

SCIENCE FICTION, 1965-1970

POUL ANDERSON

NEBULA AWARD

The Science

Never mind what science fiction is. It has as many definitions as it has definers. For that matter, there's no universal agreement on the meaning of "science" and "technology." Having been asked to discuss the status of those elements in current sf, I won't stop to wrestle with the words, but will simply use them in their ordinary senses. In fact, sometimes I'll be using "science" as shorthand for "science and technology"; Newspeak like "scitech" (or "sci-fi") is just too ugly. It's worthwhile bearing the distinction in mind, if only because much sf has not been about science at all, but rather about technology. However, today they are so closely intertwined that my looseness of language ought not to confuse the question.

That question can be put: "Is science on its way out of sf? Is the scientific element being reduced to a few gimmicks and catchwords in a literature which is really about something else, such as depth psychology, social protest or mysticism, when it isn't mere tale telling with no intellectual content?" My assignment is not to say whether this would be good or bad. I'm supposed to find out which way the wind is blowing, if that can be done.

In this study, for the record, my principal sources have been: the Nebula Award anthologies, numbers one through six; winners and runners-up among novels on the final Nebula ballots, 1965-1970; the two volumes of Hugo winners which Isaac Asimov has edited;

the MIT index to the magazines; the brains of my wife, Karen, and our own bookshelves and memories.* In what follows, I will for your convenience identify Nebula runners-up by a single asterisk in parentheses, winners by two.

I decided that a analytical approach offered the sole hope of getting anything like a meaningful answer to the problem. What I did was divide sf into four types with three attitudes, twelve sorts altogether, and

compare how well they have been faring.

I make no extravagant claims. The method remains subjective, arbitrary and full of ambiguities. My classifications do not correspond to the real skeleton of sf; reality is always too big and various to fit into any neat scheme. I have nothing here except temporary scaffolding on which to walk around and look at the subject.

My concern is not with plot, character, philosophy. literary values though my illustrative examples will mostly be good stories -but with motifs relevant to the scientific content of sf. The names hung on the different classes are not very precise, but then, neither are the classes themselves. After these caveats, let's get started on the four species.

1. Hard science. This includes "hard technology." Stories employing it are what the public to this day tends to identify with sf as a whole. Actually, that always was a mistake.

A hard science story bases itself on real, present-day science or technology, and carries these further with a minimum of imaginary forces, materials or laws of nature. Among Jules Verne's works are classic examples of technological extrapolation, while Hal Clement's e.g., his novel *Mission of Gravity* and its sequel *Star Light* represent perfect scientific extrapolation, where known facts of physics, chemistry, biology and astronomy go into the construction of fascinatingly strange worlds and creatures.

Of course, science includes theories, and way-out minority-opin-

(*Although they modestly asked not to be mentioned in the text, dammit, I do want to thank Lloyd Biggle, Jr., and Dean McLaughlin for vital assistance in getting certain materials.)

ion hypotheses, advanced by practicing scientists. A clearcut instance of an author's exploring at the very frontiers of knowledge, and beyond, is Larry Niven's novel *Ringworld* (**), an awesome vision of a vast, artificial, annular planet.

This sort of story offers a unique thrill. Those who know enough about the scientific subject can have their eyes opened to some astounding possibilities. They can also have fun playing what Clement calls *The Game*: trying to find errors, explicit or implicit, in the author's development.

The hard science does not have to be all or even most of what the story is about. Thus, Bob Shaw's "Light of Other Days" (*) and James Gunn's "The Listeners" (*) concentrate on human problems, while Kate Wilhelm's "The Planners" (**) begins with research on the DNARNA complex in order to deal almost entirely with the interior world of her protagonist. Other hard science works of high philosophical as well as literary value include Ursula K. Le Guin's "Nine Lives" (*) and The Left Hand of Darkness (**)-firmly grounded biological speculation and Frank Herbert's Dune (**)-ecology.

Both these novels contain, in addition, a lot of anthropology. This may lead you to ask what I mean by "hard science." The linguistics in it may justify putting Samuel R. Delany's Babel 17 (**) here, but what about John Brunner's Stand on Zanzibar (!)? I'd say yes to it too, if only because of the sociometrics the author used in his thinking. On the other hand, 1984 doesn't belong in this category.

