative, i.e. the scientific/technical intelligentsia.

1937: The Magic that Works

In 1937, John W. Campbell Jr. took over the editorship of 'Astounding Stories'. And as a writer, editor and fan Harry Harrison has put it: "When I was fifteen years old I though John W. Campbell was God."[10] No one man has had as much influence over the development of moden SF as Campbell. He quite literally took over the field and reworked it in his own image. First and foremost, he insisted on minimal literary standards. Secondly, he insisted on a minimal scientific authenticity in the stories he accepted. That he succeeded in upgrading SF's literary standards there can be no doubt (they could hardly have been much lower!). The status of science in his SF is more problematic. On one occasion, for example, defending his publication of a story based on an astronomical impossibility, he acknowledged the error, but said the basic idea was: "...interesting enough to make

the flaw forgiveable."[11]

Once more we see scientific accuracy sacrificed in the interests of a good story. On the other hand, there is no doubt that Campbell did much to eliminate the grosser absurdities of some early writing ("Turn right at Mars, then land us on Alpha Centauri!")

Campbell had more to work with than Gernsback. The first generation of SF 'trufans', those who had spent their adolescence steeped in SF, were just growing up. These were people accustomed to the idea of SF, of this peculiar blend of (supposed) science and (supposed) literature; many of them would have undoubtedly developed into fine writers and major figures in the field without him. But the particular shape of their visions would almost certainly not have been the same.

Although Campbell was a physics graduate, the man should best be understood as an engineer. He was essentially a pragmatist, and wrote viciously in his later years against theoretical scientists, maintaining that the only valid criterion of reason is: if it works, use it; theoreticians will come later and figure out how it works. To characterise him with certainty is difficult, for his monthly editorials in Astounding (whose name he changed to the more dignified 'Analog') are so protean, and so often contradictory of each other. Part of this may have been due to changes in his ideas over time; a

(perhaps larger) part due to his ever-present desire to stir up interest and controversy by any and all means, including the presentation of his ideas in wildly exaggerated form, with tongue firmly in cheek. Thus a grain of salt should be taken with the following statement of political position from a 1961 editorial: in designing a 'Constitution for Utopia' we are not trying to create a perfect society (that is Heaven), but an 'optimum culture'. Therefore: "It's an engineering problem, and should be approached as such."

The form of government is therefore irrelevant; however:

> "Traditionally, benevolent tyranny is the optimum form of government ... if you can just assure that the tyrant is, and remains, benevolent. .... Since it can be shown pretty fairly that any form of government will yield utopia provided the rulers are wise, benevolent, and competent, the place to start engineering over Utopia is with the method of selecting rulers. ... Let us set up a method of selecting wise rulers - and then let their wisdom be fully free to operate.
> - "Power does not corrupt; no matter how great the power a man may hold, he will not become corrupt ... if he is not also immune. It is immunity that corrupts; absolute immunity corrupts absolutely."

Thus Popular Democracy is the worst form of government, because the anonymity of the Mob gives total immunity; the Rulers must always be a minority group, for then they will never feel immune, or too secure, as they

must rule circumspectly. The pragmatic test of eligibility to vote should therefore be: "...is he a successful man in the pragmatic terms of economic achievement?"

Campbell's final position is that to qualify as a Ruler, a person's earned annual income should be in the highest 20% of the population.

We have quoted Campbell at some length here, because this passage seems to summarize both the central concern and the central attitude of an Era in SF. The concern is Power; and the resolution is a Meritocratic/Technocratic ideology. In part, Campbell is quite blatantly baiting the 'bleeding-heart Liberals' here, attacking the hallowed institution of Democracy itself; but his elitism is expressed in too many places, in too many different contexts to be anything other than genuine. As Berger (1972) has described it, the heroes in Campbell's own stories are 'manipulators'; Campbell's symbol for Science is the Machine, and many of his stories center on a search for 'the Mightiest Machine'. Similarly, his scientists do not plod through tedious laboratory work; they produce through intuition when under pressure in the practical situation - more Magus-figures than researchers - hence Campbell's definition of science as 'the Magic That Works'.[12] And these two lines of thought, both concerned intimately with power, focus in the

scientist/engineer 'manipulator'. Thus we may feel justified in saying that the financial aspect of Campbell's final position is there more to provide an 'objective' measure of success, than as support for a capitalist system; for instance, he takes great pains to eliminate qualification through inherited wealth. No; the important point is the establishment of a scientific/technical elite.

Campbell's attitude suffuses the first generation of Big Name Modern SF authors: Robert Heinlein, whose stock hero is best characterised as 'the Competent Man'; A.E. van Vogt, whose heroes belong firmly in the 'Superman' class (Campbell hoped, indeed, that van Vogt's term 'Slan' would replace the clumsier 'Superman'); Isaac Asimov, Paul Anderson, Alfred Bester, Lester del Rey, Jack Williamson, Theodore Sturgeon, and many lesser writers - all shared some part of this ideology, in their own ways.

But let us not think that what we are seeing here is the imposition by one man of his idiosyncratic set of values onto a whole group. Granted Campbell edited the most prestigious magazine in the field, he still had competitors; he did not have the power to shape attitudes and ideas in this way. Rather, it seems that his editorials and his prominent position merely enabled him to elucidate most directly the feelings which were prevalent (at least in the SF community) at this time.

SF & Technocratic Ideology.

The philosphy of 'Positivism' began as a project for the social reconstruction of postrevoluntionary France. It was the ideology on which the rising bourgeoisie was to reunite a divided society on a scientific grounding. As Alvin Gouldner (1977) states:

> "Science would be used to establish which beliefs were 'positive' - precisely in the sense of scientifically certain, as well as not 'negative'. [As were, supposedly, those of the Enlightenment.] It was supposed that, because of science's authority, its claims would commonly be accepted by men, thereby reestablishing social censensus.
> "From its very postrevolutionary beginnings, then, a scientific technocratic legitimation was proclaimed for the emerging society."[1]

From Descartes to Popper, the focus of Positivism is on Facts. The Truth merely exists; out there, waiting for Science to unearth it. The scientist (or indeed anyone using scientific, i.e. the only valid, rationality) can thus only be either Right or Wrong; any ambiguities are due to 'human error', and will be cleared up in time with the inexorable mechanism of Scientific Method.

This monological rationality then, with its belief in the One Right Answer, has been a part (although not the whole) of scientific consciousness for at least the last two centuries; and the natural complement of this epistemological belief on a political level has been

technocracy. If the running of society is seen as a 'technical' matter, then naturally those best qualifed to find the 'optimum' solution to this problem are the sceintific/technical 'experts'. For they are persons trained in the 'value-neutral' approach; they are not attempting to impose the interests of one class ove those of another. Rather, they are simply doing That Which Must Be Done, in the impersonal interests of System Efficiency.

In less abstract terms, Gouldner has analysed the transition from the old 'rule-centered' bureaucracy, to the technocratic 'expert-centered' bureaucracy. THe old bureaucrat simply does not have the knowledge to supervise the technical process being carried out; his judgements are restricted solely to appraisal of its product. The technocracy is a more task - and work - oriented elite; it is more 'benevolent' in that it is more likely to offer material incentives than violent punishments to achieve its aims, for it is more confident of its ability to increase the overall supply of material reward through technical innovations. Further, it has considerably less status anxiety, in that its members' status concerns are directed toward their own professional communities, rather than the public at large or the bureaucratic apparatus; this makes them a rather less conservative force than the old bureaucrats, who have no source of legitimation outside their postion in the bureaucracy.

However, it is doubtful whether technocracy has ever been the new _mass_ ideology; for its dearth of positive human values means that it offers little to the common man who is quite explicitly excluded from the new elite. Rather, most of the population's obedience is conditioned by the _gratifications_ which it associated with technology.

(In Habermas' terms, 'steering crisis' is averted through 'use-values'; as Ron Schwartz (1977) explains:

> "Capitalism attempts to solve the problem of social control by substituting economic integration through the market for the symbolic integration of political order characteristic of traditional societies ... [endemic 'legitimation crisis' is averted by the substitution of] 'consumable values' for 'scarce meaning; ... [coupled with] a rationale for administration based on the management of complexity [i.e. technocratic ideology].[14]

Furthermore, as Gouldner points out, in reality there is usually more than one technical means of accomplishing some objective. Michael Mulkay (1979) argues that scientific knowledge does not reduce the scope of political action to comply with external 'necessities'; rather it becomes a resource which can be interpreted in accordance with political objectives. Opposing parties in political disputes involving technical issues can usually obtain the services of reputable scientists to provide data supporting their policy and undermining their opponents'. This should not be taken to mean that

scientists can simply be ''bought' by unscrupulous politicians (although this may of course happen); rather, the point is that scientists affiliated to opposing goups will bring different presuppositions to bear on the problem. They will define the relevant issues differently, and utilise different categories in their informal reasoning; thus naturally they will arrive at divergent conclusions. Thus:

> "A technocratic model, then, which sees technicians dominating officials and management, and which sees the modern technologically developed bureaucracy as governed by an exclusive reliance on a standard of efficiency is a fantasy, a utopia, an ideal type.[15]

"A fantasy, a utopia, an ideal type" ... or Science Fiction. Technocratic ideology, the value-structure of a large section of the scientific/technical stratum, has found expression down the years in the pages of SF, and most predominantly in Campbell's 'Golden Age' of the late '30's and early 40's.

1939-43: The Golden Age.

1939 saw the first published stories of Heinlein, Asimov, Sturgeon, van Vogt ... Campbell was putting together his 'stable' and stories were being written which remain landmarks in the genre. And yet: why should this occur precisely during the Second World War? Writers were gradually pulled away, either to work on military

technology, or directly into the army; the paper shortage and general wartime privations hit the pulp magazines hard; the objective conditions were hardly ideal for a new upsurge in SF. So then why?

The internal conditions within SF have already been commented on, and we may reiterate a point made earlier: it is in times of turmoil and social upheaval such as war that the mode of writing which SF belongs, to, best surfaces. But another important factor was coming into play at this time:

> "The most expensive economic needs of corporate capital as a whole are the costs of research, development of new production processes, and so on, and, above all, the costs of training and retraining the labor force, in particular, technical, administrative, and non-manual workers. Despite the rapid advance of technology during the first half of the twentieth century, until World War II the industrial corporation trained the largest part of their labour force, excluding basic skills such as literacy."[16]

But it was during the War that these costs began to be socialized, paid for, that is, by the society at large through taxes levied by the state. Derek Price (1963) pin-points WWII as generating the transition from 'Little Science' to 'Big Science'. Price charts the growth of science as a fairly smooth exponential curve; and he points out that the roots of Bigs Science, while shoestring operations surely exist even today, alongside

million-dollar particle accelerators. But nonetheless, WWII may be fairly characterized as the time that quantitative change was transformed into qualitative change. The Nazis were the true instigators of the bureaucratization of science, in the years just before the war., Peenemünde produced the VI & VII; Britain developed radar; and of course the result of the Manhattan Project continues to hang over us all today. These were the first large-scale government-organised scientific projects; and it is only with them that we see the emergence of the popular view of science as a vital, practical force serving nationalism, industry, and society as a whole. The Depression of the '30's killed Laissez-Faire capitalism. The government was forced to invest; and the areas where investment enabled expansion where the new 'knowledge-intensive' industries: plastics, electronics, artificial textiles; products which have been developed in the scientific labs, not on the shop floor. This was the time that ordinary people became conscious of science for the first time; and the War brought this consciousness home with full dramatic impact.

It may be argued that the SF community was not so significantly aware of the latest developments in science as to have its visions shaped by them: but this is demonstrably false. The American Rocket Society (orginally the American Interplanetary Society, from

1930-34), included among its founders several of Gernsback's writers, e.g. an early president was Nathan Schachner, possibly Gernsback's best writer. Similarly, the British Interplanetary Society contained authors like Eric Frank-Russell and Arthur C. Clarke, the latter a member to this day. Further, Willy Ley, one of the founders of German rocketry began soon after his emigration to the U.S. in 1934, to write a series of popular science articles and SF stories for Astounding. Campbell, at first a vociferous proponent of the benefits of nuclear power, ceased editorials on the subject after 1940; when it became apparent to him that scientists in the field were dropping out of sight (to work on the Manhattan Project) and only resumed after the War. Some SF writers were involved in military research, and most kept in touch with publicly available developments. The ultimate evidence of this (a tale much-beloved by SF fans) surfaced with the March, 1944 issue of Astounding. It contained a story (Cleve Cartmill's 'Deadline') which centered upon two subcritical masses of U-235 being brought together to cause a nuclear chain-receation explosion; and it resulted in Military Intelligence men being sent round hurriedly to interview Campbell and Cartmill. Cartmill had to show in meticulous detail from which scientific publications, available to the general public, he had gleaned the technical details of his story,

and Campbell was asked to refrain from publishing anything further connected with nuclear fission - which he refused!

Who Consumes SF?

We have shown that by the '40's, SF writers had attained a certain modicum of scientific knowledge; and we have said that during the War, science became a large-scale enterprise - in other words, that a fairly significant scientific/technical stratum of workers appeared for the first time, in lieu of the small elite of individualists which had characterised science up to this time. We have further proposed that the dominant value-structure of SF reflected (and, indeed, in part molded) the value-structure of this stratum. But what actual evidence do we have that these were the people reading SF? Hard figures are, unfortunately, difficult to come by. Anecdotal examples suggesting this conclusion abound (e.g. during the War, in Oakridge, Tennessee, where an elite of scientists was gathered together, a drugstore suddenly began to sell out its 150 copies of Astounding within three days of its publication each month);[17] but the earliest large-scale survey was conducted by Campbell in 1949. On the Basis of 2,000 completed questionnaires, Campbell draws a picture of the average Astounding reader: male (93%); between 20 & 35 (80%); and overwhelmingly technically trained and (if he has left

college) employed.

Male dominance has declined steadily through the years; but Campbell's other results have essentially confirmed all other surveys, and have remained fairly constant. Albert Berger (1977) has collected all available material, and agrees with Campbell's conclusion - up to a point. Berger's data comes essentially from two sources: readership surveys by SF magazines, U.S. and British, professional and amateur; and questionnaires distributed at SF conventions, including one by myself at the 1973 Toronto World SF Convention.[18] Thus from Campbell's 1949 figure of 93% male readership, we see a decline to Berger's 1973 figure of 63%; and with the recent marked upswing in the number of women SF writers (as evidenced, for example, by Pamela Sargent's series of anthologies containing stories solely by women: 'Women of Wonder' (1976), 'The New Women of Wonder' (1977), we would suggest that the percentages have certainly equalised still further since 1973. Age, on the other hand, has remained fairly constant, supporting Campbell's contention that 'SF readers are young, but not juvenile.

Campbell's early figures would certainly point to the dominance of the scientific/technical stratum in his readership. But it must be remembered that 'Astounding' was, and as 'Analog' still is, the most 'hard-science' oriented of the SF magazines. The data Berger has

assembled points to the conclusion that while the scientific/technical stratum forms a disproportionately large section of the SF readership, it is not the whole nor even a majority of it. However, in both income and education, -SF readers would appear to come considerably higher than the national average. Regarding the content of education, Berger notes a trend away from the hard sciences, and towards a greater breadth due to multiple majors. Thus while in 1958, 66.1% of 'Astounding's readers had majored in the physical or biological sciences, by 1973, only 48.6% of the Toronto convention-goers had done so. This is in line with other indicators which we shall be considering, pointing to a gradual broadening of the base of support for SF, from its early, quite close identification with the scientific/technical stratum. For example, and posing questions as to the validity of magazine data, SF novels, since they began to appear regularly in paperback editions in the 1950's have become increasingly important in the field, to the point where Berger's 1973 survey shows them to be overwhelmingly the most important current source of SF reading matter. Since significant data on paperback publicatons is as a rule unavailable, our conclusions will necessarily become more tentative as we approach the present day. Berger's own conclusion is that "[f]ew science-fiction readers identify with the actual corporate

elite which governs modern society, but they do identify with that elite's paid managerial staff ..."[19] a view with which we would concur, and which we shall seek to expand on over the remainder of this chapter.

A certain controversy also exists concerning the actual numbers reading SF. Finer (1954) calculates that as of 1954, the 10 SF magazines on sale in Britian (5 of them British, 5 American) had a combined circulation of some 120,000, with a readership perhaps double that. The number of U.S. magazines has fluctuated wildly: 1931 - 9 magazines; '37 - 4; '38 - 5; '39 - 14; '41 - 22; '45 - 8; '49 - sharp increase begins to 30 in '54. Assuming each U.S. magazine has a circulation 5 times that of the British ones, Finer arrives at a total circulation of 3 million, with a readership of 6 million. This figure would certainly reinforce the view of SF as a manifestation of 'popular culture', a 'mass' phenomenon. In such a readership, the professional/technical stratum diminishes to a relatively insignificant minority of the SF public.

But on closer examination, this estimate becomes simply unacceptable. Bainbridge (1976) has provided a more detailed, as well as more recent estimate of SF magazine production. Finer's wild over-estimate seems best accounted for by the fact that he wrote in the middle of SF's 'Big Boom', when it must have seemed indeed that

everyone was reading SF. But in fact, Campbell's figure of 150,000 is the highest ever recorded for a SF magazine ('52); an average figure seems more in the region of 100,000, often going down to 50,000 - and this for the leading magazine in the field. As to the figure of 30 SF magazines; the Boom peaked at an estimated 38 magazines; but many of these saw no more than a handful of issues before 1954 and what Frederik Pohl has termed: "the final solution to the SF magazine boom." At this time, one smart operator bought a controlling interest in the American News Company, and liquidated it. He made a fortune; but the magazines that had been distributed by the ANC, i.e. almost all of them, suddenly had no way to get their next issues on to the newsstand. The survivors numbered 7 magazines.

Granted this was a drastic development; but even in '53, Anthony Boucher was predicting that the current proliferation of magazines would have to break, and that: "The number of magazines will settle down to at most a dozen."[21]

In fact, as Bainbridge suggests, the Big Boom seems to have been a repetition on a larger scale of the phenomenon which occurred in the late '30's: namely, simple overinvestment due to an over-optimistic estimate on the part of publishers of their audience. As we shall presently see, the A-Bomb forced SF to be taken seriously

for the first time by society at large; and publishers seem to have felt that this would stimulate SF sales dramatically; but not so. Real-science developments seem to have little impact on SF consumption; Sputnik I in '57 did nothing to stimulate growth, and sales levels remained fairly constant through the escalating Space Race of the '60's.