Now, no story will fit entirely into any of my classes. Quite often a writer makes certain assumptions which go-altogether beyond existing science, or directly contrary to it. For instance, to get his characters to one of his meticulously detailed extrasolar planets in reasonable time, Clement must suppose that man in the future will find a way to travel faster than light . . . regardless of what twentieth-century physicists think. Classification is basically dependent on where the emphasis lies: which brings us to our next

species.

2. Imaginary science. I avoid calling this "pseudoscience" because that would look pejorative. Many fine and intellectually stimulating stories have turned on the development of an idea for whose reality we have no evidence, or which the evidence is actually against. Examples are H. G. Wells's The Time Machine and Robert Heinlein's "By His Bootstraps." The first set forth the notion of deliberately using the (almost certainly impossible) phenomenon of time travel, which earlier writers like Mark Twain had postulated. The second worked out, with marvelous ingenuity, several implications of such use.

The employment of chronokinesis, or whatever, does not automatically make a story type 2. Thus, I'd put L. Sprague de Camp's "A Gun for Dinosaur" under "hard science" because it's mainly about paleontology, the time machine being a mere device for getting people onto the scene.

On the other hand, I'd take what most people think of as the granddaddy of hard science stories, Hugo Gernsback's Ralph 124C41+, and set it very firmly right here. Aside from a vague mention of something like radar, which Hertz had already forecast, nearly the whole of its "technology" consists of words and has no relationship to real engineering-except in its spirit of technical man triumphant.

Besides time travel and faster-than-light travel, common imaginary science ideas include psionics, parallel universes, etc. I'd classify most of James Blish's work under the present heading, though of course he

writes topflight hard science whenever he wants to. So does Theodore Sturgeon; but stories of his like "The Man Who Learned Loving" (*) and "Slow Sculpture" (**) assume things quite unknown to science.

To be sure, science may one day discover them, or something like them. We would be foolhardy to suppose that we, today, have any final answers. Hence my second class differs from my first more in degree than in kind. Further specimens are Delany's *The Einstein Intersection* (**), Anne McCaffrey's *"Dragonrider"* (**) and Joanna Russ's *And Chaos Died* (*):

which shows how vital a part of sf imaginary science is.

I repeat, a story belongs here only if the exploration of such an idea is integral to it, not if the author has simply found it convenient to make certain postulates. That brings us to our next class.

3. Quasiscience. I can't find a better name for this species. It comprises those stories wherein the real or imaginary science is principally background or incidental material.

I do not mean they are costume Westerns or the like. The future civilization's far-advanced knowledge, or the extraterrestrial setting, or the telepath, or any similar sf appurtenance, is (or should be) quite essential. But these concepts are not what the author develops. His focus is entirely elsewhere.

Examples include Jack Vance's *"The Last Castle"* (**) and Cordon Dickson's *"Call Him Lord"* (**), both conspicuous for color and adventure as well as presenting societies different from our own; Richard Wilson's *"Mother to the World"* (**) and Alexei Panshin's *Rite of Passage* (**), which concentrate on interpersonal relationships; Robert Silverberg's horror story *"Passengers"* (**); Norman Spinrad's vatic *Bug Jack Barron* (*).

Sometimes it's hard to know where to put a work-which demonstrates once more the artificiality of categories. Is Isaac Asimov's *"Foundation"* series quasiscience, using a galactic background to treat of history and politics; or is it about the imaginary science of psychohistory; or is it an extrapolation of historiography, which is a real science? I call it quasiscience, because it seems to me that the "psychohistory" is flatly postulated for story purposes rather than elaborated for its own sake. You-or the Good Doctor-may disagree. Similarly controversial may be my placing here Philip Jose Farmer's *"Riders of the Purple Wage"* (*).

These, and many more, prove that quasiscience is a valuable part of sf. Indeed, it includes the majority,

probably the large majority, of all the sf ever published. When its authors are honest craftsmen, they make every effort to get straight their scientific facts and the logic of their imaginary phenomena.

We have a final class to which that requirement does not always apply.

4. Counterscience. Again, I have no good name. "Fantasy" isn't right, though fantasies can be placed here, e.g., Fritz Leiber's "Ill Met in Lankmar" (**). But many stories wear some of the trappings of sf while ignoring the standards of accuracy or logic which I have mentioned. This does not-repeat, not-mean that they are bad stories. On the contrary, their approach can be legitimate and necessary to the authors' purposes.

A case would be Roger Zelazny's "The Doors of His Face, the Lamps of His Mouth" (**), wherein he used a model of the planet Venus which had already been disproved in order to tell a hell of a fine yarn. Obviously this is the rubric for Blish's Black Easter (*), Keith Laumer's Kafkaesque "In the Queue" (*) and much of the work of Brian Aldiss, J. G. Ballard, Philip K. Dick and R. A. Lafferty. Proof enough that counterscience can inspire good writing!

Still, only in recent years has it become conspicuous in sf. This is doubtless one reason why certain commentators think the field is changing its whole character.

Another reason is that there seems to be a new attitude taken by many writers, especially younger ones: a wariness of or outright hostility toward science and technology, a turning to "inner space" or actual mysticism. How important is this trend? In an effort to understand, I found myself defining three classes of attitude, philosophy or what have-you. They cut across the four classes of motif, are equally arbitrary and blurry, but will perhaps be useful.

(a) Technophilia. This is the viewpoint which the popular mind associates with sf. Science, discovery, material achievement and the rest are basically good. In them lies a necessary if not sufficient condition for the improvement of man's lot, even his mental and spiritual lot.

Gernsbackian sf (usually) expressed this in its most primitive exuberance. A more mature version, admitting that technology can be misused though still finding man's best hope in it, is exemplified by Heinlein's *The Moon Is a Harsh Mistress* (*). Frederik Pohl's "Day Million" (*) says technology will change our inmost nature . . . and approves. Ursula K. Le Guin sees mind expansions and changes so subtle that you, or she herself, may not agree with me that her writing is technophilic.

Do not confuse technophilia with technolatry! We today have learned, the hard way, what Thoreau and

Henry Adams knew, that in blind expansionism lies doom. The modern technophile says, "What we need is not less science and technology, but more, of the right kinds: a science which sees man in perspective, a technology which will let him treat his world and his fellows with reverence. The gains of moving onward are worth the risks and costs."

(b) Neutrality. In most sf, the issue hardly arises. The science and technology, at whatever level is postulated, are simply there. They may have been used well or ill, but the story does not suggest that this was an inevitable consequence of their very existence Gary Wright's "Mirror of lee" (*) and Michael Moorcock's "Behold the Man" (*) both give me this impression, although one is essentially upbeat, the other tragic. I would likewise call neutral those stories which, examining alternatives, call for us to choose the better ones but do not say we have already taken a wrong turning.

In this science-dominated age, it would seem that nominally neutral stories are, by and large, pro-science. "He who is not against us is with us." However, being a technophile myself, I felt it best to demarcate a middle ground.

(e) Technophobia. It is an oversimplification to speak of "antiscience sf." For one thing, many stories involving a green utopia suppose that what has made it possible is a superior technology (be this improved engineering, a rationalized society, psionics or whatever) and hence are technophilic. So is, say, Walter Miller's *A Canticle for Leibowitz*. In this famous book, though sinful man destroys his own works again and again, it is right that he strive to rebuild.

For another thing, our dangers are real enough, and the author

may just be reminding us of how late the hour has grown: like Harlan Ellison when he shows a hopelessly devastated and degraded world in "A Boy and His Dog" (*). Or he may be telling a horror story, like Delany's "Aye, and Gomorrah" (*) or Dickson's grimly humorous "Computers Don't Argue" (*)-using radiation or computers where his Victorian forebears would have used ghosts. (Remember, Victorian ghosts were not necessarily evil. See Kipling's beautiful "They.") I must classify these narratives as technophobic, but do not regard them as indicating any trend.

In contrast, some tales do depict the rationalism of science, the artifices of technology, as inescapably destructive and dehumanizing. If we are to be saved, they say, we must declare a moratorium; or we must revert to an earlier level; or we must take off in a totally different direction, perhaps abandoning rationalism-even rationality altogether. Other stories intimate we've gone beyond redemption.