Finally, one major flaw in Finer's reasoning must be commented on: his cumulative estimate of the total readership of SF simply does not seem appropriate to the SF mentality. As Tom Roberts suggests, the 'Trufan' reads SF "voluminously", to the virtual exclusion of all other forms of literature. At some point, one simply stops reading individual stories and starts reading "SF as a genre"[22] Frederik Pohl, Isaac Asimov, and others have described the 'hunger' with which they devoured every issue of every magazine they could lay their hands on in their early years. For this reason, we suggest that the dedicated SF fan is far more likely to be reading several magazines regularly, rather than just one; and therefore that the total U.S. SF readership in (say) '52, was little more than Campbell's estimate of 300,000 - at most half a million, with Britain adding perhaps a quarter as much to the total. Furthermore, if fluctuations in output can indeed be attributed to publishers' overoptimism, we arrive at the picture of a relatively small, stable

in-group, growing perhaps slightly and steadily over the years (whether as a factor of population growth or the considerably faster growth of the scientific/technical stratum, it would be interesting to find out), but never truly threatening to become a 'mass' literature in the slightest. Its membership seems, rather, to consist of a specific segment of the 'new middle class'.

Fans & Fanzines

Considerable further evidence of the coherence of the SF 'community' may also be found. Bainbridge estimates that in the U.S. there are some 10,000 'trufen', i.e. true fans, who attend conferences, join clubs, read and write 'fanzines' (fan magazines), and speak 'Fannish' - a private language focussed on the fan scene. Bainbridge also circulated a questionnaire at one 'Worldcon' (World SF Convention); his results showed that over 70% of fans agreed with statements that fans are: imaginative, individualist, intellectuals, hold views at variance with society, and so band together for comfort.[23] This image may or may not be true; but more important for our purposes is the very definite common ideology in evidence here; the feeling of shared understanding in opposition to an uncaring, even hostile world - the world of 'mundanes', i.e. non-SF fans.

Fredric Wertham (1973) has analysed the Fanzines: the

channels of communication of the SF community. He finds that they are nonprofit ("very nonprofit", as one editor wryly commented, i.e. they often lose money); are often produced at home; may come out irregularly; are privately distributed; are spontaneous and unregulated from above; are intensely personal (as opposed to the impersonality of mass media); and that writers and readers are mostly under 30. The history of Fanzines seems to have followed four phases:

1) The introduction of substantial letters columns in the 'prozines' (professional SF magazines);

2) The adding of writers', i.e. fans', addresses to these letters, so that fans began to write to each other directly;

3) As clubs, cons, etc., grew, so did correspondence and newsletters, and fanzines developed. This stage was reached very rapidly; for the earliest know fanzine seems to have been 'The Comet', issued in 1930;

4) The field enlarged in scope and diversity of subjects; literary and personal contacts now go hand-in-hand.

One estimate (in 'Granfalloon' 9) puts the total number of fanzines ever published at 7,000 different titles - but this figure is impossible to confirm. They exist in almost every State in the Union, as well as in Britain, Canada and Germany. They enable a degree of communication between professional SF artists, editors,

and writers and the fans, unmatched in any other literary genre. Their circulation may vary from almost nothing (a substantial prcentage publish regularly with total sales under 200), to the more well-established ones which may go up to 2,000 or (rarely) more.

Who reads and writes the fanzines? Again, unfortunately, Wertham is unable to provide specific details. He does, however, have this comment to make:

> "Fanzines are not produced by the
> silent majority nor by any vociferous
> minority. And they are not made by
> apathetic conformists nor by concerned
> non-conformists. The only thing they
> have fully in common is an urge to
> create and thereby to communicate in a
> spedial way with others who are
> like-minded."24

Fanzines are neither an escape, nor an alienation. For they are a social phenomenon; their participants are seeking communication with a group - and a sense of community within an impersonal world. Fanzines

> "... do not represent an
> opposition; it is rather an assertion,
> not a protest but a resistance ... What
> they most refuse to accept is the
> processing and manipulation of people
> and the routine handling of their
> problems. It may nto be fully thought
> out, but in all of this there is
> definitely an implied social
> criticism.'25

This is the manifestation on a personal level of the characteristic which we shall argue is central to SF as a whole: the presentation, the simple statement, of a

positive alternative, the refusal to be tied down, to accept the inevitability of the status quo. The strength of this lies not in explicit criticism of the present social order; fans are <u>not</u> activists, they have no desire to organize and go out and change the world. They serve rather to keep alive the flame: the consciousness that things <u>can</u> be different.

However, we are getting somewhat ahead of ourselves here. For this analysis of the SF fan community has necessitated a digression from our main historical framework; and it is to this which we must now return.

1945: The Bomb.

> "Hiroshima was an historical crisis for the technocrats because it no longer allowed them to take as <u>givens</u> the goals and groups their technology supported. It began to make problematic and visible, to physical scientists themselves, their need for other groups connections, for some role in goal setting, and for a <u>value</u> rationality; in other words, for a morality and moral committment of their own."[26]

Hiroshima and its aftermath, the balance of nuclear terror, had a profound effect on the scientific community. On the one hand, as Gouldner here points out, the ideal of 'value-free' science and the 'uncommitted' scientist was challenged; 'moral commitment' was called for from certain quarters. But underlying this, and more

immediately undercutting the technocratic rationality, was

the fact that

> "the social group of SF had been
> shown its place, and could no longer
> ignore that it would <u>not</u> be
> adetermining group, even though it
> might remain an indispensable one. The
> organisational leadership it dreamed of
> for its values would not come about;
> the technologically oriented middle
> class had been allotted the role of an
> instrument rather than that of an
> animator. Immense economico-industrial
> units of monopolies had been
> constituted, whose admitted aims did
> not depend on rationality but on the
> quest for power; thus, the appearance
> of imperialism was no longer so
> benevolent. For SF there followed a
> period of skepticism ...[27]

The fallacy of the 'inevitability' of technocratic

rule had been exposed. Hereinafter the 'management of

complexity' legitimation became primarily for the

consumption of the masses; many (although of course not

all) scientists saw through it to their own helplessness.

Sylvia Wynter, then, in this chapter's opening quotation,

is mistaken in assuming the technical new middle class to

be 'increasingly dominant'; the 'group fantasy' which she

correctly identifies should rather be seen as an

expression of frustration.

Now as Mulkay points out,[28] the standard 'ethos' of

Western science, which insists that independence and

impartiality are essential to the production of objective

truth (and hence effective R & D), has been fairly

effective at maintaining a 'functional autonomy' for
scientists in freeing them from regulation in the course
of their work, as well as continually increasing financial
support for science. At the other extreme,
rule-by-scientists is simply not viable as a proposition.
However, it seem unlikely that the desire for power _per se_
was ever a dominant motivation for this group. Rather,
the source of this 'elitism', and of scientists'
frustration, seems instead to lie on a middle ground,
namely that universal characteristic of capitalism: the
alienation of the worker from the product of his labour.
The problem is seen here on perhaps its highest level; for
the primal importance of the fruits of scientific research
for the continued development of capitalism means that the
scientist cannot be allowed control of his own product by
the corporate elite. Those who control the products of
science would, almost by definition, control modern
society. This is why we would suggest that the basic
orientation of post-war SF is towards a freedom from
domination, rather than the desire to dominate other
social strata.

Certainly the question of motivation here is
problematic, if not impossible to unravel. Terming the
stratum we have been speaking of 'the New Class', Gouldner
states that

> "The fundamental objectives of the
> New Class are: to increase its own

> share of the national product; to
> produce and reproduce the special
> social conditions enabling them to
> appropriate privately larger shares of
> the incomes produced by the special
> cultures they possess; to control their
> work and their work setting; and to
> increase their political power partly
> in order to achieve the foregoing."[29]

How 'partly' political power is sought to bring material benefits and occupational autonomy, and how far for its own sake, may be debated endlessly, and indeed on one level is irrelevant. For as Gouldner also says, for all its 'self-seeking elitism', "... the New Class may also be the best card that history has presently given us to play."[30]

Robert A. Heinlein: The Man who sold the Moon.

An insight may perhaps be gained into the value-structure of this group by focussing briefly on two stories by Robert Heinlein, the foremost SF writer of the time (many will say of all time): 'The Man who sold the Moon' (1950) and 'Requiem' (1940) (curious in that the 'sequel' story was written ten years before the 'earlier' story by internal chronology.)

The stories concern Delos D. Harriman, who wants to go to the moon. Written long years before Apollo XI, there is no space program for Harriman to become involved with; rather, he creates his own. Harriman lies, cheats, steals, engages in financial double-dealing - all to

realise his dream. He creates a Company and persuades a group of businessmen to back him, throwing out a stream of off-beat but successful ideas to convince them that space is profitable. Finally the moment arrives, the ship is ready; but his creation becomes his trap: his backers cannot allow him to go on such a dangerous journey, for without him the scheme falls apart, and they lose their money. 'Requiem' rejoins Harriman as an old man. Spaceflight has become commonplace; but now it is the doctors who say that Harriman's heart is too weak to survive the acceleration of take-off. Harriman goes to two 'barnstorming' out-of-work space pilots and finances them to take him to the moon. Selling his stock, his lawyers fighting off relatives who want to certify him as senile, taking off one jump ahead of the federal marshal, Harriman finally goes to the moon. But the doctors are right; minutes after he sets foot on the moon, Harriman's heart gives out and he dies ... at peace.

Heinlein is the complete individualist. Harriman (one of the long line of Heinlein-surrogate characters) embodies Heinlein's belief in individual selfishness as the ultimate driving force of history. Harriman acts unscrupulously to achieve what he wants, justified in using people as pawns in his game because he has a grander Vision, a higher purpose. And so it proves: it is society as a whole that reaps the benefits of space

travel, once Harriman has blazed the way. He is, of course, a throwback to the old independent entrepreneurs in a way, changing the shape of his world by sheer force of will. And it is as a capitalist that he succeeds: he 'sells' the Moon to big business, not to the government, which remains only an obstacle in his path. The Moon <u>does</u> make a profit, and this is important. But his corporate executives, small men without his Vision, interested <u>solely</u> in their money, snarl Harriman in their bureaucratic net. He is trapped by his own power, and simultaneously he is perfectly alienated from his own product: he cannot fly in the spaceship he has created. The system cannot allow him his freedom - at first blatantly, because it needs him, later after the fashion of the true welfare state: "for his own good". Finally, he must renounce his money, his power, go to a couple of misfits living on the edge of society, break the law, and ultimately give his own life in order to fulfil his dream. But all these were means to an end, and he relinquishes them without a qualm. At the end of '<u>The Man who sold the Moon</u>', two of his backers are discussing Harriman as he watches the takeoff:

> "'Maybe we should have let him go,' answered Strong.
> "'Eh? Nonsense! We've got to have him Anyway, his place in history is secure.'
> "'He doesn't care about history,' Strong answered seriously, 'he just

wants to go to the Moon'"[31]

Grown rapidly blase about a lump of rock now littered with assorted pieces of very expensive junk, we may forget that 'to reach for the Moon' was for so long man's expression of his ultimate dream: visible, so beautiful, yet quite unattainable. This is the nature of Heinlein's 'elitism', revealed elsewhere in the names he favours for his protagonists: Woodrow Wilson Smith, Johann Sebastian Bach Smith, Valentine Michael Smith ... the deliberate conjoining of the famed individual (-ist) with Everyman is explicit demonstration of Heinlein's belief that the potential for transcendence, for the attainment of Superman-hood, lies in all of us - but that only a select few will ever in fact rise above 'the masses', to become self-fulfilling individuals. Heinlein's contempt is not for the bulk of mankind per se; it is for those content with their lot, those afraid to mobilise new forces to attain their desires. Heinlein is not mistaken: historically, all revolutions have stemmed from a small, dedicated elite. As background to 'The Man who sold the Moon', we may refer to William Sims Bainbridge's 'The Spaceflight Revolution' (1976) which traces the fanaticism with which Goddard, von Braun, and others pushed the idea of rocketry. They used their respective governments purely for their own ends - but also, were themselves used in turn by larger social forces. The V.I. was a step to

the moon - and also an instrument of death. This is the twin-edged sword of science, the dialectic of human development; this is Heinlein's focus. Ever-questing, ever-rebellious, Heinlein wants not fame, power, or wealth ... "he just wants to go to the Moon." And a generation of SF fans wanted it with him.

1950: The Big Boom

Delos D. Harriman could yet transcend the limitations of his society - but the price was already his life. Most SF writers after the War were content to chronicle tales of death and destruction; but just as the Bomb forced the world to take seriously the crazy visions of SF for the first time, so it forced SF writers to acknowledge their own involvement in the wider society. Throughout the '50's we see a more overtly political breed of story emerging, a more explicit social commentary.

'The Magazine of Fantasy and Science Fiction' (F&SF) and 'Galaxy Science Fiction' first appeared in 1950. Many more new magazines soon followed (and soon perished), but it was these two who broke Campbell's monopoly on the top of the SF market, providing openings for new directions in SF. As we noted earlier, the Big Boom of 1950-54 seems to have been an illusion in that the numbers reading SF actually grew little; but a new generation of writers was entering the lists, with a new message. The satirical

works of Sheckley, Pohl and Kornbluth begin to appear at
this time; Ray Bradbury's famous novel about book-burning,
'Fahrenheit 451', appeared in its original short story
version, 'The Fireman', in 1951. Content analyses of this
period by Hamilton (1946), Pratter (1973), and Treguboff
(1955) all show a marked upswing in socially-conscious
themes: an exploration of the social effects of
technology, rather than the technology itself, or simple
adventures utilising it. In an article written in 1953,
Oscar Shaftel finds SF to be the only form of popular
media evading the unofficial censorship and criticising
capitalism, bankers, or government repression. As T.A.
Shippey puts it:

> "... the fantastic elements of the
> stories were a cover, or a frame, for
> discussion of many real issues which
> were hardly open to serious
> consideration in any other popular
> medium: issues such as the nature of
> science, the conflict of business and
> government, the limits of loyalty, the
> power of social norms to effect
> individual perception."[32]

A particularly stiking allegory is provided by Richard
Matheson's 'I am Legend' (1954). Told from the viewpoint
of the only man in the world who has not been suddenly
transformed into a vampire, this story shows itself to be
firmly SF, not horror/fantasy, as the protagonist
gradually discovers the scientific basis for the various
traditional symptoms of vampirism: it is caused by a

bacteria which reacts violently with ultraviolet light - hence vampires' nocturnality; the bacteria also causes an allergy reaction to garlic; it will close all wounds unless they are kept open - hence the driving of the stake through the heart necessary to kill a vampire, etc... Setting up his own house as a fortress, the protagonist embarks on a systematic process of elimination, killing all the vampires in his town as they sleep during the day. Eventually, however, humanity adapts to the new bacteria, and begins to re-establish society. There will never be a return to the old world, for mankind has been changed irrevocably. But ultimately, the protagonist comes to see <u>himself</u> as the monster, as a mass murderer who will himself become a latter-day Dracula legend; and he commits suicide rather than be hanged for his crimes. Senator McCarthy's 'witch-hunt' has beome here a 'vampire-hunt', and Matheson's message is clear: taking an image of complete alienness, complete evil, he yet finds hope, if we can but gain a little undestanding. "Better Red than Dead" indeed; and the story of how a sincere man, cut off from society yet with power over others, can do great evil starting from the best intentions. A daring story to write in the McCarthy era, and a fine work of SF, containing both contemporary social criticism in allegorical form, and SF's more timeless plea for the necessity of change, the desirability of

entertaining alternatives, however bizarre they may at first seem.

1954: The Big Bust

The latter half of the '50's was definitely a downswing in the cyclical development of SF. Story quality deteriorated, sales figures dropped, old themes were rehashed without new ones appearing. Brian Aldiss provides this explanation for why Sputnik in 1957 failed to revive SF:

> "Space travel was a dream, the precious dream of SF fans. It was part of the power fantasy of the SF magazines. When space travel became reality, the dream was taken away from them. No wonder that the sales of magazines dropped dramatically after that! Commentators have always had difficulty explaining that fact, but the reason is simple — withdrawal symptoms were going on."[33]

There is truth here, albeit not the whole of the truth. The moon was not reached by the like of Delos D. Harriman, but by a highly bureaucratised, government-controlled multibillion-dollar industry, fueled by national jealousy and fear,- which made dehumanised figureheads of its astronauts, not flesh-&-blood heroes. SF fans did not like the disfiguration of their dream, and the wider society turned to the current events pages for space news, not to SF.

SF turned to other themes to express its values: ESP,

at first one of Campbell's 'passions', became probably the single largest topic in the field - an explicit turning away from the overemphasis on technology and an exploration of more human possibilities, primarily the advantages of better communication and understanding. Stucturally, the focus of SF shifted from short story to novel, as paperback houses began to issue regular series of SF books. But the next major impetus to SF came from Britain, with Michael Moorcock and the New Wave.

The British Tradition

In the summer of 1964, Michael Moorcock took over the only remotely viable British SF magazine, 'New Worlds'. Like Campbell, the man seems to have acted as catalyst to latent trends, rather than personal innovator. His own writings were primarily of the 'sword-&-sorcery' subgenre, and other than a certain flamboyance of writing technique, bore little relation to the movement he stood at the focal point of. Lester del Rey has characterised the new SF thus:

> "The philospohy behind New Wave
> writing was a general distrust of both
> science and mankind. Science and
> technology were usually treated as
> evils which could only make conditions
> worse in the long run. And mankind was
> essentially contemptible, or at least
> of no importance. There was an
> underlying theme of failure
> throughout. Against the universe, the
> significance of mankind was no greater
> than that of bedbugs - if as great."[34]

Del Rey exaggerates somewhat, and oversimplifies. Still, the, 'New' writings were a development consistent with the British SF tradition, which had developed largely separate from the U.S. magazines, primarily in what has come to be known as 'the Britishdisaster novel', and before that the work of the anti-utopians - both in stark contrast to the brash optimism characterising U.S. SF.

The beginning of this trend, of course, lies with the 'cosy catastrophies' of Wells. As we have noted, apocalypse and utopia are two sides of the same coin; and both streams of this socially-conscious, socially-critical tradition lie outside the main stream of magazine SF as it developed in the U.S.. Thus the anti-utopian masterpieces were written by authors who were _not_ 'science fiction writers' - although these works are very definitely SF. E.M. Forster's 'The Machine Stops' (1909), Aldous Huxley's 'Brave New World' (1932), George Orwell's '1984' (1949); volumes have been written about each - here we must be brief. Describing them as 'admonitory satires', Hillegas says of these works:

> "In portraying mechanical superstates which take away human freedom, isolate men from nature, and destroy the past, these anti-utopias are appallingly similar, first of all because they are Wellsian science fiction rich in anti-utopian images originated by Wells. They also represent massive attacks on the Wellsian vision of utopia ...."[35]

When Thomas More embodied his ideals in an imaginary island far away, he gave birth to a literary genre; when Wells drew up a blueprint for the whole world, he inadvertantly fostered another. For the thing had become its opposite: the voice of protest was becoming the voice of domination - without even knowing it. It was the anti-utopians who told it so; they exposed the growing edifice for the cage it was.

> "The debasement or annihilation of man by the sophisticated inventions of modern science, or a power elite armed with them constitutes one of the dominant features of dystopian fiction. That science should now be cast in a villain's role is a paradox, for all can see its wonders making life more secure, comfortable, interesting, and rich ... Yet disenchantment with science is a fact of our times."[36]

The emergence of this anti-science fiction was not so much due to the physical evidence of pollution and resource depletion, we submit, (without denying the extreme importance of these) as to the change in the role of science: no longer offering the promise of revolution, it was now the mainstay of capitalism's legitimating ideology. No wonder that the leftist artistic intelligentsia turned against it.

In identifying science with the dominant stratum we run into a problem here; for we have just said that the scientific stratum is _not_ becoming dominant. These statements are not as contradictory as they may seem; for

'Science' as a concept covers many things: scientific rationality in the abstract; applied technology and its effects; the social stratum which preforms the tasks of science; and many other facets. Each of these may be further subdivided; each has its positive and negative aspects. Thus the 'public image' of science built up and used by the corporate elite to present themselves as 'experts' managing 'efficiently', can be maintained quite simply without actually letting the technical intelligentsia assume control. (For a start, popularised 'scientific method' bears little resemblance to the actual day-to-day methodolody of science now being investigated by Mulkay and others.) [37]

It is this ideology, this public image which the anti-utopists attack. Thus Harold Berger may say:

> "Yet neither scientist nor their intentions are the essential target of science fiction's anti-scientism. The literature seldom presents either as incarnately evil. Writers more consistently stress the incompatibility of scientific (or, if you prefer, technological) ultimates with the ideals of humanness - and there is no remedy for it .... The man at the thing's master control switch may enjoy only the illusion of control; the mores, drives, and needs that bring his thing into being, that determine his function, and that create a market for his service could be almost wholly outside him, making him the switch that tends the switch and consequently blurring the distinction between man and thing. This blurring - this is the fundamental target of the literature's anti-scientism." [38]

The ideology which presents Science as inevitably a monolith completely out of the control of the common man lies at the focus of this anti-scientism. Hence, 'blurring of the distinction between man and thing' is not inherent to science, not a 'scientific ultimate'; it is part of the process of reification and alienation prevalent in modern capitalist society, and there may indeed be a 'remedy' for it. However, most writers see 'Science' as a seamless whole, and many feel the cost is too great for the benefits. Hence the emergence of 'back-to-the-land' novels, or C.S. Lewis' attack on science in his 'Perelandra' trilogy (1938, 1943, 1945) from the view point of religious humanism. In this they are mistaken; science cannot be reduced to one underlying logos, which may then be assigned a positive or negative value. It is not a constant, but a network of shifting variables.

But the major development from the anti-utopians was the disaster novel, as typified in the works of John Wyndham, and others. Taking Wyndham as the foremost example of the form, Christopher Priest (himself a fine latter-day disaster novelist) says:

> "Wyndham is the master of the middle-class catastrophe; his characters are of the bourgeoisie, and his books lament the collapse of law and order, the failure of communications, the looting of shopping precincts and the absence of the daily newspaper." [39]

Priest suggests that this peculiarly British obsession may be a lament over the loss of the Empire; another possibility is that Britain's greater closeness to war, both throughout its history and more particularly in this century, has given its writers a more morbid outlook than their American counterparts. Both points seem fair; but we would suggest that the essential difference of the British experience lies with the extant social situation, rather than with memories of days gone by. Britain has the oldest industial civilisation in the world. Going back even further, it is the only country whose ruling stratum managed to make the transition to industrialism more or less intact - the guillotine never found work in England, for the aristocracy (in large part) guided change rather than opposing it. The true legacy of the past, then, is the oldest, most elaborate, and by now the most rigid social structure in the Western world. Faced with this reality, there was only one way that the new technical middle calss could imagine itself becoming dominant: global catastrophe sweeping away the older order en masse, and allowing a re-building on more rational (i.e. technical middle-class) terms. Often this vision would fail; often the apocalypse became simply a catalogue of doom and disaster, an expression of frustration, alienation, and despair. But often the theme of home, of re-birth, would elevate a work above this.

Thus for example Wyndham's finest novel, 'The Chrysalids'
(1955). In post holocaust Labrador, a society of Norms
attempts to maintain genetic purity by casting all mutants
born to them out into the radioactive Fringes. A small
group of telepathic children come together, always
desperately hiding their difference. Finally they
discover that a whole society of telepaths has formed in
New Zealand, and they are rescused from their parents. In
legitimating the killing of the Norms which this entailed,
one of the new people speaks thus:

> "'For ours is a superior variant,
> and we are just beginning. We are able
> to think-together and understand one
> another as they never could ... we
> could never commit the enormity of
> imagining that we could mint ourselves
> into equality and identity, like
> stamped coins ...
> "'The essential quality of life is
> living; the essential quality of living
> is change; change is evolution: and we
> are part of it.
> "'The static, the enemy of change,
> is the enemy of life, and therefore our
> implacable enemy."[40]

A sincere plea for noncomformity, for change. And yet
scant pages later, as the children approach the new land
and the novel closes:

> "'Listen! ... Can't you feel it?
> Open your mind more ...."
> "I did as she told me. I was
> aware of the engineer in our machine
> communicating with someone below, but
> behind that, as a background to it,
> there was something new and unknown to
> me. In terms of sound it could be not

> unlike the buzzing of a hive of bees;
> in terms of light, a suffused glow.
> "'What is it?' I said, puzzled.
> "'Can't you guess, David? It's
> people. Lots and lots of our kind of
> people.'"41

The 'new and unknown' is yet 'our kind of people'.
Indeed, they are both.

1964: New Worlds, New Waves

In the light of this background, we may return to our chronology. What remains that is truly 'new' in the New Wave? Two things stand out: an experimental writing style, and a keynote of despair. The connection is not accidental. As critics rapidly pointed out, the so-called 'new' style was plainly imitative of the avant-garde of the '20's and '30's; and as Roland Barthes has written:

> "The avant-garde is always a way
> of celebrating the death of the
> bourgeoisie, for its own death still
> belongs to the bourgeoisie; but further
> than this the avant-garde cannot go; it
> cannot conceive the funerary term it
> expressed as a moment of germination,
> as the transition from a closed society
> to an open one; it is impotent by
> nature to infuse its protest with the
> hope of a new assent to the world: it
> wants to die, to say so, and it wants
> everything to die with it.42

This certainly describes the unrelieved gloom of almost any work by J.G. Ballard, say, the foremost writer of the British New Wave. Wyndham's 'Re-birth' (the U.S. title of 'The Chrysalids') has been entirely obliterated; all that remains is the first half of the equation: death.

Judith Merril was the American who 'discovered' the New Wave when she came to Britain, and who christened it. Within a short space of time, a number of American authors came to be identified with it. But one wonders if the similarities were more than superficial. British New Wave never really caught on in the U.S.; the aesthetics of despair never appealed to more than a small minority. Instead, the U.S. had its own new generation of writers.

1967: Visions, Dangerous and Different

In 1967, Harlan Ellison edited what is certainly the most important anthology in the history of SF. 'Dangerous Visions' was a breath of fresh air the genre needed. The styles were experimental, and certainly Ellison's own writing was 'downbeat' enough. But the primary innovation seems to have been thematic. Philip Jose Farmer had tried to inform the SF world that sex existed in 1952 with 'The Lovers' and had been virtually ostracised for it; now his much more explicit 'Riders of the Purple Wage' (X, in 'Dangerous Visions') could win him a Hugo award. In the same year, Samuel R. Delany won the Nebula award for his novel 'The Einstein Intersection' which transposed (among others) the myth of Orpheus into a post-holocaust future. The latter does not, we submit, indicate that SF is becoming 'the modern mythology'; myth has become a subject for SF - but the two do not, and can not, fulfill the same

function. Similarly, Roger Zelanzy's 'Lord of Light' (1967) took the Hugo award for best novel. Its protagonists are the gods of the Hindu pantheon - and yet Zelanzy's message and that of Hinduism are not comparable.

But the most important new theme was that of ecology. Gernsback had started modern SF with a hopelessly naive technology-adulation. The pendulum had swung until that same technology could drive Ballard to preach utter despair. But the concept of ecology is synonymous with balance, and this is what SF was beginning to attain. The all-time classic 'ecology novel' is of course Frank Herbert's 'Dune' (1965) with is dedication "to the dry-land ecologists... in humility and admiration." 'Dune' is about many things besides ecology - but this theme infuses the whole body of Herbert's work. John Brunner is a writer who was nailed to the 'New Wave' masthead but who is more fairly seen within the broader apocalyptic tradition of British SF. His 'Stand on Zanzibar' (1969) is again a large, mutilfaceted novel; but an ecological awareness and an ecological concern permeate it. A string of frankly imitative but still interesting novels bear out this concern ('The Jagged Orbit' (1970). 'The Sheep Look Up' (1972), 'The Shockwave Rider' (1975), etc.)

Numerous other examples could be cited; but the importance of the ecology theme in SF is not really in

question. Just what it means, however, is very much so. That the whole industrial world is coming to see that a large part of the way we utilise the Earth's resources must change, is surely beyond doubt. That SF should have 'tapped in' on this new consciousness and begun to propound it a few years before it became a mass movement, should surprise no-one. But as we have said, SF always contains levels of meaning beyond its manifest content; and the nature of these is problematic. Peter Fitting has said that SF was in search of

> "(a) false solution which resembles the earlier scientific model: a revival or continuation of the earlier belief that human problems are above all scientific problems. In the 1960's, this imaginary scientific resolution coincides with the discovery of ecology."[43]

Gerard Klein is even more scathing in his analysis:

> "... what seems important to me in 'Dune' is that the attainment of power, both psychological and political, solves nothing. Humanity - like the social group that is the bearer of SF - is denied the possibility of controlling its destiny ... Henceforth, the impersonal forces will govern the universe: a beatiful funeral oration for a social group which believed it could predict the future and make history ...
> "[We may] find in the depths of Brunner's novels ... a denial that the social group that is the bearer of SF has any special power left, and a vision of the group's return to the mass of ordinary humans, workers and unemployed workers ...
> "This return to the soil, this

> reintegration of a highly
> individualised social group into the
> undifferentiated mass destitute of
> consciousness, finds an extreme
> expression in many works that predict
> the end of history through the
> abolition of humanity's apparent
> privilege over other species, through
> humanity's reduction to the level of
> nature ...
>   "In a way, this return to a
> reductive nature is the clearest
> expression of ecological anxiety."[44]

We have said that the scientific/technical stratum have been forced to realise that they are not to be the dominant group in society. Fitting suggests that their reaction is to find a new form of 'power trip' to go on; Klein speaks of 'anxiety' about return to an 'undifferentiated mass'. And yet ... surely the very vigour and popularity of SF since the '60's, the very quality of writing (certainly far higher overall than in any previous period) speaks against these negative appraisals. Klein notes that Maud'dib learns that power solves nothing; he renounces his Messiah-hood. Perhaps the social group of SF has learnt this lesson, and is attempting to express its identity rather than attain dominance. William Leiss (1972) has described the basic ideology of science as one of the 'dominance of nature'. This, we submit, has been and continues to be one of the trends in science; but it has never been the only one, and may even no logger be the most important one. Ecology stresses man's role as a part of nature; this is

significantly different from the 'techno-fixer' ideology Fitting compares it to. It suggests that the social group of SF accepts its role as a part of society - an important role; neither one of dominance nor of dissolution into an undifferentiated mass.

However, other sources for SF 's concern with ecology also present themselves. The most straight-forward is the emergence of the new stratum of 'ecologists'. The Ecology Movement as a popular phenomenon draws together many streams of protest against the Establishment; but in its most pragmatic sense, ecological planning is already being incorporated into the system. Granted that environmental restrictions have been swiftly relaxed in the present economic recession, still they have been set up and they cannot be simply abandoned. 'Ecologist' is now a profession; both government and big business employ ecologists as advisors in any new large-scale projects. And this seems to be their role; attempting to minimise the damage wrought by existing factories and plants is at best a stop-gap measure; but new systems can be designed which will fit into the environment. And the companies are implementing this because ecology is logical: it makes sense, and therefore it pays. Looking only a little beyond the very short-term (and a Corporation is a creature with a long life-expectancy), it becomes much cheaper to design a clean, efficient plant that to clean

up after yourself later (expensive filtration systems, waste disposal, etc.). Now give that ecologists are the newest section of the New Class, we may recognise precisely the syndrome we noted earlier: namely, the presentation of their interests as those of humanity as a whole, and the generation of a movement of mass support the ultimate result of which would be to push them to power. This may be seen as an extension of Fitting's argument ealier; and there may be some truth here. But what the scientific stratum as a whole has been unable to achieve, no small section of it can surely hope to. Herbert already realizes the futility of this attempt in 1965; Brunner's hero in 'Zanzibar', the sociologist Chad Oliver, can pull a miracle out of a hat to save the world in 1969; but by 1972 in 'Sheep', the ecologist Austin Train's preachings lead him only to death, while the computer analyses of Dr. Thomas Grey bring him only to the classically apocalyptic resolution to which larger social forces have been working throughout the novel — namely, the destruction of America, which allows the rest of the world to survive.

Given, then, that SF has by and large learnt its lesson; given that ecologists are not to be the new technocrats; what then is the current position of the ecology theme in SF? We submit that once more SF is speaking as the voice of change. It has a specific

message, and a specific warning, couched in its distinctive manner. Possibly the most unmistakable expression of this may be found in Spider Robinson's recent 'Telempath' (1976). A scientist releases a chemical which causes man's sense of smell to increase a thousandfold; civilization collapses overnight as people flee from their filthy cities. The message could not be less subtle: technology stinks! And yet this is no anti-science novel; rebirth follows the apocalypse, as the survivors piece a new society together based on pollution-free technology and a new respect for nature.

Into the '80's: The Outward Urge

If ecology was the synthesis of the stuggle between the Domination of Nature thesis and the Environmental Collapse antithesis, then the antithesis to the ecology movement has already arisen - nor was it ever absent. Ecology teaches us that the Earth is a closed system; each part interconnects with each other, and we must understand the consequences of our actions before we act. But the Universe is an open system - certainly in the sense that we can never hope to plumb all its depths, even if the astronomers succeed in putting theoretical boundaries to it. At any given moment, man lives in a closed system - his boundaries are real, even if he is unable to define them. But simultaneously, the possibility of transcending

those barriers always exists, for the potential of man remains open-ended. He will never exhaust this potential fully, but he is pushing back his boundaries constantly. Ecology teaches us to live with what we have; but counterbalancing this is what Wyndham once labelled simply as 'The Outward Urge' (1959).

Bainbridge (1976) has argued that one of the functions of early 20th century SF, with its flamboyant (and impossible) mile-long rocketships was to push the idea of spaceflight. Not - as might be expected - with the general public (which remains largely ignorant and apathetic to proceedings), but to reinforce the values, boost the morale as it were, of the small in-group who were making things happen. Thus Willy Ley wrote for 'Astounding' periodically for many years after his arrival in the U.S.; Wernher von Braun had his subscription routed via Sweden during the war so as not to miss a single issue! Delos D. Harriman was a part of their dream; Wyndham's Troon family, whose adventures are chronicled as each succeeding generation pushes further out into space, are a part also - but as Aldiss said, NASA was not.

Barry N. Malzberg it was who took it upon himself to demonstrate the utterly dehumanising effect of NASA in a series of fractured, tormented novels ('The Falling Astronauts' (1971), 'Revelations' (1972), etc.), culminating in the award-winning 'Beyond Apollo' (1972).

In Malzberg's own words:

> "...NASA and the networks
> conspired to reduce the most awesome
> events of the twentieth century to
> interstitial pap between advertisements.
> ...
>
> "While we slogged on in the
> Sixties ... the liars and technicians
> were working ably to convert the holy
> into garbage and a damned good job they
> (and we) made of it too."[45]

In so far as Apollo had a purpose beyond nationalistic
pride, it was primarily a fact-gathering project - one
that could have been accomplished just as efficiently by
probes similar to the present highly successful Viking
series. Indeed, in its search for safety, sending up
first machinery then monkeys, NASA demonstrated quite
admirably the redundancy of the human astronauts in its
plans. The real benefits of Apollo lay in the doing not
in what was done, i.e. in the technical knowledge gained
in building Apollo XI, not in the moon landing itself.
What, then, is the human purpose to which this knowledge
is to be applied?

Much early SF spoke of the colonisation of other
planets - the 'Terran Empire' has become one of the hoary
cliches of the genre. But we have explored the planets of
our own solar system, and they are inhospitable. A new
alternative has thus been forced into being: orbital
colonies. More broadly, a life in space; more poetically,
an emergence from the womb of planetary existence.
Traditionally the most hostile of environments, space

itself is coming to be presented as the giver of the
greatest opportunities. Stirrings of the idea may be
found at least as far back as Frederik Pohl & Jack
Williamson's 'Starchild' triology (1963, 1965, 1969);
Larry Niven takes us halfway there in his immensely
popular 'Known Space' series - the 'Belter' culture,
inhabiting self-contained worlds out among the asteroids,
is among the most colourful and convincing he portrays;
Spider & Jeanne Robinson have even explored the
possibilities for new artforms that space opens up, in the
award-winning 'Stardance' (1977) - again set within a
wider, more visionary framework.

But the man who has become the figurehead for this
movement is Gerard K. O'Neill; and his dream bears the
unlikely name of L-5. An orbital colony situated at
Lagrange point no. 5 (where it would be in stable orbit
with respect to the Earth and Moon) - this, in the narrow
sense, is L-5. In the broader sense, it represents a
whole new style of life. Vacuum industries, zero-gravity
industies, unlimited solar power - we literally cannot
guess at all the possibilities until we are there. When
the time comes, it will come as the result of a massive
social upheaval - and will cause a further one. The
inhabitants of L-5 will form a whole new stratum in
society; to be more precise, the germ of a whole new
society in themselves. It is the drive towards this which

we are witnessing. Thus OMNI, the first true 'slick' SF magazine, and by now far and away the largest-circulation SF magazine ever, has since its inception in 1978 been pushing the idea of L-5 in numerous articles and stories, as has another new-format idea, 'Destinies' (to quote its subtitle, 'The Paperback Magazine of Science Fiction and Speculative Fact'), and also the ever-present 'Analog'. Robert Anton Wilson, probably the most brilliant SF writer to emerge in recent years, has explicityly advocated the building of L-5 in his autobiographical 'Cosmic Trigger' (1977) and devoted the second volume of his remarkable trilogy 'Schrodinger's Cat' (1979, 1981, 1981) to an exposition of the benefits which L-5 will bring us.

However, we should remember: SF will not bring about a new drive to space by itself. Attempts down the years to turn fans into activists working to futher the space program have failed abysmally. SF is a sounding board for ideas, a raiser of hopes - and of consciousness. It reflects emergent social forces, it may reinforce them; but it canot create them.

Chapter 4

Soviet and East European SF.