Though disagreeing, I admit that such viewpoints are philosophically respectable and that we technophiles have something to learn here too. In any event, technophobia can lead to good writing. The most notable example must be *Brave New World*, but one could also name Thomas Disch's *The*

Genocides (*), Wilson Tucker's *The Year of the Quiet Sun* (*), and Kurt Vonnegut's *Slaughterhouse-Five* (*)-to pick three out of a fairly large bag.

The authors may deny that these works are technophobic. Again I remind you that subjectivity is built into literary analysis. Certainly the authors need not be technophobic in their opinions about the real world. I know for a fact that some are not.

Obviously, hard science stories will be mostly technophilic; but *Brave New World* is about as hard-science as they come. One suspects the highest percentage of technophobia will be found in the counterscience group; but I'd call Niven's "*Not Long Before the End*" (*) technophilic, even if the technology is the dying art of magic. This illustrates how the classifications of theme and attitude intercut each other.

And now, having established them, let's use them to try to find

out what the facts of the case are.

To those critics who see in counterscience, imaginary science or technophobia an overwhelming wave, I can say a blunt "Nonsense!" Counterscience is as old as fantasy, which is probably the oldest literary form in the world. Imaginary science w

have long had with us, as in E. E. Smith's influential "*Skylark*" and "*Lensman*" series, not to speak of Wells, Stapledon & Co. Both of the latter expressed reservations about the idea that engineers are infallible guides to paradise. As for overt technophobia, early sf was full of Mad Scientists, Absent-minded Professors, Ravenous Monsters and Things Man Was Never Meant to Know. It was largely the editorial influence of the late John W. Campbell which eliminated these cliches and, indeed, brought the four species of sf toward full development. Neither he nor any of his competent colleagues tried to impose a particular attitude on the writers.

To be sure, the mix has varied from place to place and time to time. All my twelve sorts are still around and doing quite well, thank you, provided the individual stories are good. The question I was set to answer therefore boils down to: "What has the characteristic mix been in the last several years; and what has been the relative success-in sales or critical recognition-of each sort of sf?"

The reply depends largely on personal judgment and gut reaction. How would you describe a given

work? To get an overview of my own feelings, I made a table of my assessments. The items were the Nebula winning novels and runners-up since the award was instituted, and those shorter stories which have appeared in the Nebula anthologies. (Lacking copies of the final ballots, I had to leave out the remaining nominees in the latter category.) Because of the difficulty and frequent arbitrariness of every assessment, I shan't reproduce my table here. The illustrations given ought to tell you the general style of my thinking. Why not make up your own chart and see how it compares? I'll simply report my results.

In the anthologies:

1. Hard .science: 10 stories, 2 winners. Technophilic, 5; neutral, 4 (including both winners), technophobic, 1.
2. Imaginary science: 10 stories, 1 winner. Technophilic, 5 (including the winner); neutral, 4; technophobic, 1.
3. Quasiscience: 11 stories, 7 winners. Technophilic, 3 (all winners); neutral, 3 (1 winner); technophobic, 5 (3 winners).
4. Counterscience: 14 stories, 2 winners. Technophilic, 1; neutral, 9 (including both winners); technophobic, 4.

This looks fairly well balanced between the different sorts. Remember, though: the editors were required to print the winners, but made their choices among the runners-up since it was impossible to include every one of these. So the anthology contents are bound to reflect individual preferences, as well as the desire to produce a variegated volume.

This is borne out by the noticeably different outcome for novels:

1. Hard science: 12 entries, 5 winners. Technophilic, 8 (including 4 winners); neutral, 4 (including 1 winner); technophobic, none.
2. Imaginary science: 8 entries, 1 winner. Technophilic, none; neutral, 5 (including the winner); technophobic, 3.