"Soviet science fiction is an
embodiment of mankind's hopes and
anxieties: the dream of a bright
future and a warning of impending
disasters and calamities. Social
Tranformation interwoven with
scientific and technical development
has been and remains the leading theme
of Soviet science fiction, but it has
never depicted the future communist
society as a cloudless idyll of
abundance and complacency, a society in
which no conflicts take place. On the
contrary, the heroes of Soviet science
fiction, dealing with the immediate or
distant future are shown in a state of
ceaseless quest, beset by a sense of
dissatisfaction with their
achievements, which is a prod to
further advance ..."
           Evegeni Brandis &
           Vladimir Dmitrevesky (1968)

"Platonic in its structure, the
Soviet future must not be just any
future. It must be a future which must
be plotted deterministically and
restricted to an optimistic end."
           G.V. Grebens (1978)

If SF does indeed require for its emergence the

existence of a large scientific/technical stratum, then

the concept of a Third World SF should be almost a

contradiction in terms; and indeed there is virtually
none. But similarly, we should expect the other half of
the industrial world to have its own SF tradition -
distinct from, but just as significant as, its Western
counterpart. And so it proves when we examine Soviet SF
(SSF).

In a sense, SSF lends itself to our particular
analysis much more readily than does Western SF (WSF).
For in a system where all aspects of life are polticised,
we need search for no obscure analogies, we need ferret
out no hidden values. Whether it speaks for or against
the regime, or any shade in between, SSF remains almost
invariably quite overtly political; and also, since the
regime mobilises scientific advancements in its support
much more explicitly than does the West, SSF remains much
more closely tied to a 'hard-science' orientation than
does WSF.

History of Russian SF

The development of pre-1920's SF which we traced in
the West had virutally no countepart in Russia. Two
reasons present themselves for this. Firstly, at the time
of the Revolution, Russia had still essentially a peasant
economy. Immediately after 1917, following the (highly)
effective elimination of the small strata of bourgeois
captilists and landed proprietors, the society was divided

into: 15 million petty bureaucrats, 5 million industrial proletariat, and 100 million peasants. From these figures alone, it is evident that relatively little indigenous scientific development could have taken place. A small technical stratum did exist, certainly; but its voice had been effectively muffled by (our second point) the extremely harsh Czarist censorship. Thus Suvin notes that the first significant Russian work of anticipation was Prince Vladimir Odoevsky's unfinished 'Year 4338' which circulated in manuscript form in the 1840's, and detailed the mild novelties which would result from (always benevolent) technology; even this could not get published under the Czarist regime. And Nikolai Chernyshevsky's 'What Is to be Done?' (1862) was written in a dungeon and saw publication only due to a bureacuratic mix-up. Its impact was comparable to Bellamy's, being used by socialists for underground education. In similar vein, A. Bogdanov was one of the first Bolsheviks to utilise SF to present socialist ideals with 'The Red Star' (1908) about a socialist state situated on Mars. Immediately following the revolution, the years 1917-1921 saw no SF published - for a simple reason that there were no resources available. As Trostsky admitted, "We plundered all Russia to conquer the Whites."[1] But the '20's saw the flowering.

1922: A Golden Beginning

The New Economic Program allowed an explosion of SF onto the Soviet public of quite remarkable proportions, much of it produced by the small independent publishing houses (which were soon to disappear - taking most of Soviet SF with them). The twin direction in which it developed were akin to those followed in the West: the socially-conscious SF springing from the Utopian tradition which had culminated in Wells; and the action-adventure format a la Verne. Since science was from the beginning in the Soviet Union strictily controlled by the central bureaucracy, there was no 'science-hobbyist' stratum for a Soviet Gernsback to champion; however, the technocratic consciousness which characterised this group did also find expression in SSF.

John Glad (1970) suggests that it was the literary influence of Wells and Verne themselves which shaped, and continues to shape, SSF. But it is more likely that these were simply the dominant figures in broader social and literary traditions. Wells was and remains immensely popular in the Soviet Union precisely because he is always overtly political, whether attacking Victorian bourgeois capitalism or promoting his own brand of socialism. The issues he raises are very much alive for Soviet political discussion today. However, as Suvin puts it, the strength of SSF lies in its having blended "the rationalist western

European strain of utopianism and satire with the native folk longings for abundance and justice."[2]

The '20's, then, saw a wave of utopian SF; the foremost example of this, quite certainly was Alexei Tolstoy's 'Aelita' (1923) which presents us with an old, unjust dying Earth and the necessity for a new world under the guise of a journey to Mars. In 'The Hyperboloid of Engineer Gain' (1926), Tolstoi has already become somewhat more of an apologist for the regime; indeed, he revised the book several times over the following years as the political climate changed. But to counterbalance this, we may rapidly note that ever-present gadfly of all Utopian writers: the political satire. Always popular in Russia, (viz., the very high popularity of Robert Sheckley there today) it blossomed also at this time, probably reaching its peak with Mikhail Bulgakov's 'The Fatal Eggs' (1928) in which reptile eggs delivered by mistake to a laboratory hatch and grow to enormous size; the monsters' march on Moscow is halted only by a miraculous frost in August. The staire did not go unnoticed by critcs at the time.

(The most powerful East European satire of the time, however, was being produced in Czechoslovakia, by Karl Capek. His play R.U.R. (1921) is one of the classics of SF, and has given the world the word 'robot' (actually coined by Karel's brother Josef). Expanded, the title itself, Rossum's Universal Robots, reveals much of Capek's

concerns. 'Rossum' is a play on the Czech word for 'reason', while 'Robot' comes from the Czech for labour. Capek's robots (who would today be rather termed androids), are artificially created organic beings, a dehumanised humanity useful because they obey unthinkingly and have no emotions to interfere with their role in the mass production process. The robots also make the perfect soldiers; but eventually they have no use for humanity, and destroy it. The ending contains its seed of rebirth, however: equipped with feelings by another scientist, the robots acquire the ability to procreate, and go out to make humanity anew. Throughout his work, though, Capek remains concerned with the dehumanising effects of science and industry and the political and economic forces behind them. In later years, he became still more overtly political in his fine novel 'War with the Newts' (1936) when the Newts again turn from exploited workers to a destructive force threatening the extinction of mankind - a strong metaphor for the Fascist armies then threatening to march across Europe.)

The most significant political statement of this period in SSF, however, and indeed the most famous SSF novel to date, was unquestionably Yevgeny Zamyatin's anti-Utopia 'We' (1921). Denied publication in the Soviet Union, it saw print in the Russian language only in 1927 in the pages of 'Volya Rossii', a Russian emigre journal

published in Czechoslovakia. Despite this being a re-translation of the Czech translation and published without Zamyatin's knowledge or consent, it occasioned a bitter attack on him at the Writer's Union meeting of 1929,and forced him to leave his homeland in 1931. 'We' is the prototypical anti-utopia; it is the work from which Huxley and Orwell later took their format. In Zamyatin's United State there are no people, only Numbers. The Well-Doer sets the Tables of Hours which regulate precisely the actions of all, fusing each 'I' into the single 'We'. Into this perfect realm comes upset, emotion, a spark of revolution; but the cure is dicovered in time: the Great Operation (frontal lobotomy) which removes 'Fancy' from the minds of men and restores happiness and harmony. In the closing words of the chronicler, D-503: "Reason must prevail." Although a great admirer or Wells, and indeed the author of a laudatory essay 'Herbert Wells' (1922), Zamyatin here creates not only an attack on the emergent totalitarian Soviet state, but indeed a denunciation of the rationalist basis underlying all planned, state-run futures, be they those of Wells, Bellamy - or Stalin. Planning implies predictability; predictability necessitates regimentation; regimentation is achieved through control; control involves dehumanization. This is the progression charted by Zamyatin. Situated as it may be in some indeterminate

future, the best of SF often attains a uniquely timeless effect; in the words of Schiller: "Only fantasy has eternal youth. What happened nowhere and never can never age." 'We' can be seen quite clearly emerging from the Soviet Union of the 1920's; but with its cold, clear, even mathematically precise language, with the eternal truth it partakes of, it captures this timelesness to perfection - in a vision of remarkable power.

On its other wing, SSF produced a host of minor action-adventure writers. Approximately one hundred original SSF titles appeared in the '20's, only slightly less than the number of translations from WSF. ALso, while there were no SF magazines of the Gernsbackian type, the ZiF state publishing house began to issue magazines "for the light reader: consisting almost exclusively of SF. By 1929, these had circulation figures of up to 100,000. The major themes of the time consisted (not surprisingly) of the Soviet brand of 'Catastrophe Novel'; the 'Cosmist' school extolling a 'planetary awareness'; and, most popular of all, the 'Red Detective' theme, where the lone Soviet hero foils the plot of the evil Capitalist spies to sabotage the path of Socialist progress. This last theme was flogged so to death that for all its patriotism, for all the shining examples of 'the New Soviet Man' it held up, it eventually drew cries of "Enough!" from even the most pro-regime of literary

critics. But there was reason for this repetitiveness beyond mere lack of ideas: as Grevens points out in the second of our opening quotations, the official ideology held that the Communist future should be one of peace, of complete absence of conflict. But without conflict, what was a writer to write of, to hold his readers' attention? The answer was for SSF writers to restrict themselves primarily to short-term speculations, where there were still the Capitalists and their lackeys to be overcome: hence the plethora of 'Red Detectives'. On a more positive note, the other alternative was the novel of exploration; hence the wave of interplanetary adventures, spearheaded by the pioneer of Russian astronautics, Konstantin Tsiolkovsky (the first in the line of SF writer/rocketry enthusiasts whom Bainbridge chronicles), and the sincere if uninspired science-populariser ALexander Belyaev, who became the first Russian to write exclusively SF.

The Soviet Union in the '20's.

Now, the significance of the internal history of SSF for the social scientist lies in the remarkable degree to which it serves as a microcosm, as it were, of broader socail movements. Within a political system much more sensitive to shifts in the relations of power, we may see political pressures and ideals reflected more directly in

SSF even than in WSF. Thus Rainer Traub here could be speaking directly about SSF:

> "Despite material want, the pitiful situation of the working class and the undermining of proletarian democracy, the early 1920's were the most creative years in Soviet history. In the cultural and scientific spheres, an atmosphere of almost unlimited freedom, diversity and experimentation prevailed. The younger generation, in particular, undertook the task of creating a new world with great enthusiasm. One giant step was to suffice to bring Russia out of its almost medieval, absolutist past into a socialist future. An enthusiasm for technology and industry animated the entire country ... Messianic power was attributed to the machine, which was glorified as the true revolutionary subject."[3]

Traub here has struck an important point; however, he mistakes the wishes of the Party elite for those of "the entire country." The rhetoric, and indeed the underlying dream, of Lenin and the victorious revolutionaries was directed towards the implementation of socialism; but the task immediately before them was that of industrialisation. For as Marx said, socialism cannot flourish in the dirt-poor conditions of peasantry; it requires the relative luxury and comfort of industrial society - and the efforts of a generation of workers had to be directed towards this primitive accumulation of capital.

Now, it is absurd to expect the mass of the people to
have suddenly oriented themselves towards this tremendous
social transformation. A peasant only ever wishes to be
left alone to be as prosperous a peasant as possible; he
does not wish to be made into an industrial worker.
Industrial discipline is alien to him; the Muzhik in 1920
found the idea of ordering his day around the dictates of
a time-clock as bewilderring as had the new English
factory worker in 1760. It is this which led to the
proverbiality of the laziness, tardiness, and
unreliability of the Russian, and Lenin's bemoaning of
Russia's lack of 'culture'. What he really meant was
their lack of discipline, or 'indurstiousness' (the
'Protestant ethic') that had been bred into the Western
worker by generations of industrial capitalism. In
pre-capitalist society, a rise in productivity simply
leads to a rise in the population. But capitalism's
pursuit of surplus-value forces unlimited surplus labour
to come into being, so that a surplus product above the
level of necessity arises from individual needs. For
capitalism 'socialises' the forces of production by
removing the means of production from the hands of the
workers, and forcing social (wage) labour. And thus far
in human history, it has only been through either wage
labour, or else authoritarian dictatorship, that such
accumulation of surplus, and hence industrialisation, has

taken place.

Without the incentive of market forces, Lenin attempted at first to mobilise the work force by appeals for voluntary proletarian discipline. As well as the ceaseless barrage of propagandistic slogans, art also began to appear which had the express purpose of motivating the workers; and this is the source of the 'enthusiasm' Traub notes for science, and which appears in the pages of SSF even to this day (for the problem of motivation is endemic to the Soviet system.)

At this time, also the fledgling scientific stratum, freed from Czarist domination, made its own first small claims to power. Traub traces the development of 'Taylorism' and 'scientific management' through the 1920's, and at the apex of this movement, the work of Alexei Gastev, director of the 'Central Institute of Labour' in Moscow. A Skinnerian before Skinner, Gastev made no attempt to conceal that his objective was the mechanisation of the human being; on the contrary, his 'science of labour' seemed to him to partake of a life principle of almost mystical force. Traub thus elucidates his conditioning techniques:

> "Chiseling, for example, was taught with the following drill: 'The worker is brought into a laboratory workplace. He assumes a certain posture, in which his feet are placed in a set position. A special apparatus is used which helps him hold this

> position. He exercises first his
> figures, hands, elbows, and arms, and
> finally his whole body.' This creates,
> in Gastev's words, the 'biomechanics of
> the stroke'. Finally, the worker is
> urged to make regular striking motions,
> while paced by a metronom (10, 15, 60
> strokes per minute). In this way, he
> 'learns to make regular movements, and
> is thus trained to work at an automatic
> pace.'"4

To learn that this program was actually instituted is to seek no further for the rationality which Zamyatin felt impelled to speak so powerfully against. The scene could have come straight out of that masterpiece of the SF cinema, Fritz Lang's 'Metropolis' filmed in Germany in 1925. As the workers in their subterranean city serve the machines of production till they drop from exhaustion, we may see again through Freder's delirious eyes as the super-machince Moloch begins literally to consume its servants, in ever-greater numbers.

In truth, however, a fairer comparison might be with the opening to Charlie Chaplin's 'Modern Times', where the 'Little Man' exposes the absurdities of attempting to turn men into machines. Gastev could gain only limited, short-term increases in production with his techniques; not only was all human creativity lacking from his schema, but the very concept of motivation was absent - Gastev was a failure; and the Stalinist purges eliminated his Institute in 1940 and his life in 1941.

Gastev's efforts failed, as did those of Lenin at

setting up workers' committees and initiating communes and cooperatives; both proved inadequate against the continuing passive (and frequently active) resistance of both proletariat and peasantry. Hence the relationship of Party to people became that of 'educators' to 'educated'; feedback from bottom to top was eliminated, and the Party could only now educate and control itself. Finding itself essentially isolated from the mass of people culturally and ideologically, and with no material incentives to offer them, the Party under Stalinism effectively 'depoliticised' society for fear that any political expression endangered its own position.

For SSF, this meant several things. Firstly, the technical intelligentsia was to be kept firmly subordinate to the Party bureaucracy; there was no room for any expression of its ideals - even in the oblique forms of SF. Secondly, Stalin had no need of SF's propagandistic, motivational role; his methods were far more direct. And thirdly, the writers themselves began to experience direct bureaucratic control. The result of all this was a decline in the fortunes of SSF as devastating as it was abrupt.

1929: Repression.

Orthodox literary critics had always been wary of fantasy and the flight from primitive daily concerns;

proletarian writers' organizations spoke against fantasy in periodicals such as 'Na Postu' ('On Guard', founded 1923), focusing specifically on fairy tales, i.e. precisely those 'native folk longings' which Suvin rightly underscores the importance of. But after the Congress of Writers in 1925, a new order of literary control was established, with the formation of the Russian Association of Proletarian Writers (RAPP). In its organ 'Na Literaturnom Postu' ('On Literary Guard') it immediately began to issue directives and denunciations, personally attacking any writer it felt was overstepping the mark. In 1929, it produced a collection of articles proclaiming its theses, and stating that the biggest stumbling blocks to Soviet progress were: departure from the immediate Soviet reality; an apolitical attitude; and all useless dreamers. In short, it set about the elimination of SF.

The effect was swift. The '20's saw an average of 25 SF titles published per year; 1931 saw just four, '33 and '34 only one apiece. RAPP had not accomplished this itself; the strictures of the first 5-year plan ensured that there were few resources to be spared for SF. This was SSF's lowest point; but continued repression meant that no further significant work of SSF was produced until the 1950's. Maxim Gorki came to the aid of the SF, and largely due to his efforts, RAPP was destroyed and a single Union of Soviet Writers established in 1932. "We

must call science to aid the imagination of children, we must teach children to think of the future,'[5] declared Gorki. But the 'Court Trials' of '36-'38 effectively disposed of the literary oppostion. The new SSF, published during the years '35-'39 at about half the volume of the '20's, was a "sterilised literature, primarily for juvenile consumption. Only material strictly in line with the official orthodoxy was published, and as the Central Committee began to institute planned quantitiative growth through the series of 5-year plans, there was no room for the Utopian dreams of the '20's; SF must present short-term linear technological extrapolation, not social revolution. After a brief suspension of SF publishing again through the Second World War, this trend continued through the '40's and early '50's.

Peter Yershov (1954) notes these twin themes emerging in SSF: the West invents a dangerous weapon capable of destroying the world, and Soviet-backed revolutionaries save the Earth and bring about World Revolution; the Soviet Union makes a great invention, Western spies try to capture it and are foiled, and patriotism and Communist ideals triumph. These endless espionage tales ultimately drew official censure; the demand came for a more positive SSF, sharped by the socialist dream. But the censure was never enforced, and only a handful of writers even

attempted such writing as Vladimir Nemtsov's 'The Sixth Sense' (1946) which attempts to portray everyday life in the near future - a life which essentially consists (just as in early U.S. pulp SF) of "the mixture as before, but with fancier gadgets."

But while the decline in the quantitative output of SSF may be laid due to official repression, it is doubtful whether this is to blame solely, or even primarily, for the decline in literary quality; for the phenomenon is precisely analogous to that which occurred in the West. Tolstoi and Zamyatin were no more 'SF writers' than were Wells and Huxley. The first SSF writers were hacks who, like their Western counterparts, imitated action-adventure, detective and spy stories (but not, or to a much lesser degree, the Western ...); and the first generation of writers who grew up reading SF repeated the technology-adulation of '40's WSF.

1956: Rebirth

Victor Zaslavsky (1980) has drawn the distinction between the revolutionary and stationary phases of Soviet society. Lenin completed the political revolution with the destruction of the ruling class; Stalin performed the social revolution: the forced mobilisation of the population to industrialise and restructure society, with the transfer of all property to the State. By the latter

half of the 1950's this was virtually complete; and as we move into the present, stationary phase, so a new era also begins for SSF.

The 20th Party Congress in 1956 destroyed the indisputability of the Stalinist myths about society and literature; the strictures of 'Socialist Realism', while not abandoned, were loosened enough to permit SF a freer rein. And the novel which marked the turning point was Ivan Efremov's 'Andromeda' (1957). A paleontologist by training and a prize-winning member of the Academy of Science, Efremov had been writing SF since 1942; but his earlier stories had been of the 'science adventure' type: quasi-autobiographical, melodramatized accounts of his own work in the field. 'Andromeda' was SSF's first modern technological utopia; it captured completely the hearts of the young scientific intelligentsia, and has sold in the millions. As the long-awaited 'positive' direction in SSF, Efremov's work becme the 'official line' determining SSF; throughout the '60's, the 'Efremov school' superceded and almost completely replaced the earlier 'Belyaev school'.

G.V. Grebens (1978) has analysed Efremov's own theory of SF. According to Efremov, while SF can never be prediction, it should always be extrapolation; and there are two methods of extrapolating: mechanical, or dialectical. The problem of earlier utopian works, and of

contemporary Western SF, is their basic model is that of the Newtonian mechnistic universe, or else that of the biological organism. But Marxism shows that the true process of history is a dialectical materialism ... Diamat becomes Futurmat! The SF writer has 'scientific license' in his work, i.e. he may use unverified data to attract attention to as yet unresearched possibilities in science, and hence widen the boundaries of science as well as of traditional literature. Furthermore, SF "can give the specialist-scientist a view of his position and his scientific achievements in the light of the total development of society,"[6] and of scientific research as a whole - a view we would agree it is all too easy for the specialist to lose. For SF is a "particular mirror of the development of science - a symbol of an all-growing scientific knowledge of the world."[7] But Efremov reminds us that 'science' is an abstraction; the subject of literature must always be man - and further, to be true literature, a work must say something new about man. Efremov's great contribution to SSF was the explicit realization that men of the future will be different from us today; the great difficulty of the SF writer in atempting to achieve good characteristation lies in the fact that he cannot merely project the psychological characteristics of the present day, for the characters of his future society will have been shaped by very different

social mores. An important point; Suvin, emphasising this, describes 'Andromeda' as perhaps "the first utopia in world literature which shows new characters creating and being created by a new society, that is the personal working out of a utopia."[8]

But how is this truly new character to be portrayed? Efremov's future, developed through the cycle of his 'cosmic' novels, consists of a series of ever-expanding, ever-more perfect levels of Communist society. In the 'Era of the Great Ring', genetico-psychological methods have enabled the development of individuals embodying the best attributes of their races; in the 'Era of Joined Hands', these radical perfections are then synthesised into each individual. Everyone is a scientist (in the new, universal meaning of the word), and eveyone is ale to utilise his capacities to the full for his own happiness and the good of society. 'Government' is by Councils and Academies, e.g. the Academy of Sorrow and Happiness, where calculations are made to determine the levels of sorrow and happiness in the life of every individual, so that the total amount of happiness should always continue growing. Jeremy Bentham would have been overjoyed!

A Comparison: 'First Contact' and 'Cor Serpentis".

A ready-made example comes to hand at this time, which we may utilise to shed light on both SSF and WSF. In

1968, Elfremov produced the novelette 'Cor Serpentis' as a direct reply to Murray Leinster's celebrated short story 'First Contact' (1945); the two treatments of one of SF's favourite themes (first contact with aliens) provide almost archetypal pictures of their respective social and literary milieu.

In 'First Contact', the spaceship 'Llanvabon' is on a scientific mission in the heart of the Crab Nebula when it encounters an alien ship. The two approach each other warily, establish communication -- and are trapped. Neither wishes to fight the other, but neither dares give away the location of its home planet, lest the other race prove hostile. Nor can either simply run away, for the other ship may prove able to tail them home. Battle seems inevitable, until the solution: the two races will swap ships. Each will destroy the weapons and trailing instruments of their own ship, and remove all star charts. Each will then go home, with a rendezvous arranged at the same spot in a year's time. And so it is done, to the mutual satisfaction of all.

In 'Cor Serpentis' the spaceship 'Telluris' is on a scientific mission to the constellation Cor Serpentis when it encounters an alien ship. In the interval as the two ships maneuver to come together, the captain takes the opportunity to show his crew the story 'First Contact'. He is outraged at the supicion and hostility manifested in

it, and points out the impossibility of their own encounter progressing in this way. For in order to have attained the advanced technology manifested in such a spaceship, any race, human or alien, must have attained the stable, peaceful conditions of true communism, for only this will allow such development. Hence they have nothing to fear: these creatures are man's spiritual brothers. And so it proves; but there is yet a problem. For the aliens are fluorine breathers; they have met other races, and all, like humanity, are oxygen breathers. They are cut off from true contact with the mainstream of galactic life. This tragedy weighs heavy on the meeting until inspiration comes to the Earth biologist: though it take many centuries, they will break down the genetic code and replace the fluorine metabolism with an oxygen one; the aliens will yet join their brothers. The parting is one of hope and joy.

From the closing paragraphs of 'First Contact':

> "The skipper was pleased with himself. The technicians of 'Llanvabon's' former crew were finding out desirable things about the ship almost momently. Doubtless the aliens were as pleased with their discoveries in the 'Llanvabon'. But the black ship would be enormously worth while - and the solution that had been found was by any standard much superior even to a combat in which the Earthmen had been overwhelmingly victorious ...
> "'What do you think of the prospects of a friendly arrangement if we keep a rendezvous with them at the

nebula as agreed?'

"'Oh, we'll get along all right, sir,' said Tommy. 'We've got a good start toward friendship. After all since they see by infrared, the planets they'd want to make use of wouldn't suit us. There's no rason why we shouldn't get along. We're almost alike in psychology.'"[9]

And from 'Cor Serpentis':

"... the joint efforts of the two planets could certainly work wonders. And if they were joined by other intelligent brothers -- the fluorine humanity would not pass away without a trace, like a shadow lost in the depths of the universe.

"When the inevitable time came ... the grey-skinned inhabitants of the fluorine planet would perhaps cease being the outcasts the freak structure of their bodies made them ...

"The fluorine and terrestrial people, so inaccessibly different in the structure of their planets and bodies, were similar in their way of life and practically akin in intelligence and emotions. It seemed to Afra, studying the big slanting eyes of the white spaceship's commander, that she read all these thoughts in them. Or was it merely a reflection of her own thoughts?"[10]

The answer to Afra's question is, of course, yes. The failure of both stories is identical and in a sense complete. For there is nothing alien about these 'aliens' whatsoever. Despite extreme physical differences, of cultural divergence there is none - an absurdity on a truly cosmic scale. Hence for the Americans, the 'natural' outcome of their encounter is: trade. There is just enough difference between the two races that mutual

profit can be gained by exchange. And yet: the aliens would only trade ships when blackmailed by a bomb smuggled on board their ship; a gentle hint that 'Yankee ingenuity' will ensure that the 'terms of trade' will ultimately favour the Earthmen. For the Russians, the problem is one of integrating the aliens into the great Communist brotherhood; and the solution is even more alarming: they must be stripped of that which makes them distinctive (for their own good and with their full cooperation, of course), and incorporated into the homogenous majority (which naturally the Earthmen represent). Nothing could better ensure that the fluorine culture will 'pass away without a trace'; and no better expression of the cultural imperialism underlying Soviet ideology could be found. For what we have discovered in the Hobson's Choice facing a Third World country today: economic exploitation by the West; or political domination by the East. We can only hope for the emergence of a new alternative.

As to the message for the home front, a definitive statement of Efremov's position is provided by the captain of the 'Telluris' as it attains relativistic speeds, thus cutting its crew off irrevocably from the Earth they know:

> "'We people on the 'Telluris' have
> lost all our close ones on Earth. But
> there in the near future we are awaited
> by dear people who are no less close
> and who will have knowledge and have
> feelings even more, even brighter than
> our contemporaries whom we left
> behind.'"[11]

There is no mistaking the thoroughly Wellsian nature of Efremov's utopias. The world one vast scientific intelligentsia; society meticulously planned by technocratic 'experts'; even grander, even happier; man's capacities and scientific capabilities expanding forever with no end in sight - and yet this infinite development all in one straight line, with no fundamental social change needed or permitted. We shall not reiterate our criticisms of this position; what holds for Wells holds also for Efremov - and Zamyatin's statment has surely destroyed whatever legitimacy the position may ever have laid claim to. We would note, however, that it is no wonder that this vision did not emerge during the revolutionary period of Stalinism; nor that it was the keynote to the new, stationary phase of Soviet society.

Leinster's ship, flashing through space at hundred of times the speed of light, did not have to deal with the phenomenon for which we would coin the term 'relativity-death'; but an interesting comparison may here be drawn with Joe Haldeman's Hugo & Nebula-winning 'The Forever War' (1974). In this, as the space soldiers return from the relativistic jumps their missions necessitate, they find that 'Future Shock' is to great; they simply cannot adjust to the new world. The only home they have left is the Army, and they re-enlist ... as the Army had planned for them all along. In so far as any man

can portray truly 'different' futures, we submit that
Haldeman provides them: a United Earth military
dictatorship; a world where all births occur in the
laboratory and homosexuality is universal; a single,
cloned Man with ten billion bodies but one consciousness -
at each stage the returning soldier is infinitely more
alienated from society. And yet Haldeman's message too is
for his day; the fact that he is a Vietnam war veteran
comes as no surprise whatever. 'The Forever War' is also
a 'first contact' story - ans the outcome of contact is
war.

> "The 1143-year-long war had been
> begun on false pretenses and only
> continued because the two races were
> unable to communicate.
> "Once they could talk, the first
> question was 'Why did you start this
> thing?' and the answer was 'Me?'
> "The Taurans hadn't known war for
> millenia, and toward the beginning of
> the twenty-first century it looked as
> though mankind was ready to outgrow the
> institution as well. But the old
> soldiers were still around, and many of
> them were in positions of power ...
> "You couldn't blame it all on the
> military, though. The evidence they
> presented for the Taurans' having been
> responsible for the earlier casualties
> was laughably thin. The few people who
> pointed this out were ignored.
> "The fact was, Earth's economy
> needed a war, and this one was ideal
> ..."12

Leinster's naive optimism has become bitter social
critique; and in SSF also, this progression was to come.

Social Critics: The Strugatskis

The most thorough survey we have of SSF fans took place in 1966-7, carried out by the SF committee of the Azerbaijan Writers' Union and the SF club of Moscow University, in cooperation with several journals, eliciting replies from 1,500 peole of various professions in Moscow, Leningrad, Baku, Sverlovsk and Khabarovsk. And the favourite authors, it was found, were: Stanisaw Lem (56%), Arkadi & Boris Strugatski (47%), Ray Bradbury (43%), Ivan Efremov (28%), Isaac Asimov (26%), and Robert Sheckley (19%).[13] The work of Lem, the Polish grand master of SF, we shall return to later; but it is obvious from these figures that by far and away the most popular indigenous SSF abeing produced is that of the writing team of the brothers Strugatski. If anything, their popularity has increased since this time; and while an individual work such as 'We' may outshine them, there can be no question that as a whole, theirs is the most significant body of work that SSF has yet produced.

"Censorship is the mother of metaphor." In these words of Jorge Luis Borges lies the key to the popularity of SSF in general, and the Strugatskis in particular, within the Soviet Union. Where suppression is mindless and absolute, artistic or any other form of protest will be eradicated; but any reign of terror can last only so long, and once censorship becomes partial and selective,

then will precisely the greatest works of art emerge.
(Compare the fate of the religious alternative: in the
Soviet Union, the Russian Orthodox Church is surely the
strongest in the world.) Where everything can be sid, the
search for new truth all too often degenerates into the
futile attempt to 'shock' at all costs; but where it is
dangerous to speak too directly, there may we find
subtlety, there are the facile, clear-cut answers left
behind and the artist may touch on the more ambiguous
universals unnderlying human existence.

However, even by its absence political censorship
negatively determines the artworks it lets slip by. For
it remains the central fact in the creative life of the
artist, the invisible monolith to be worked around and to
be attacked at its edges. The work of the Strugatskis,
like almost all serious SSF, is invariably political in
nature; other apsects of life are invoked insofar as they
affect this central characteristic. And not only is this
approach restrictive; it makes for a lack of positive
political alternatives to offer. An analysis of the
faults of the system, be it ever so profound, offers no
new values, no new directions to society.

Thus much of the Strugatskis' work, not surprisingly,
is satire. 'Monday Begins on Saturday' (1965) is located
in an Institute for Magics and Wizardry somewhere in
Russia. Employing a traditional Russian folk-tale

framework, the Strugatskis interweave it with scientific jargon to provide a delightful take-off on pseudo-scientific research and its bureaucratic management, as well as poking fun at some of the excesses of both Soviet and Western SF. The twin themes of science and bureaucracy return in works such as 'Tale of the Troika' (1968) and the 'The Snail on the Slope' (1966); but political repression is firmly the central issue of their masterpiece, and the most important work of post-War SSF, 'Hard to be a God' (1964). Rumata, the novel's hero, is an emissary from a future, Communist Earth to the feudal empire of Arkanar on a distant planet. But unlike the bold emissaries of so much WSF, who 'solve' the aliens' social problems at a stoke by smashing the evil dictatorship, Rumata is the disguised observer, under strict orders not to interfere; for true historical progress can only come from the natives themselves. ("Democracy imposed from without is the severest form of tyranny" is the Western equivalent to this principle, as formulated by Lloyd Biggle, Jr. in a series of his works, e.g. 'The World Menders' (1971). However, as suffering and bloodshed increase, Rumata's human conscience wins out over his orders, and he takes a direct hand in historical events. The ambiguity of complex ethical decisions makes for a moving novel, a powerful psychological portrait — and a great step forward over the brash ethnocentrism of

such works as 'Cor Serpentis'. But the conclusion, in a morass of intrigue and death, makes unsatisfactory, hopeless reading - at least to Western eyes.

Although in 'Hard to be a God' and other works like 'Attempted Escape' (1968) and 'Prisoners of Power' (1971), the setting of repression is a quasi-feudal or fascist society, there is no mistaking the actual, contemporary target of the Strugatskis' attack. This is why, although most of their work is now readily available in translation in the West, it normally appears in the Soviet Union in small-circulation journals which become instantly unobtainable; partly because of the vast demand, partly because libraries will take issues containing their work out of circulation, under various pretexts. One magazine editor has been severely reprimanded and another dismissed for publishing their work; and it has never been reissued in book form. However, the Strugatskis do have some friends in high places; and in May of 1969, a special meeting was held to honour their acceptance into the Writers' Union (long after they had entered the ranks of the Soviet Union's most popular writers, be it noted).

Alan Myers (1980) notes a broadening of SSF's horizons after 1966 - at least in a thematic sense. A minor turning point seems to have occurred with the publication of the first part of S. Snegov's immense space opera 'Men Like Gods' (1966, 1968, 1974); also, perhaps in reaction to

'Cor Serpentis', a more imaginative presentation of aliens is seeing print. Captitalism, rather than the simple emboidment of evil, the implacable foe, is now presented as a system geared to the production of material abundance, but one which is spiritually sterile. Boring, static, heartless, it is a welfare state in which only the ruling elite can find creative work; and all of this seems certainly to be much more reasoned critique. Nonetheless, Myers admits that throughout the '70's, it is the Strugatskis who have remained the cutting edge of SSF; they who give it by far its most powerful voice.

SSF Fandom

While conclusive proof is unobtainable, all available evidence points to one underlying fact: the readership of SSF is far broader than the small, dedicated in-group which characterises WSF. SSF is disseminated in thousands of publications each year, with (by Soviet standards) very large editions - and nonetheless is snapped up the instant it hits the shops. A. Britikov reports 80 SSF publications for 1963, and 315 for 1965.[14] This dramatic rise apparently continued apace until 1972, when it began to slacken off; nonetheless for the period 1956-65, Britikov reports a total of 1,266 SSF titles with total sales of 140 million. Darko Suvin (1973) states that some 3 million volumes of SSF are published each year

- and purchased immediately, for demand is much greater, with a regular SF readership comprising perhaps 20 million. These remarkable figures seem to be borne out by library statistics, which declare that every fourth person in the Soviet Union reads SSF.[15] In 1965-6 the Polytechnic in Perm interviewed 664 students, 948 industrial workers, and an unknown number of Kolkhoz farmers; 70.6% of the students, 57.4% of the workers, and 27.6% of the farmers said they read SF.[16] In the 1966-7 Azerbaijan-Moscow study referred to earlier, 17% of the respondents stated they preferred SF to all other genres, and over 60% read it in addition to other kinds of literature; this suggests a much broader acceptance of SF as simply a part of one's literary diet, as opposed to the all-or-nothing mentality which caharacterises WSF fandom; and it also confirms that SF is most popular with students, of whom 23% rated it their favourite.

Large attendances have been claimed for SSF fan clubs. However, Bernd Rullkotter (1980) reports that during a research period in Moscow in 1975, he attended several meetings of what appeared to be the only SF fan club in Moscow.

> "Out of eighty club members around
> fifty took part, only two of them
> women. The average age of the
> participants I estimated to be thirty.
> Most members had a university degree.
> "At the beginning of each session
> the chairman would introduce an

official guest, such as a representative of the faculty of architecture in Moscow University, who would make a speech about his speciality and its links with SF. Then the club members were given the floor. Their contributions would take up to five munutes and might deal with the cities of the future ... Several speakers concentrated on criticism of their own city life ... whenever such critical remarks accumulated the chairman would ask the club members 'to be more optimistic and think positive'. Altogether, it would be more appropriate to talk of a series of speeches rather than a discussion ... Contrary to schedule, the meetings ceased in March after the first three times, and the club adjourned its activities until the autumn. Whether they were actually resumed I do not know as I had left Moscow by then."[17]

If a direct antithesis be sought to the spontaneity and freedom of expression which Wentham finds characteristic of Western fandom, this is it. The hand of officialdom lies heavy on this 'fan club', as it must in a system which seeks to 'politicise', i.e. control, every aspect of its citizens' lives. It was Stalinism which began the 'penetrating politicisation' which was the beginnings of totalitarianism; but with the stabilisation of the system, the character of this has changed. For with the unity of economic, political and ideological power, no sphere of daily life becomes void of political significance. Today, apolitical behaviours - withdrawal into the private sphere and the forfeiting of all collective goals - has become the only viable option by

which the individual can remain 'independent' of repressive politics. To act for society necessarily involves the total integration into the power apparatus; this, in turn, entails the sacrifice of all individual values and personal initiative, and requires of the individual cooperation within a rigid bureaucratic framework according to predetermined methods dictated from above. Since in all areas of social life, the regime seeks to prevent individuals and groups from controlling their activities and to assign this function to a bureaucratic apparatus, the only alternative to cooptation by the political machinery is opposition to the system; however, punishment for this remains severe. The totalitarian administration of society results in social apathy and in a degree of privatization exceeding by far the extent of depoliticisation of individuals in capitalist society. All social organizations, however far removed from politics, are structured hierarchically and reconciled with goals officially determined by the power apparatus; the freedom to exercise private initiative simply does not exist in any sphere of life. Thus while the inherently solitary occupation of writing is occasion for political rebellion (considering the brothers Strugatski as a 'unit' for the moment), and as we have said, for many amounts to a psychological compulsion to rebel, already the collective nature of SF fan meetings

means that some official regulation is required of them. And that the fans in our 'SF club' are well aware of the official presence is well evidenced by their greater interest in voicing personal complaints than celebrating their love of SF, or indulging in stimulating conversation.