3. Quasiscience: 12 entries, 1 winner. Technophilic, 3; neutral, 5 (including the winner); technophobic, 4.

4. Counterscience: 7 entries, no winners. Technophilic, none; neutral, 3; technophobic, 4.

Thus, if my assessments are correct, hard science and technophilia are flourishing-maybe more than ever! The impression gets reinforcement from the awards bestowed by fans rather than writers: yesterday's International Fantasy Awards, today's Hugos. This table says:

1. Hard science: 14. Technophilic, 9; neutral, 5; technophobic, none.

2. Imaginary science: 11. Technophilic, 3; neutral, 8; technophobic, none.

3. Quasiscience: 14. Technophilic, 9; neutral, 3; technophobic, 2.

4. Counterscience: 3. Technophilic, none; neutral, 3; technophobic, none.

Evidently readers continue to go for "traditional" sf. A study of the MIT index, to check up on my recollection of what the magazines have been publishing, lends confirmation, as does the fact that Analog, long identified with that tradition, continues to enjoy much the highest circulation. It would be interesting to have sales figures on the novels; but at least the bulk of those which are appearing fit into my first three classes of theme and my first two of mood. This seems to indicate that those types sell best.

Let me reemphasize that if you go through the same exercise of evaluating and tabulating, you will doubtless get different figures. However, I bet you'll find the same basic pattern.

And let me finish by reiterating the most important point of all. Every sort of sf is valuable. None threatens any other. They are not only complementary, they blur together; to the extent that they are distinct, they keep cross-fertilizing; in their vigorous diversity, we can hope that the reader will find delight.

POUL ANDERSON

THEODORE STURGEON

The Fiction

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In the best scientific tradition, we should define our terms. According to the Random House Dictionary, fiction is "the class of literature comprising works of imaginative narration, esp. in prose form." That will do, I suppose, though the temptation to apply it to advertising, political speeches, legal briefs, certain history books, some sermons and Form 1040 is overwhelming.

The same dictionary, in the process of distinguishing among fiction, fabrication and figment, says fiction "suggests a story invented and fashioned either to entertain or to deceive." One might say that is a better definition for the kind of fiction we are talking about than the primary one-except for that "either/or." The stories designed both to entertain and to deceive would make a bibliography five feet thick.

If by these remarks you deduce that I find the definitions unsatisfactory, you deduce rightly; I find, however, that I cannot quote any sole source for my definitions, intuitions and working parameters for the concept "fiction." Yet cite these subjective parameters I must, for it is within these that I write, teach, re

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view' and occasionally criticize fiction.

It comes down to this: fiction is people.

Good fiction cannot be wrought from ideas. Idea pieces can be fascinating and important and moving and provocative, but they can also be (and often are) tracts, fulminations, pedantries and muddy blaster pieces. Fiction (in my very personal operating definition) is people; the action and reaction and interaction of people on people, of ideas and events and growth and change on people. People read fiction, and fiction is at its most successful when the reader identifies with someone or some-several in the narrative,

so that the narrative happens to the reader and is recalled as his own experience.

Good science fiction is perforce good fiction . . . and at the risk of colliding with a man I respect most highly, I shall swerve into the "science" area just this much: "Science," in its most radical etymological significance, does not mean "method" or "technology" or "discipline" or anything else remotely like these. It means knowledge. Science fiction is knowledge fiction, and a murrain on those who would exclude from it stories of the inner spaces, of mind and its convolutions, and feelings, and permutations in and around the spectra of "soul," for all these are legitimate areas of extant and extrapolated knowledge. If ever the emphasis turns on self-knowledge, this should not disqualify it-most especially if in other ways the fiction achieves that sharing, that participative quality of "it happened to me. "

Too much-painfully and infuriatingly too much-is made of the game of categorization. It is, I think, the intrusion of what I refuse to call the scientific method, saying rather the technological method, into art. Categorization has its uses, of course. When analyzing an amorphous mass, it can be helpful to break it into parts so the parts can be examined separately. We have, however, nearly reached a point at which it is impossible to think, to rather

(*The author regularly reviews science fiction in Galaxy. National Review and The New York Times Book Review.)

lyze, even to enjoy unless and until the right-sounding categorization has been made. Mostly we don't read anything-perhaps even can't read it-unless we are told beforehand what it's about! What ever happened to a reader who could say to a closed book: "Tell me a story!"-not caring what the story was about? He's gone the way of the general fiction magazine, and all we have left are specialists. A writer makes a new phrase, a new way, and the response is immediate: "This is New Wave." Thereupon the prejudices assert themselves and the category of reader in which I have placed myself immediately reacts (pro or con) to the category to which I have assigned "New Wave."

On careful examination, New Wave shows itself to be no one thing. It is many things; at its worst a self-conscious, infantile defiance of the rules by a writer who has never properly learned them, like an artist who is nonobjective because he has never learned to draw, or a second semester student of music who arduously goes through a composition removing harmonies and inserting discords. At its best, the so-called New Wave is the expression of growth and change, and that is no less than the expression of life itself. Your hard-core purist is anything but life-oriented; heaven preserve us from those who would devitalize science fiction, who would keep it from maturing and evolving.

Increasingly, the Nebula Award stories are good-really good fiction. They have to be, for they are chosen by the people who know the field best and love it most. No one can ever know how much envy, how much rue, how much agonizing honesty goes into those votes, for the voters, each one of them, had

reason to hope (he is, way down deep, sure) that his work would be selected. No one can know how often a writer with a good chance of winning the honor cast his vote for someone else when sheer honesty demanded it, only to see that other win by that one vote. It is a fine thing to win a "Hugo"-but the qualification to vote for a Hugo is to buy a ticket to the annual World Convention, and (it's been done) a man can buy ten votes by buying ten memberships. To qualify for the Nebula voting, you have to be a working writer,

and the winners have been selected by their peers.

Increasingly, too, the distaff shows its strength. Women were libbed in science fiction a long time ago, and are judged now as writers-just that.

It was my plan to climax this effusion with a list of my favorites, with a word about how far so-and-so has come, and how close what's-his name has come so many times, and how sure I am he'll make it within the year. And to do this I shall reveal to you that I have spent a lot of hours with all the Nebula collections. A heady experience.

And in its way a frightening one too. I have had the horrid thought that perhaps the Hugo, essentially a reader's award, is after all more significant than a writer's one like this. How close can a professional get to being boxed in by his own professionalism? And really, can one be coldly separate from the fact that one knows some of these people, and that A's story is after all better than B's, but then B is such an incredibly wonderful person and A is such a nothing

No, I won't chance it. You decide. If these stories move you, write to those authors and tell them so. You bear more weight with them than I do . . . you can, perhaps, react more fairly.

I'll settle for this: from where I sit, this is the most remarkable and informative series in the field.

THEODORE STURGEON

Los Angeles

In Memoriam

This information has been compiled from several sources, among them two science fiction news

publications, Luna Monthly (655 Orchard Street, Oradell, New Jersey) and Locus (3400 Ulloa Street, San Francisco, California). The major source was The Encyclopedia of Science Fiction and Fantasy, by Donald H. Tuck. The 1959 version of this truly monumental reference work will soon be replaced by a three-volume revised, expanded and updated edition, to be published by Advent: Publishers (P.O. Box 9228, Chicago, Illinois) beginning in 1973. With the kind cooperation of Advent: Publishers I was able to consult the unpublished 1973 edition.

-Lloyd Biggle, Jr.

ROBERT ARTHUR (November 1, 1909-April 28, 1969)

1 Born Robert Arthur Feder, he worked as an oil operator before he

joined MGM as a screenwriter in 1937. He became a prominent Hollywood writer and subsequently produced radio and TV programs. He wrote a number of science fiction stories for the magazines of the early 1940s, and his series about Murchison Morks was later featured in Argosy. He published a collection of stories for juveniles, Ghosts and More Ghosts (1963), and two anthologies, Davy Jones' Haunted Locker (1965) and Monster Mix (1968). His wife was Joan Vatssek (b. 1916), likewise an author of science fiction.

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JOHN W. CAMPBELL (June 8, 1910-July 11, 1971)

Born in Newark, New Jersey, where his father was an electrical engineer for Bell Telephone, he himself studied engineering and science at MIT and Duke University, but the direction his career was to take had been determined when he sold his first science fiction at the age of seventeen. Writing under his own name and the pseudonyms Arthur McCann, Don A. Stuart and Karl van Campen, he quickly established himself as a leading science fiction author. His later phenomenal success as an editor has tended to eclipse his own writing achievements, but two of his stories, "Twilight" (1934) and "Who Goes There?"

(1938), are included in The Science Fiction Hall of Fame collections, the honor roll of all time great science fiction stories selected by members of Science Fiction Writers of America; and when a list was recently compiled of the best short science fiction written before 1940, four of the six stories were by John W. Campbell.