Rullkotter, however, proposes another reason for the obvious lack of appeal of the SF clubs:

> "Fandom is a minority refuge. It gets its strength and distinctiveness form the fact that it unites and creates solidarity between people who are conscious and perhaps proud of being a minority. Popular literary forms do not usually have fan clubs, because they lack the attraction of exclusiveness. In the Soviet Union, science-fiction, being part of the citizens' 'literary diet', has no need of them. Thus, in this case, the weakness of the fan clubs signals the strength of the genre they represent."[18]

There certainly seems to be a measure of truth in this assertion, if 'strength' be counted by numbers. However, we can certainly hope to narrow down somewhat the social strata reading SF. We have already noted its popularity among students. A 1966 questionnaire, which drew 112 respondents, gave this more detailed breakdown of educational attainment:

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Incomplete Secondary............21
Secondary.......................37
Incomplete Higher...............12
Higher..........................38
Not Given....................... 4
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And age grouping:

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13-20............................. 39
20-30............................. 33
30-40............................. 20
40-50.............................  6
50-60.............................  6
60-70.............................  3
over 70...........................  1
not given.........................  4
```

We may also note that 80% of the respondents were male.[19]

These figures correlate to provide us with two main groupings of SSF readership: teenagers still at school or beginning higher education; and adults with a higher education. 52% of the 65% of respondents over 20 had completed higher education. This bears out Rullkotter's statement that most of his fan club members had a university degree and also a comment of his on the 'high rhetorical level' of the speeches he heard. The Azerbaijan-Moscow study similarly found that of ardent SF fans, one-third were schoolchildren, one-fifth engineers, one-seventh students, and one-eighth workers.[20]

The 'two schools' of SSF which we noted at the beginning of this chapter seem still to be dominant. In the East or West, the action-adventure brand of SF still appeals to teenagers, be it the work of Jules Verne, E.E. 'Doc' Smith, or Alexander Belyaev. In the Soviet Union, we would note, this tradition is all the stronger for the years when SSF could only be published as 'children's literature', which resulted in a number of authors who still specialise in such writing; and also due to the

almost complete lack of alternative 'pulp' purely entertainment reading available to the young. Among adult readers, the attraction of SSF seems to be its role as forum for social critique in metaphorical form; hence the appeal of the Strugatskis to a much broader sweep of the intelligentsia than is the case for WSF.

However, we do not mean to state that the connection between SF and the technical intelligentsia does not hold for the Soviet Union. Certainly not; the popularity of Efremov and many lesser wirters in similar vein attests to this. Thus, for example, while the respondents to the Perm study report almost no interest in the 'science-popularisation' apect of SSF (a not very surprising response to what is essentially boring propaganda), the Azerbaijan-Moscow repondents, on the other hand, evinced strong interest in 'Thoughts on the social consequences of scientific development'.[21] It is certainly the intelligentsia who seem to be the prime consumers of serious SSF; and we would suggest that within this stratum, the technical intelligentsia will form a disproportionately large portion of SSF's readership. That the connection between this social group and SSF is to be understood somewhat differently to the connections we have charted for WSF stems from the fact that we are dealing with a very different form of social system in which the role of the technical intelligentsia is to be

understood in somewhat different terms.

Technocracy and the Party

That certain elements among the managerial and specialist strata within the Party should have adopted a technocratic orientation is hardly surprising; it may be used to express their interests just as it has been used by their counterparts in the west - for it is inevitable that some conflict of interests between the different segments of the power structure will develop. However, as we have shown the supposedly neutral, 'value-free' science that is the ideal of the technocrat simply cannot exist, and the authority wielded by the technocrats originates from the same source as that of political ideologists, i.e. from their representation of the pople. Because they are neither private owners nor entrepreneurs, their domination over workers is legitimated by the power vested in the Party and in the 'Socialist State', and protected by the police. An independent 'technocracy' would be at the mercy of the working class. Thus despite internal contradictions, the power elite maintains its unity. For should the technocrats attempt to implement certain goals of their own, they will simply find themselves unable to do so independently of the ideological power apparatus.

Apart from the oblique forms of SSF, then, the technocrats never publicly articulate their particular

goals and interests apart from those of the ideological faction. Because there are no power factions independent of each other, the structure of power is an all-encompassing pyramid.

Nonetheless, a certain amount of 'segmentalism' must exist. Since the end of Khrushchev's regime, the bureaucracy has been able to function more according to its own rules, with less interference from a despotic ruler. This necessarily has meant greater job security, so that an individual can expect to remain in a given area of the State apparatus for most of his career. This in turn has meant an increased commitment to professional values, a more segmented esprit de corps, the decline of intra-segmental mobility, and thus a certain erosion of the ideological cohesiveness of the elite. The army, the secret police, the state bureaucracy, the managerial stratum, and the technical specialists all retain a certain autonomy despite the efforts of the Party apparatus. Indeed, without the constant unifying activity of the Party, the bureaucracy would tend to disintegrate into particularistic and competing bureaucracies and technocracies, united only in their relation of domination to the mass of the people, and their legitimating principe of access to rational knowledge in service of the Plan. However, the bureaucratic community has been established by the integration of bureaucrats around the State;

without the directing Party apparatus of the State, the bureaucracy is nothing. Here, though, lies the essential antinomy, the source of all actual conflict, within the Soviet Union: The Nomenklatura v. the rest of the intelligentsia; 'ruling class' v. 'new middle class' - not the State apparatus against the masses, which remain , as ever, disorganised and submissive.

Now, that segment of the intelligentsia with which we are most directly concerned, as well as the technical sratum, is the literary one. And this stratum embodies a typically Soviet paradox: on one hand, there is a very high number of writers, far higher per head of population than in any Western country. These writeres are of course all paid by the state, and they know full well that in a liberal democracy, most of them would be out of a job; thus they feel a loyalty to the regime. On the other hand, it is precisely in the area of literature that a certain measure of freedom of speech has been granted, and as we have shown, a number of writers use that freedom to speak out against the system. Hence the emergence of the much-publicised (in the West) 'literary opposition', whose most famous member, of course, is (or was, with his deportation) Alexander Solzhenitsyn - but in whose ranks the Strugatskis rate most highly. Thus we see how in its attempt to 'defuse' the artistic element, the Party must necessarily nurture and support a number of the very

people who will oppose it.

Conclusion: Soviet SF

We have shown how the state, in its attempt to mobilise all forms of social expression in its support, has attempted to utilise SSF as propaganda. On the other hand, we have shown how both the technical and literary strata must be given a certain freedom of expression, and that they have utilised this to speak out against the system and express their own ideals. One further point must be made: far more so than any other form of public expression, it is inevitable that SSF will be used as a political football in this way. For at the heart of the system lies the finalist ideology which holds it all together. The Soviet Union must have a future-oriented ideology to give the people; lacking material incentives, you work for 'a better future'. When this breaks down, no incentive to work remains.

Ideology is an evaluative approach to the world; it must offer ideals which are to be worked towards. 'The future', then, is not an abstraction within the Soviet system; it is very much a part of political reality. And, of course, the future is the domain of SF. The West can tolerate many ideologies for the market continues to operate without any specific plan, driven only by the profit motive; hence the alternatives thrown up, the basic

open-endedness of WSF. But the Soviet future has been politicised; and hence the SSF writer must come down: for, or against.

Poland: Stanisaw Lem

> "Together with the British and
> Soviet writing - and with American SF -
> Lem has singlehandedly before the
> fourth major pillar of global SF since
> World War 11."[22]

It is statements such as this one by Darko Suvin which necessitate a few words on the remarkable Pole, Stanisaw Lem; for otherwise his interest to the sociologist would be almost nill. If ever a man resembled Heinlein's time-travelling protagonist in 'All You Zombies -' (1960) who literally gives birth to him/herself, it is Lem; he fits in to Poland's tiny SF tradition like an elephant into a bird-bath. And yet, in providing a perculiar fusion of East and West, his work may yield something to our analysis.

The main strength of Lem lies in his rejection of two of the perennial bugbears of so much SF: anthropocentrism, and 'final solutions'. To illustrate this, we may examine his most famous novel, 'Solaris' (1961). Solaris is, quite simply, a living ocean. The single, vast entity on a planet discovered some 140 years before the action of the novel takes place, mankind has been attempting to comunicate with it for the whole of

that time - and has failed. A whole science of Solaristics, a literature comprising many thousands of volumes, has grown up in the attempt to understand the being. And yet contact of a sort has been established; for to each of the men in the scientific station orbiting Solaris comes a simulacrum of a woman he has loved, but in some way wronged. Solaris can only have taken these images from the mens' minds, and made them flesh; furthermore, if destroyed, the simulacrum simply reappears the next day. Communication is finally attained in that the men persuade Solaris to stop recreating the simulacra, which they then destroy. Why does Solaris send these images to torment the men? We do not know. Is it meant from kindness, malice, curiosity, scientific experimentation ... or none of these: And the result of the human message to Solaris is, in effect, to negate its own attempt at contact; its effectiveness serves only to underline the futility of man's previous attempts. What we are left with is two beings mutually aware of each other but no more able to communicate than if they were not - for the difference between them is just too great.

'Solaris' is the standard by which we may judge such works as 'First Contact', 'Cor Serpentis', and a thousand like these - and find them woefully lacking. For compared to this vision of the truly alien, we may see how painfully anthropocentric they really are. And Lem shows

this anthropocentrism to be endemic to scientific thought;
for Man always projects his mental models upon the foreign
universe. Solaris merely throws them back at him in
concrete - and emotionally unmistakable - form. "For Lem,
there are no new worlds that men can experience. Wherever
man goes, he will encounter only extensions of
himself."[23] Furthermore,

> "Lem distrusts any final and easy
> answers; he prefers to let the problems
> dangle - though at a higher level of
> understanding at the end of the story -
> constructing in most cases only a net
> of various, usually contradictory
> hypotheses; in analogy to the situation
> in many fields of science, where there
> is as yet no generally accepted
> explanation."[24]

This theme is explored also in novels such as 'The
Investigation' (1959), and 'The Chain of Chance' (1975).
Suvin comments:

> "Lem's major novels have at their
> cognitive core the simple and difficult
> realization that no closed reference
> system, however alluring to the weary
> and poor in spirit, is viable in the
> age of relativity theory and
> post-cybernetic sciences. Now
> twentieth century sciences are
> polyvalent, and can be used for widely
> differing purposes. The only sure
> thing about their methodology is that
> they lead into vast unfathomed areas of
> new findings, techniques and
> orientations - to new cognition, which
> gives mankind new sets of contingencies
> to choose from. Modern sciences are
> open-ended, and anticipation in our age
> will be the more significant the more
> clearly it rejects both the classical
> utopia of the Plato-More type and the
> whilom fashionable dystopia of the

Huxley-Orwell type. Both of them are
static and closed; neither does justice
to the immense possibilities of modern
science fiction in an age polarized
between the law of large numbers and
ethical choice."[25]

Bringing us into the political dimension as Suvin
does, we may perhaps best quote Lem at some length here,
in an interview in which he was asked to compare his own
work and that of the Strugatskis:

"The Strugatskys and I both
started with a tone of 'happy
futuristic optimism' and gradually
arrived at a darker vision of things.
What about differences? My pessimism
(which, by the way, is far from
absolute) orginated with my despair in
the lack of perfection to be found in
human nature; the Strugatskys' on the
other hand was a rather social type of
despair. I was attempting in my
successive books to show the somewhat
inevitable handicap of the human
condition, which can of course differ
quite radically depending on the regime
under which one lives; but then, who is
ever likely to experience a
'comprehensively perfect' regime?
Above all, I have never thought that
the literary life is a tool of action,
capable of performing direct actions of
social righteousness ... When the
Strugatskys plan something, they do so
within a narrower range than I am
myself accustomed to, and appear to be
more interested in emotional
interactions than in providing a
rational diagnosis ... It is precisely
this aspect of the Strugatskys' output,
which I would describe as using of SF
for socio-political criticism, which
must explain why they enjoy such a
difficult reception outside Russia, as
it too often implies a necessary
knowledge of the things criticized
thererin."[26]

Thus we find the much more 'timeless' quality of work like 'Memoirs Found in a Bathtub' (1971), a Kafka-esque critique of bureaucracies in all times and places.

One final word about the 'pessimism' which Lem himself admits to above. George Turner (1973) concludes his analysis of 'Solaris'

> "...And that is where Lem's question ends. The universe is ultimately unknowable if every answer is immediately nullified by a fresh question. It is a despairing conclusion, unacceptable to any evolving life form. Accept it and the reason for existence vanishes."[27]

Solaris remains an enigma; The Investigation ends quite inconclusively; the Memoirs are found with their author - who has slit his throat. Turner exaggerates perhaps; but we must protest against Lem's despair at the imperfection of humanity. For as we have said before, it is this very imperfection which gives us hope for the future, which contains the infinite potential of man, the truly open-ended possibility of change. It is this which SF celebrates, rather than despairs over in its 'worlds without end'. Amen.

Chapter 5

Conclusion

> "A literature that is alive does
> not live by yesterday's clock, nor by
> today's but by tommorrow's."
> Yevgeny Zamyatin (1923)

SF and the General Public

While we have focused on the technical intelligentsia
as the 'core', as it were, of SF, we have noted also its
appeal to broader strata, and some words are in order on
this. In recent years, WSF seems to have gone through one
of its periodic 'booms'; the phenomenal success of 'Star
Wars', 'Close Encounters of the Third Kind', and a myriad
of imitative films seems to indicate that SF is reaching
an audience on a different scale to that ever reached
before. Is WSF headed for the sort of mass appeal that
characterises SSF? Our answer is that it seems unlikely.
Obviously, there can be no direct comparison between the
two phenomena: the political-allegory function which
underlies the popularity of SSF has no counterpart (except
in isolated instances) in WSF, nor, in a wholly different

sociopolitical climate, is it likely to develop. (Certainly it has not done so in 'Star Wars'!) What, then, is the connection between the SF boom in films and TV and SF in literature? Our answer, perhaps, surprisingly, is: none, or virtually none. It will be noted that our study has made no mention of the history of SF in film. Partly, this is for methodological reasons: to limit a field already grown impossibly large; but partly also it is due to what we believe to be a fundamental incompatibility in the guiding principles behind SF and behind Hollywood.

Horkheimer and Adorno's (1972, first pub. 1944) landmark study of the culture industry gives us the basis for our critique.

> "Under monopoly all mass culture is identical, and the lines of its artificial framework begin to show through. The people at the top are no longer so interested in concealing monopoly: as its violence becomes more open, so its power grows. Movies and radio need no longer pretend to be art. The truth that they are just business is made into an ideology in order to justify the rubbish they deliberately produce ...
> "What is new about this phase of mass culture compared with the late liberal stage is the exclusion of the new. The machine rotates on the same spot. While determining consumption it excludes the untried as a risk. The movie-makers distrust any manuscript which is not reassuringly backed by a bestseller. Yet for this very reason there is never-ending talk of ideas, novelty, surprise, of what is taken for

> granted but has never existed. ...
>
> "Pleasure hardens into boredom because, if it is to remain pleasure, it must not demand any effort and therefore moves rigorously in the worn grooves of association. No independent thinking must be expected from the audience; the product prescribes every reaction: not by its natural structure (which collapses under reflection), but by signals. Any logical connection calling for mental effort is painstakingly avoided. ...
>
> "The culture industry perpetually cheats its consumers of what it perpetually promises. The promissory note which, with its plots and staging, it draws on pleasure is endlessly prolonged; the promise, which is actually all the spectacle consists of, is illusory ... In front of the [consumer] ... there is finally set no more than a commendation of the depressing everyday world [he] sought to escape."[1]

We have quoted Horkheimer and Adorno at some length here for their work poses a major challenge to our argument. Where is the subversive element in SF if its 'never-ending talk of ideas' ("I read SF for the ideas!": how often is this cry brought up by apologists for the genre) is in truth a disguise for 'the exclusion of the new'? Is it not mere ideological 'rubbish'? We do not wish to deny the validity of Horkheimer and Adorno's argument; indeed, we support it firmly. The question, of course, is whether it is applicable to SF. There is no shortage of those who would proclaim SF to be merely a segment of 'mass culture', e.g. the 'Journal of Popular Culture' runs regular articles on SF and devoted a special

issue to it in 1972; and one may point to studies such as
that by Pukallus et al. (1979) which show quite clearly
the reactionary and even quasi-fascistic ideology
underlying the 'Perry Rhodan' novels (the world's
best-selling SF series: over 650 titles in print, and
over 100,000,000 copies sold as of 1973[2].)

    We have never sought to deny the ideological nature of
certain elements in SF. We will now go further:
distressingly but perhaps inevitiably, it is without
question these which attract the widest audience. And
yet, we have agreed with Suvin that the 'escape' of SF is
'to a better vantage point' for social understanding and