In 1937 he began editing Astounding Stories as an assistant to F. Orlin Tremaine, and in 1938 he succeeded Tremaine as editor.

! As Astounding Science Fiction, the magazine moved to the head

' of the field and remained there, and the list of writers Campbell discovered and developed reads like a science fiction honor roll: Heinlein, del Rey, Asimov, Sturgeon, de Camp, van Vogt, Leiber, Simak, Anderson, Budrys . . . the list goes on and on. He edited Astounding Stories, later Analog, for thirty-four years and two months, and during that time he was the only reader the magazine

_ had. lie read every manuscript submitted.

His fiction is widely anthologized, and paperback collections of his stories are still reissued. Nonfiction writings include a collection of his editorials from Analog (1968) and one of the first books on atomic energy, The Atomic Story (1947). As editor, he compiled a series of anthologies of stories from his magazine, Astounding Science Fiction Anthology (1952), Prologue to Analog (1962) and the series beginning with Analog I (1963).

"And now that he is dead, where can we find ten people who by united effort might serve as a pale replacement for the man who, in the world of science fiction, lived a super-story more thrilling than any even he ever wrote." -Isaac Asimov

"John Campbell began an era in science fiction. He found it a literature of gimmicks and stage effects and made it a literature of ideas." -P. Schuyler Miller

"He . . . stood as its most massive and central pillar for over three decades; and the development of science fiction itself had literally been dominated by his ideas and his presence." -Gordon R. Dickson

... the greatest editor science fiction ever had." -Frederik Pohl

"John was the great discoverer, the knower, the teller and teacher. He was uncompromising in his wants and demands, but you couldn't fault him for that; he was always willing to work harder than you to get it out of you. Once I got seven thousand words of comment from him on a five-thousand-word story."
-Theodore Sturgeon

"Of course you can give me whatever I want. I know that! And if I tell you what I want, that's exactly what you'll give me. Un-uh! Go home and do me something I won't know I want until I see it!" -John W. Campbell, quoted by artist Kelly Freas

"He was the only man I know who could say 'Good Morning,' and make it an order." -Bjo Trimble

"Science fiction, to which he devoted his life, forever will bear the hallmark of his greatness." -Clifford D. Simak

"Losing him now is very much like having Jupiter or Saturn ripped from the solar system: it leaves a huge empty place and sets up all sorts of cosmic perturbation and reverberations." -Robert Silverberg

"As an editor, he was so large a man that he made a tiny and seemingly unimportant field grow to fit his vision and his stature. As a man and a friend, he was much greater." Lester del Rey

AUGUST DERLETH (February 24, 1909-July 4, 1971)

Author, anthologist, editor, publisher, he was born, lived and died in Sauk City, Wisconsin. He wrote his first story at the age of thirteen, and at sixteen he sold a story to *Weird Tales*. At the University of Wisconsin he wrote his B.A. thesis on "The Weird Tale in English Since 1890."

He personally produced more than one hundred books, ran three publishing houses and was a regular contributor to newspapers and magazines. An ardent disciple of H. P. Lovecraft, he founded Arkham House with Donald Wandrei in 1939 when he was unable to persuade any publisher to bring out an omnibus volume of Lovecraft's works. He became executor of Lovecraft's estate and continued to publish his works and correspondence.

His own writing ranged from weird and detective stories to poetry, biography and history. In 1938 he received a Guggenheim Fellowship to enable him to continue his Sac Prairie Saga, books about the prairie country. Derleth edited nine anthologies of science fiction stories and six of supernatural stories.

GUY S. ENDORE (July 4, 1900-February 12, 1970)

Novelist, biographer and screenwriter, he was born in New York City and attended Carnegie Institute of Technology before graduating from Columbia University. His short story "Men of Iron" appeared in the Magazine of Fantasy and Science Fiction in 1949. Fantasy novels were *Methinks the Lady* (1945) and *The Werewolf of Paris* (1933).

JOHN BEYNON HARRIS JOHN WYNDHAM] (July 10, 1903-March 11, 1969)

Although his occupations ranged from farming to advertising, with an interval of reading for the bar, Harris was the dean of British authors in the science fiction and fantasy fields, where he was active for almost forty years. He began writing in the 1930s under his own name; later he used the pseudonym "John Beynon." After service in World War II, he adopted the pseudonym "John Wyndham," under which he became one of the foremost science fiction authors, with a large following outside the field.