criticism, not Horkheimer and Adorno's 'illusory' escape
straight into the arms of the capitalist bosses. And our
basis for this lies in precisely the development of SF
which we have traced, and which we see proceeding apace at
the present time. However many 'Perry Rhodan' novels may
appear, each will remain virtually identical to the last.
However many sequels of 'Star Wars' may be made, the
formula will be identical. And it is no coincidence that
all these works fit firmly into the category of 'Space
Opera' as we have defined it. Hollywood has at last
discovered that which the main thrust of SF left behind
with the 1930's. And it knows it: the SF film is freely
touted as the 'new Western' - not in apologetic terms but
precisely to reassure the moguls that there is nothing new

here, nothing experimental, but on the contrary a tried-and-true formula in which to safely invest their money. The inherent conservatism of Space Opera retains its appeal.

Nor is it surprising that a certain brand of SF fits well into Hollywood. And Horkheimer and Adorno note further:

> "Interested parties explain the culture industry in technological terms ... The technical contrast between the few production centers and the large number of widely dispersed consumption points is said to demand organisation and planning by management. Furthermore, it is claimed that standards were based in the first place on consumers' need, and for that reason were accepted with so little resistance. The result is a circle of manipulation and retroactive need in which the unity of the system grows ever stronger. No mention is made of the fact that the basis on which technology acquires power over society is the power of those whose economic hold over society is greatest. A technological rationale is the rationale of domination itself ... This is the result not of a law of movement in technology as such but of its function in today's economy."[3]

The movement to technocratic legitimation which we have noted for society as a whole holds true also for the culture industry; and further, it is the culture industry itself which is precisely one of the most important agents in disseminating this ideology, by creating the very needs which it claims merely to satisfy.

But SF has not remained in the 30's. Our analysis has at each stage sought to identify the new thrust in SF. Certainly, old masters continue to write after their time is done; e.g. Heinlein's latest novel, 'The Number of the Beast' (1980) is almost physically painful to read when one remembers the masterpiece that became the 'bible' of the '60's counter-culture, 'Stranger in a Strange Land' (1961). But SF as a social project continues to unfold, ever-changing, ever-seeking. Amusingly, a rule-of-thumb to distinguish the products of the SF community from those of the culture industry has already been provided us. For the term the culture industry has adopted for Science Fiction is 'Sci-Fi'; and the effect of uttering this abomination at a SF convention may be compared to calling 'nigger' at a meeting of the NAACP - blood may be shed. A trufan may use the term 'Sci-Fi' - when he wishes to be deliberately insulting about a product of the mass media. Hence very few are the SF films which have been taken to the hearts of SF fans, and even fewer those for which a quality would be claimed even remotely approaching the classics of SF literature. ('Metropolis', the only film referred to in the main body of our text and very definitely not a product of the Dream Factory, remains for all its flaws, possibly the most-often screened film at SF conventions the world over, and certainly one of the most popular of SF films among trufen.)

Utopia Revived: The Dispossessed

Now, lest we be misunderstood, the point should be made most strongly that older traditions may continue to develop within the bounds of SF, and indeed be infused with new life. An example of especial interest to our own study is Ursula K. LeGuin's Hugo - and Nebula-winning masterpiece, 'The Dispossessed' (1974). Subtitled 'An Ambiguous Utopia' (and by now probably the most analysed novel in modern SF), it is both very similar to, and very different from, Thomas More's classic work. With its twin worlds of Urras and Anarres, 'The Dispossessed' presents in alternate chapters a critical reflection of our own world (divided into capitalist, state-socialist, and underdeveloped regions) and the outline of an alternative, anarchistic society. But LeGuin presents herself as the genuine revolutionary not merely in presenting an anarchistic Utopia in direct contrast to the meticulously planned and organised Utopias of the past, but in being true to her own vision and to the open-endedness of SF. Anarres is not presented as the perfect society. From the first pages, the flaws of the new society are exposed: the overbureaucratisation, the stagnation, the suppression of individual initiative, the hidden power structure. And yet Shevek, the protagonist, returns to it at the end; not only is it far superior to his alternative (our world today), but more importantly it is dynamic, it contains

the seeds of continual change - change in directions we

may guess at, but not predetermine. Hence Shevek's words

to the Hainishman, Ketho:

> "'Things are ... a little broken
> loose, on Anarres. That's what my
> friends on the radio have been telling
> me about. It was our purpose all along
> - our Syndicate, this journey of mine -
> to shake up things, to stir up, to
> break some habits, to make people ask
> questions. To behave like anarchists!
> All this has been going on while I was
> gone. So, you see, nobody is quite
> sure what happens next. And if you
> land with me, even more gets broken
> loose ...
> "'Once you are there, once you
> walk through the wall with me, then as
> I see it you are one of us. We are
> responsible to you and you to us, you
> become as Anarresti with the same
> options an all the others. But they
> are not safe options. Freedom is never
> very safe.'"[4]

As John Fekete (1979) has pointed out, LeGuinn has her

own failure of the imagination. The desert society of

Anarres, for all its computerised information-processing

and advanced theoretical science, is essentially a

transplant of the subsistence-level 'primitive communism'

of ancient man, rather than a viable option for the

post-industrial 'affluent society'. Nonetheless, there is

an importance to Shevek's offer to 'walk through the wall'

and become 'one of us'. For explanation, the opening

words of 'The Dispossessed':

> "There was a wall ...
> "Like all walls it wa ambiguous,
> two-faced. What was inside it and what

was outside it depended upon which side
of it you were on.
     "Looked at from one side, the wall
enclosed a barren sixty-acre field
called the Port of Anarres. ... It was
in fact in quarantine. The wall shut
in not only the landing field but the
ships that came down out of space, and
the men that came on the ships, and the
worlds they came from, and the rest of
the universe, leaving Anarres outside,
free.
     "Looked at from the other side,
the wall enclosed Anarres: the whole
planet was inside it, a great prison
camp, cut off from other worlds and
other men, in quarantine."[5]

From the world's point of view, the SF fan is trapped

in his 'ghetto'. From the SF fan's point of view, it is

the world outside which is trapped in its ideological,

defeatist, straight-line reasoning, while he it is who has

gained true freedom of thought. But 'Freedom is never

very safe'. As Erich Fromm (1965) has outlined, freedom

carries its own fears.

     "Freedom, though it has brought
[modern man] independence and
rationality, has made him isolated and,
thereby, anxious and powerless. This
isolation is unbearable and the
alternatives he is confronted with are
either to escape from the burden of his
freedom into new dependence and
submission, or to advance to the full
realisation of positive freedom which
is based upon the uniqueness and
individuality of man."[6]

The return to the security of submission, to timeworn

formulas masquerading as novelty, is both easy and indeed

pressed upon us on all sides by those whose domination it

secures; it pervades large aeas of SF. The commitment to

the uncertainty of freedom, of non-acceptance, is a much more difficult step to take. Such isolation is indeed 'unbearable' for the individual; with the supportive subculture of SF it may yet flourish, however. Nonetheless, we suggest that original SF will remain to the tast of a small minority. Marxian intellectuals may ary out for freedom and an end to domination; SF readers and writers may explore a myriad alternative cultures; but history shows clearly that societies change only when absolutely forced to, when internal contradictions and/or external relations have built up to breaking point, and emergent social forces burst their bounds. The masses remain, almost by definition, passive, conservative: the free-swinging alternative worlds of SF are not for them. This is why we suggest that the success of 'Star Wars' and its ilk is almost irrelevant to the creative core of SF. The film-goer may read the book of the film; he may even discover 'Perry Rhodan' or similar works; but if he turns to the work, say, of Philip K. Dick, Samuel R. Delany, Harlan Ellison, Philip Jose Farmer ... he will recoil in bewilderment.

Such a statement lays itself open to the charge of elitism; perhaps so. However, let us be clear of what we are saying. A readiness to entertain alternatives does not mean that SF fans are to be the leaders of the revolution, nor does it entitle them to the position of

elite in some new society. SF will engender no revolution; it is indeed a form of sublimation in that it leads creative minds" to alternate worlds that exist only in the mind (as, of course, does all literature). And yet, paradoxically, this is precisely the strength of SF. As literature, Utopian writing is almost uniformly disastrous. As Lem notes, the moralistic tone of SSF limits it outlook. 'Official' SSF and Utopian writing both picture the 'perfect' society as one free of conflict; in so doing, both lapse into stultifying boredom. WSF must maintain reader interest, and so conflict reains in its pictures of the future; and for precisely this reason, it gives a more valid understanding of the dialectical progression of history: of contradictions unfolding. Furthermore, we would note, the artistic necessities of the genre force a rejection of the futile bourgeois opposition between 'the individual' and 'society'; for as C.S. Lewis (1966) has pointed out, "To tell how odd things struck odd people is to have an oddity too much: he who is to see strange sights must not himself be strange. He ought to be as nearly as possible Everyman' or Anyman."[7] Literary critics are quick to point to the weakness of characterisation in SF; we submit that they are using inappropriate criteria in judging a genre whose strength lies in the presentation of new social roles, norms, and conflicts. SF's characters

frequently exist merely as lenses through which to view the new society; and this more _sociological_ literature is surely just as valid as the traditional emphasis on psychology. Indeed, purely in pointing out the over-whelming importance of social forces, we would suggest that SF is generating a potentially more socially aware form of consciousness than is traditional 'mainstream' literature.

But WSF is _art_, not propaganda. It makes no attempt to impose its values on anyone, no attempt to preach a coherent message. This is what leaves it free to explore alternatives purely for thier own sake, to present a different voice with each writer, indeed for a writer, if he but has the imagination, to change his viewpoint form work to work. This is what makes it truly open-ended, continually growing, opening the eyes of those who will see to ever-broader vistas.

The Sense of Wonder

Remaining with the metaphor of sight, we should like to illustrate the 'SF experience', that which fans have long described as 'The Sense of Wonder', with one of the finest and most popular stories of recent years, John Varley's Nebula-winning '_The Persistence of Vision_' (1978). Narrated by a solitary traveller who enters a community composed entirely of the deaf, dumb and blind, the story is an obvious rejoinder to Wells' '_The Country_

of the Blind' (1904); but Wells' message has been
transformed. In this most unlikely of Utopian
alternatives, we find that the community's 'handicaps'
have formed the basis for a new, indeed transcendent
creation: Touch.

> "Touch was what they spoke to each
> other. It was an incredible blend of
> all three other modes I had learned,
> and the essence of it was that it never
> stayed the same. ...
> "It was a language of inventing
> languages. Everyone spoke their own
> dialect because everyone spoke with a
> different instrument: a different body
> and set of life experiences. It was
> modified by everything. It would not
> stand still."[8]

Nor, we submit, will SF. And each time the SF reader
encounters such a concept, radically new (and the more
effective for being a new development of an old theme,
rather than an impossible attempt at some completely ex
nihilo creativity) and exciting, he realizes afresh the
limited nature of his own world, and (for one dizzying
moment) the limitless potential locked up in the human
project. His mind is opened ... with awe; and this is the
'Sense of Wonder' at the heart of SF: the feeling of
thoughts previously unthought. We have been very critical
of the sub-genre of 'Space Opera'; but here we must give
it its due. In the '30's, when serious people still
maintained that man would never reach the moon, the
mile-long spaceships whissing through the light-years were

ideas new and radical enough for most. (Only today, when everyone knows the basic gimmicks of 'Sci-Fi' and everyone should know their absurdity, is this positive aspect stripped entirely from Space Opera, leaving only its ideological function - and hence rendering it safe material for the culture industry.)

Drawing a comparison with current Western attempts to recapture the Eastern mystical experience through a variety of pseudoscientific cults, Norman Spinrad (1980) notes that

> "Twenty years ago and more, science-fiction fans were already calling what they were trying to recapture the 'sense of wonder'.
> "This hunger for the experience of flashes of transcendental consciousness through and not despite the onrushing advance of science and technology has always been central to what made those people who read science fiction read science fiction. Indeed, the predominant preoccupation of science fiction with space-travel, other worlds, aliens, and superbeings has always spoken directly to this scientific transcendentalism."9

For Wells, his 'scientific romances' were to serve as a blueprint for political action. For Gernsback, his 'scientifiction' was a vehicle for the popularisation of scientific knowledge. Campbell tried to use his SF to gain support for the space program. O'Neill's L-5 is being promoted by the SF magazines today. SF has ridden all these waves, and prospered. Each orientation has

appealed to a seciton of the SF public; each new 'cause' has added to the richness of SF. And yet: the scientific understanding of the general public has been raised - but not by Gernsback's pulps; the moon was reached - but not in the way that SF dreamt; if L-5 is built, it willnot be due to pressure from SF fans. As Bainbridge has pointed out, attempts to organise fandom into a proscience propaganda organisation have failed dismally - but occult groups and pseudoscience sects are spawned endlessly.[10] The reason for this, we submit, is not that SF fans' interest in science is a sham, that they are on a power trip or an escape; but that their interest lies not in the pragmatics of science, the techniques or the immediate results, but rather in the broader vision, the development of human history by the transformative power of modern science: what Spinrad terms 'scientific transcendentalism'.

Should this appear too mystical, the phenomenon is described here by Brian Stableford (1979) in somewhat more prosaic terms.

> "The label 'science fiction' does not simply tell a would-be reader something about what a book contains. It also tells him something about how it is to be read. It invites the reader to locate his experience of the text within a certain context of expectations. ...
>
> There are several ways to investigate the nature of the set of expectations which 'science fiction

readers' characteristically bring to
the reading of a science fiction text,
though the task is complictated by the
fact that there is not a single, simple
set of expectations which each and
every science fiction reader has. ...

"Letters written by young readers
to the early pulp magazines often refer
to a kind of revelatory experience
associated with a first encounter with
science fiction. Similar testimony is
offered by numerous writers reminiscing
about their early encounters with
science fiction. What seems to be
involved is a kind of 'gestalt shift'
which allows a new interpretation of
the everyday world by setting it in a
context which extends in time and space
to hitherto unsuspected imaginative
horizons ... The reaction thus
triggered is conventionally referred to
by science fiction readers as 'the
sense of wonder'.
"In order that the revelatory
perspective-shift can be evoked time
and time again (though inevitably with
declining power) a continual supply of
new concepts is necessary ...

"Science fiction is an anomalous
genre because what is required to
maintain its characteristic attitude to
the world is not the repetition ad
infinitum of a series of stereotyped
exemplars but a supply of images which
gradually change so as to appear novel
while never becoming truly strange."[11]

Stableford criticises SF of the failure to become
'truly strange'; but as we have noted before, were it to
become so, it is difficult to see of what possible
relevance or indeed interest it could be to anyone.
Rather, the more (relatively speaking) moderate levels of
estrangement which SF achieves (being still far greater
than those attained by the general corpus of naturalistic

fiction) are perhaps those best guaranteed to sustain their impact.

Ideology and Subversion in SF: Closing the Circle

As an exercise in hermeneutic understanding, our work has itself traced the Hermeneutic Circle: from a preliminary definition of our general theoretical concepts, we have moved to a more empirical examination of their embodiment in particular elements of SF; in integrating the two modes of analysis now, we close the circle (and so of course create merely the basis for ever-broader circles to come).

Our most fundamental assumption has been that stated here by Marx:

> "The production of ideas, of conceptions, of consciousness, is at first directly interwoven with the material activity and the material intercourse of men, the language of real life ... Men are the producers of their conceptions, ideas, etc. - real, active men, as they are conditioned by a definite development of their productive forces and of the intercourse corresponding to these, up to its furthest forms ...
> "Life is not determined by consciousness, but counsciousness by life."[12]

Science and art have been the great social projects underlying our analysis, melding as they do in the various project which is SF. For both, we deny the possibility of 'value-free', neutral, 'objective' presentation of

'reality' _per se_. Both are products of consciousness, and as such, both stem from the particular material positions of their producers. This does not mean that in exposing the class basis of their products the sociologist makes of them nonsense; rather, he renders them problematic, amenable to further exploration from a variety of perspectives. Our own study has focussed on the political dimension, namely their use in the support and critique of domination. And as poles for our analysis, we have chosen the concepts of Ideology and Subversion.

In presenting the ideological aspects of SF, then, we have tried to show the ways in which it serves to uphold existing relations of domination. All SF, at least nominally, has a commitment to 'change', to the presentation of alternative societies. But the question we must ask is whether the change embodies new social relations, new relations of domination, or whether it is a change merely in the gadgetry, the technical conditions of life. "The machine rotates on the smae spot", as Horkheimer and Adorno put it; today's Organised Capitalism changes everything - in order to change nothing. If SF portrays existing relations of domination persisting into the indefinite future, it is performing an ideological function. Now, we have said that the culture industry does this in SF in films and TV, and indeed in mass-market publications such as 'Perry Rhodan'; but that this

orientation has been <u>dominant</u> in SF only during the 'Space Opera' period of the '30's - at that time, it is important to note, when the <u>writers</u> of SF were hacks press-ganged in to taking time off from their work in other sectors of the culture industry (romances, westerns, etc.). As soon as SF bred its own writers, the early names were deservedly forgotten (despite current attempts to revive them in the name of 'nostalgia').

Despite the sad admission that from the earliest beginnings to the present day, the bulk (numerically) of SF has been ideological, we have nonetheless maintained that its leading edge has almost always been subversive. Now, the concept of subversion is a difficult one to pin down, and indeed we have used it in a number of ways in the couse of our work. To define it negatively as the critique of domination, is but a first approximation; to present it positively as a commitment to freedom tells us little more. For freedom is an open-ended concept which simply cannot be tied down; freedom defined is freedom denied. But the writer of fiction must present concrete images; and in so doing, be his commitment to freedom ever so strong, he must present those values which he has judged of positive worth in his own social background (while, if he acknowledges his own limitations, pointing towards an uncertain 'development' of his conceptions - as does, say, LeGuin).

There are many forms or levels of subversion, then, open to the SF writer. The most obvious is direct attack, either in satire or a more serious analogic critique of contemporary society. We have said that the latter in particular characterises significant SSF, and is much weaker in WSF; however, while applauding the degree of political consciousness thus exhibited, we have said that this form has its own limitations.

The subversive nature most often exhibited by WSF is a much more subtle thing. Suvin speaks of 'cognitive estrangement', Stableford of 'gestalt shift', the fans call it 'the sense of wonder'; the essential experience is a dramatic encounter with a new system of social roles, mores, values ... new, that is, in the sense of not being the reader's familiar environment. No SF writer will create a completely new world; nor should he try to. But if he must speak from some material basis, and if his work does not fit the model of the culture industry ... then we may suspect that he speaks for a group which is not a mouthpiece for the dominant stratum.

We must be precise at this point: on the one hand, many forms of ideology may be presented beside the type we have focussed on (for the dominant stratum is never completely homogeneous); on the other hand, many forms of alternative society throughout human history can and have been used as models for estranging SF stories (from the

Roman Empire to the desert tribesman - any alternate society may provide us with a new perspective on our own). But the group we have identified as the core of the SF community is the new scientific-technical intelligentsia; and it is their values and ideals which have most often found expression in the pages of SF. Now, we have said that they do not form the dominant stratum in today's society, but that they have aspired to this position. To this end, we have seen a technocratic view of 'legitimate authority' presented in SF. This may be advocated quite openly, or it may be present in a much more implicit manner: thus the 'logic-puzzles' which SF is so fond of foster (as we noted) a dependence on 'Scientific Method' and hence on the scientific intelligentsia. Even more widespread, the presentation of new technology as being per se the prime mover in historical change serves simultaneously to emphasize the importance of those who produce the machines while abrogating them of all responsibility for any harmful consequences which may develop. (The number of stories which focus on a new gadget - Faster-Than-Light Drive, Time Machine, suspended animation, etc., etc. - as their prime novum and then chart the consequences for society which follow 'automatically' from its introduction, is legion.)

Now, in so far as it is, in Giddens' words, "the

representation, of sectional interests as universal ones,"
technocracy may fairly be called ideological. True; and
yet in so far as any coherent value-system must come from
a specific section of society (Marx's 'universal' class,
the proletariat, has surely demonstrated its greater
concern with 'sectional interests' via the Trade Union
movement than in bringing about the Revolution)., we must
either abandon all talk of 'alternatives', or recognise
that each revolution carries the seeds of a new tyranny
within it. Indeed, those SF texts consciously advocating
technocracy are certainly in the minority; for most,
technocratic values are simply the 'natural' order of
things. These are the values which SF presents as
alternatives to the status quo - and it gets this message
accross without the need to become political propaganda.
Furthermore, we have been speaking of 'technocracy' here
as if it were a coherent, all pervading orientation in SF
- while the main body of our analysis has shown quite
clearly that this is not the case. Ecology, spaceflight,
many other concerns; the scientific stratum can be treated
as homogeneous neither in its composition nor in its
aspirations.

Noone can predict which roads the scientific project
will open up for mankind; and noone can predict which
roads SF will lead the unwary reader down. For both are
open-ended by their nature; to neither can we assign any a

priori limitations. And it is this open-endedness which must give SF its potentially subversive orientation towards any closed system (as all systems of domination must be). Now, it may be argued that this is hardly 'subversive' in that it will rouse no political radicalism, support no specific program of change. This is true; yet in rejoinder we offer these words from Crutis Smith's 'Science Fiction and the Revolution' (1971):

> "Radicals, involved in taking man's next enormous step, need to look beyond that step; they need the calm, imaginative assurance of the best of science fiction that enormous change is around the next corner, and that through and beyond that change there will be further change."[13]

In more poetic vein, the hope and the fragility of SF's vision may both be found in the epitath of Charley, the boy in Perry A. Chapdelaine's (1974) story who walked around so engrossed in his SF magazine that he never saw the truck that hit him:

> "What of Charley?
>   Like you, like me, he is nothing, nothing at all,
>   Except the imagination of lovers who love the possible,
>   The child of change, and what might have been!"[14]

APPENDICES

Table I

Sex

Survey and Date	Male	Female
Tucker Fan Survey-1948	89.00%	11.00%
Astounding-1949	93.30	6.70
Nebula-1954 (British)	86.00	14.00
New Worlds-1955 (British)	95.00	5.00
New Worlds-1958 (British)	90.00	10.00
Astounding-1958	85-95.00	15-5.00
New Worlds-1963 (British)	92.00	8.00
F & SF-mid-sixties	71.00	29.00
Analog-1974	75.00	25.00
Locus Survey-1974	82.00	18.00
Waugh Studies-1975 (combined)	73.00	27.00
Berger-Toronto-1973	64.54	34.75

Table II

Age

1. *Nebula* -1954......0-19...(11.2%) 20-24...(21.0) 25-29...(27.4)
   30-34...(21.8) 35-39...(7.3) 40-44....(6.4)
   45-49....(6.4) 50+......(3.2)
2. *New Worlds* -1955...0-19....(5.0%) 20-24...(17.0) 25-30...(31.0)
   31-40...(30.0) 41-50...(12.0) 50+......(5.0)
3. *New Worlds* -1958...0-19...(18.0%) 20-24...(21.0) 25-30...(21.0)
   31-40...(22.0) 41-50...(12.0) 50+......(6.0)
4. *Astounding* -1958...13-17....(6.9%) 18-20....(7.0) 21-25...(16.8)
   26-30...(20.1) 31-35...(19.2) 36-40...(12.7)
   41-45...(7.2) 46-50....(3.6) 50+......(6.5)
5. *New Worlds* -1963...0-19...(31.0%) 20-24...(27.0) 25-30...(14.0)
   31-40...(14.0) 41-50....(8.0) 50+......(6.0)
6. *F & SF* -mid'60s...0-18...(23.0%) 18-30...(30.0) 30-45...(31.0)
   45-60...(13.0) 60+......(3.0)
7. *Galaxy* -1971......0-17..(16-17% approx.)   18-39...(66.0+)
   40+...(16-17% approx.)
8. Waugh Studies....10-14...(5.0%) 15-19...(20.0) 20-24...(31.0)
   (1975)   25-29...(22.0) 30-34...(9.0) 35-39....(1.0)
   40-44....(2.0) 45-49....(1.0)

Berger-Toronto

Age	Number	per cent	National
A. 13-17	22	7.70%	(7.8%)
B. 18-25	103	36.39	(11.6)
C. 25-35	116	40.98	(12.3)
D. 35-55	36	12.72	(22.8)
E. 55-up	5	1.77	(19.0)
total	282	99.56	

Table III

Occupational breakdown of Astounding's readers
('The Analytical Laboratory', Astounding, July 1949):

	%-age
Engineering	14.7
Mechanical Electrical	7.6
Sales & Advertising	7.5
Research	7.3
Chemistry	5.2
Profession (Law, Medicine)	5.2
Executive Management	5.0
Technician	4.5
Clerical & Secretarial	4.5
Auditing - Accounting	4.0
Armed Forces	3.5
Writers - Editorial	3.3
Supervisory	2.2
Architecture - Design	1.7
Civil Service	1.5
Agricultural	1.2
Others	3.8

Table IV

Employment by Occupations

Survey

Astounding -1949	28.9%	23.2%	5.2%
New Worlds -1955	13.0	17.0	- -
New Worlds -1958	27.0	16.0	- -
Astounding -1958	37.0(est)	- -	- -
New Worlds -1963	29.0	16.0	- -
Fantasy & Science Fiction-60's	14.4	33.2%	12.7
Berger-Toronto-1973	20.56	35.46	- -

"Science and Technology" includes Armed Forces, Basic Research
in Biological, Chemical and Physical Sciences, Computer Programming,
Computer Technology, Engineering, Engineering Management, Medicine
(except in the 1949 Astounding and F&SF mid 60's poll), Medical
Technology, Nursing, Technological Research & Development,
Biochemical production, Chemical Quality Control, Pharmaceuticals,
Planetarium lecturing, supervising a textile testing laboratory
and Veterinary Medicine. "White Collar" contains various business
occupations, teaching, law (except in the 1949 ASF and 60's
F&SF polls), Clerical and secretarial occupations and civil
service.

Table V

Comparison of Median Income: Astounding/Analog Readers v. U.S. Average

Year	ASF Readers	U.S. Population	% difference
1949	$ 4,800/year	$2,480/year	+ 93.55%
1974	18,500/year	5,657/year	+327.03%
% increase	384.41%	228.10%	

Table Va

Income

A.	under $3,000 per year	88	31.21%	(44.60%)
B.	3,001-7,000	52	18.44	(31.00)
C.	7,001-12,000	69	24.47	
D.	12,001-20,000	53	18.79	(24.30)
E.	over $20,000 per year	9	3.19	
	unmarked	11	3.90	
	total	282	100.00%	

Table VI

Education (Highest Attainment)

A.	High School Diploma......19	......6.74%	.......(35.2%)
B.	some College 81	......28.72	
C.	2 year College Degree.....14	......4.96	.......(10.9)
D.	4 year College Degree.....80	......28.37	
E.	graduate school...........69	......24.47	.......(12.0)
	in High School............7	......2.48	
	in Elementary School.......1	35	
	drop out...................1	35	
	unmarked.................10	......3.55	

total.........................282 ......99.99%

Table VII

Educational Major (Grouped)

A. Physical/Biological Science...........137 ....48.58%
B. Social Science......................86 ....30.49
C. Liberal Arts........................69 ....24.47
D. Business ....15 ....5.32
E. College Preparatory (High School
                                Students...6 ....2.13
F. Others ....12 ....4.26

total..................................325 ....115.25%*

*Multiple Responses, N=282

Table VIII

Sources

A.	Magazines	78	27.66%
B.	Anthologies	54	19.15
C.	Novels	208	73.76
D.	Movies	22	7.80
E.	Television	24	8.51
	unmarked	3	1.06

total.............................389 ....137.94%*

*multiple responses, N=282

Table VIIIa

Sources (Multiple Responses Removed)

A.	Magazines	26	9.22%
B.	Anthologies	23	8.16
C.	Novels	139	49.29
D.	Movies	4	1.42
E.	Television	6	2.13

total................198 ....70.22%*

*N=282

FOOTNOTES TO CHAPTER ONE

1. Stone, George (1975), p.25. Mr. Stone is alluding here to Arthur C. Clarke's short story 'The Nine Billion Names of God' (1953), in which an obscure religious sect uses a computer to fulfil mankind's detiny by enumerating all the possibile names of God - thus bringing the Universe to an end.

2. O'Malley, John (1975), p.5.

3. O'Malley, John (1967), p.5.

4. Darko Suvin's major work is <u>Metamorphoses of Science Fiction: Studies in the Poetics and History of Cognitive Estangement in Fiction</u> (1978); for other works see bibliography.

5. Suvin, Darko (1979), p.41.

6. Suvin (1978), chs. 1 & 4.

7. ibid., pp. viii & 64. Emphasis here and throughout, unless otherwise noted, is as in the orginal text.

8. ibid., p.64.

9. ibid., pp. 64-7. The final words are a quoatation Suvin takes from Jan Trzynadawski, 'Probaoetyki Science Fiction', in K. Budzyk (ed.), <u>Z Teorii i Historii Literatur</u> (Warsaw, 1963), p. 272.

10. Suvin (1978), pp. 64.

11. Brecht, Bertolt, 'Short Organon for the Theatre', in John Willett (ed.), <u>Brecht on Theatre</u> (N.Y., 1964), p. 196; quoted in Suvin (1978), p.6.

12. Suvin (1978), pp. 6-7.

13. idid., p.84.

14. idid., p.ix.

15. For relevant literature, see bibliography.

16. Giddens, Anthony (1979), p. 187.

17. idid., pp. 187-95, last emphasis mine.

18. Mannheim, Karl (1936), p.192.

19. ibid., pp. 211-48.

20. Marx, Karl & Engels, Frederick (1970), p.66.

21. ibid.

22. Heinlein, Robert A. (1947), p.17.

23. Suvin (1978), pp. 28 & 76.

24. ibid., p.18.

25. Fitting, Peter (1979), p.59.

26. Suvin (1978), p.81.

27. ibid., pp. 82-3.

28. ibid., p. 84.

29. Pohl, Frederik & Kornbluth, C.M. (1953), p.10.

30. Suvin (1978), p.27.

31. Sheckley Robert (1968), p. 140.

32. Harry Harrison's Star Smashers of the Galaxy Rangers
     (1973) is surely the finest - one is tempted to say
     definitive - statment of this subgenre. The title
     says it all.

32. This is in keeping, indeed, with the oft-lamented
     scarcity in SF of humour of any kind.

FOOTNOTES TO CHAPTER TWO

1. For expositions of this theme, see: Yates, Frances (1964), and Mendelsohn, Everett (1977).

2. See Mendelsohn, op. cit..

3. Throughout the following analysis, I am much indebted to Ron Schwartz's Utopia and Critical Theory (1977), and to his guidance and advice.

4. Schwartz, op. cit., p. 67.

5. For detailed explanation of the concept of the Hermeneutic Circle, see: Bauman, Zygmunt (1978), and Dilthey, Wilhelm (1976).

6. Plato, The Laws, trans. A.E. Taylor (London, 1960), p.85; quoted in Suvin (1978), p. 37. Emphasis added.

7. Suvin, op. cit., p.42.

8. See: Fourier, Charles (1971).

9. Habermas, Jurgen (1971), p.99.

10. Suvin, op. cit., p.61.

11. ibid., pp. 133-4.

12. ibid., p.115.

13. McConnell, Frank (1981), pp. 116-7.

14. See: Musson, A.E. (ed.) (1972).

15. Musson, op. cit., p. 54.

16. Mumford, Lewis, Technics and Civilisation (London, 1934), p. 184; quoted in Angenot (1979), p. 24.

17. Habermas, Jurgen (1975), p. 37.

18. Wagar, W. Warren (1961), pp. 4-5.

19. ibid., p. 7.

20. Kagarlitski, Juri (1966), pp. 36-7.

21. Hillegas, Mark R. (1967), p. 59,

22. Landes, David S. (1969), p. 274.

23. ibid., p. 235.

24. Kagarlitski, op. cit., pp. 146-7.

25. Wells, H.G. (1946), p. 180. (Original pub., 1898).

26. McConnell, op. cit., p. 148.

27. Wells, H. G., 'The So-called Science of Sociology' (1906), paper read to the Sociological Society; reprinted in Wells, H. G., An Englishman looks at the World (London, 1914, p.205; quoted in Hillegas, op. cit., p. 58.

28. Wells, H. G., 'The Open Conspiracy' (London, 1928), pp. 147-148; quoted in Wagar, op. cit., p. 97. It was to the enlightened intelligentsia that Wells appealed in the hope of establishing his 'Open Conspiracy'; they were to embody the 'Will' of mankind which would bring about the World State.

29. Wells, H.G., Men Like Gods (London, 1923), p. 65; quoted in Hillegas, op. cit., p.80.

30. The comparison is obvious here with Lenin, whom Wells met on his visit to Russia, and whom he respected greatly, for all their differences. Thus the 'leading role' of the Party intelligentsia which ultimately enables the 'withering away' of the State; the subsequent history of the U.S.S.R. appears to demonstrate the flaw in both men's visions.

31. Wager, op. cit., p. 260.

32. Hence the effete Eloi and cannibalistic Morlocks which the Time Traveller encounters: a clear satire on the 'Two Nations' which Disraeli made a favoured theme in so much socially-conscious British literature, and a clear warning of the dangers to come if an alternative middle ground is not found.

33. Huxley, Aldous, interview in Plimpton, George (ed.), Writers at Work: the Paris Review Interviews, second series (N.Y. 1976), p. 198; quoted in Hillegas, op. cit., p. 111.

FOOTNOTES TO CHAPTER THREE

1. E.G.: del Rey, Lester (1980); Pohl, Frederik (1978); Rogers, Alva (1964); also the many works of Samuel Moskowitz.

2. del Rey, op. cit., pp. 29-30.

3. ibid., pp. 30-1.

4. Pohl, Frederik, op. cit., pp. 17-18.

5. Gernsback, Hugo, editorial, quoted in Carter, Paul A. (1977), p. 5.

6. Brown, E.B., (1939).

7. Gernsback, Hugo, inaugural editorial, Science Wonder Stories, June 1929; quoted in Carter, op. cit., p. 11.

8. Bates, Harry, preface to Rogers, op. cit., p.xii.

9. Kelly, R. Gordon (1968), p. 224.

10. Harrison, Harry, introduction to Campbell, John W., jr. (1966), p. v.

11. Campbell, John W., jr., reply to letter, Astounding 29, May 1942, p. 104; quoted in Carter, op. cit., p.20.

12. Campbell, John W., jr. (1953), p. 15.

13 Gouldner, Alvin w. (1976), pp. 259-60.

14. Schwartz, Ronald (1977), pp. 78 & 91.

15. Gouldner, op. cit., p. 257.

16. O'Connor, J., Corporations and the State (N.Y., 1974), pp. 126-8; quoted in Gouldner, op.cit., p. 271.

17. New Rupublic, Jan. 17, 1949; quoted in Wertham, Fredric (1973), p. 48.

18. For details of Berger's figures, see Appendix.

19. Berger, Albert I. (1977), p. 243.

20. Pohl, op. cit., p. 219.

21. Boucher, Anthony (1953), p. 42.

22. Roberts describes the transition to 'reading-by-genre' in Roberts, Tom, introduction to Walker, Paul (1978), p. 9.

23. Bainbridge, William Sims (1976), p.208.

24. Werthan, op. cit., p.119.

25. ibid., p.132.

26. Gouldner, op. cit., pp. 270-1.

27. Klein, Gerard (1977), p. 6.

28. Mulkay, Michael (1979), pp. 110-4.

29. Gouldner, Alvin W. (1978), p.169.

30. ibid., p. 159.

31. Heinlein, Robert A. (1955), pp. 220-1.

32. Shippey, T. A. (1979), p.107.

33. Aldiss, Brian (1974), p.245.

34. del Rey, op. cit., p.253.

35. Hillegas, op. cit., p.82.

36. Berger, Harold L. (1976), p. 3.

37. See: Mulkay, Michael & Gilbert, Nigel (1981a) & (1981b).

38. Berger, op. cit., pp. 7-8.

39. Priest, Christopher (1979), p. 194.

40. Wyndham, John (1958), p.196.

41. ibid., p. 200.

42. Barthes, Roland, <u>Critical Essays</u> (U.S., 1972), p. 69; quoted in Fitting, Peter (1979), p. 67.

43. Fitting, op. cit., p. 67.

44. Klein, op. cit., pp. 11-12.

45. Malzberg, Baray N. (1981), p. 10.

FOOTNOTES CHAPTER FOUR

1. Trotsky, Leon, quoted in Gouldner, Alvin W. (1977), p. 12.

2. Suvin, Darko (1978), p. 157

3. Traub, Rainer (1978), p. 87.

4. ibid., p. 88.

5. Gorki, Maxim, 'O Literature', in Sovetski Pisatel (Moscow, 1937) quoted in Yershov, Peter (1954).

6. Efremov, Ivan, 'Nauki i naucnaja fantastika', in K. Andrew (ed.), Fantastyka 1962 (Moscow, 1962), p. 472, quoted in Grebens, G.V. (1978), p. 31.

7. Grebens, op. cit., p. 51.

8. Suvin, Darko (1978), p. 182.

9. Leinster, Murray (1970), p. 277.

10. Efremov, Ivan (1968), pp. 53-54.

11. ibid., p. 14.

12. Haldeman, Joe (1974), p. 232.

13. Cited in Rullkotter, Bernd (1980), p. 38.

14. Cited in Grebens, op. cit., p. 114.

15. Cited in Grebens, op. cit., p. xi.

16. CIted in Rullkotter, op. cit., p. 37.

17. ibid., pp. 39-40.

18. ibid., p. 41.

19. Cited in Glad, John Peter (1980), p. 135.

20. Cited in Bilenkin Dmitre (1968), 184.

21. Cited in Rullkotter, op. cit., p. 38.

22. Suvin, Darko (1970), p. 214.

23. Ketterer, David (1974), p. 185.

24. Rottensteiner, Franz (1979), p. 207.

25. Suvin, Darko (1970), pp. 220-1.

26. Lem, Stamisaw (1979), pp. 48-49.

27. Turner, George (1973), p. 45.

FOOTNOTES TO CHAPTER FIVE

1. Horkheimer, Max & Adorno, Theodor W. (1972), pp. 121-39.

2. Pukallus, Sylvia, Hahn, Roland M., & Pukallus, Horst (1979), p. 195.

3. Horkheimer & Adorno, op. cit., p. 121.

4. LeGuin, Ursula (1974), p. 317.

5. ibid., p. 9.

6. Fromm, Erich (1965), p. viii.

7. Lewis, C.S. (1966), p. 65.

8. Varley John, (1980), p. 49.

9. Spinrad, Norman (1980), p. 137. Emphases added.

10. Most notable of these is the skeleton in SF's closet: the 'Church' of Scientology, or Dianetics. Founded by SF writer L. Ron Hubbard, this mish-mash of pseudo-science and mysticism serves essentially to feed Hubbard's megalomaniacal ego and the gang of hoods he surrounds himself with. Promoted originally by Campbell, the fact that this obscenity continues to prey on the gullible today is a source of sorrow and embarrassment to SF fans everywhere.

11. Stableford, Brian (1979), pp. 35-6.

12. Marx, Karl & Engels, Frederick (1970), p.47; emphasis mine.

13. Smith, Curtis (1971), p. 45.

14. Chapdelaine, Perry A. (1974), p. 153.

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        Cognition and ideology in Science Fiction and SF criticism',
        Science-Fiction Studies, July 1979.

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        Socialist Society' in Frank Parkin (ed.), The Social Analysis
        of Class Structure (London: Tavistock Pub., 1974).

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        American Response to Technology', Journal of Popular Culture,
        Spring 1972.

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        Factors in the Social Consciousness of a Genre', Science-Fiction
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        Power', Science-Fiction Studies, July 1979.

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J. Parent, Telos, Winter 1978.

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and Capitalist Cooptation', Science-Fiction Studies, March 1979.

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