The Day of the Triads (1951) appeared in *Collier's*, was widely reprinted and translated, received the International Fantasy Award in 1952, was serialized on BBC Radio, and was released as a feature film in 1963. *The Midwich Cuckoos* (1957) was produced as a film entitled *Village of the Damned*, released in 1960. Other novels were *Out of the Deeps* (British title, *The Kraken Wakes*, 1953), *Re-Birth* (British title, *The Chrysalids*, 1955), *Chocky* (1968), *The Outward Urge* (1959), *Planet Plane* (1936), *The Secret People* (1956), *The Trouble with Lichen* (1960). Some of his numerous short stories were collected under the titles *Consider Her Ways* (1961) and *Tales of Gooseflesh and Laughter* (1956).

WILLY LEY (October 2, 1906-June 24, 1969)

One of the most popular science fiction personalities of this era, paradoxically Willy Ley was not (except for three stories published under the pseudonym Robert Willey) a writer of science fiction. He was born in Berlin, and his early ambition was to be a paleontolo

gist. He was one of the founders of the German Rocket Society, was the author of the first book about

rockets and space travel for the layman, and collaborated with Fritz Lang on a famous science fiction film, *The Girl in the Moon*. When the Nazis ordered him to stop writing articles on rocketry, he came to the United States with the help of the American Rocket Society. He became a naturalized U.S. citizen in 1944.

He called himself an historian of science, and in America he became a foremost writer of popular books on scientific subjects. He wrote voluminously about rocketry, space travel, astronomy, historical zoology and the many fascinating byways of science and science history his inquiring mind had touched. *Conquest of Space* (with Chesley Bonestell, 1949) won the International Fantasy Award.

Ley was a popular lecturer on science subjects, and he attended and addressed many of the World Science Fiction Conventions, beginning with the first, in New York City, in 1939. He died just four weeks before his dreams of a lifetime were realized in the first moon landing.

NOEL M. Loomis (April 3, 1905-September 7, 1969)

A linotype machinist by trade, he was born in Wakita, Oklahoma, attended Clarendon College and the University of Oklahoma, and worked as a printer, editor and newspaperman in several western cities. He wrote fiction in many fields, often under the pseudonym "Benj. Miller." He was best known as a writer of Western and mystery stories, and he held offices in Western Writers of America. His most prominent science fiction books were *City of Glass* (1942), its sequel, *Iron Men* (1945) and *Man with Absolute Motion* (1955).

SEABURY QUINN (January 1, 1889-December 24, 1969)

Born in Washington, D.C., he graduated from the National University in 1910 and was admitted to the District of Columbia bar. He alternated between law and journalism throughout his life. He edited trade papers, taught medical jurisprudence and worked as a government lawyer while authoring some five hundred stories, many of which appeared in *Weird Tales*, where Quinn was a noted writer. Best known are stories of the Jules de Grandin series, which were published in *Weird Tales* from 1925 to 1951.

SEWELL PEASLEE WRIGHT (August 7, 1897-March 31, 1970)

Though born in Butler, Pennsylvania, Wright spent the early years of his life in Toledo, Ohio, and graduated from the University of Toledo. In World War I he served in the Chemical Warfare Section, and subsequently he worked on newspapers in Toledo, Portland and Tulsa. In 1920 he joined an advertising agency in Springfield, Illinois, which he later purchased and named S. P. Wright and Co. He

was a radio ham and proud of the fact that he described radar in a science fiction story before it was invented. He wrote in several fields, and his books include a text on advertising. His first science fiction story was sold in 1923, and in the 1930s he became a well-known science fiction writer. His best remembered stories are those of his John Hansen series.

PHILIP WYLIE (May 12, 1902-October 25, 1971)

Born in Beverly, Massachusetts, Wylie attended Princeton University for three years. He subsequently worked as a press agent, advertising manager and screenwriter, and he collaborated on the script for the screen version of H. G. Wells's *Island of Doctor Moreau*, released as *Island of Lost Souls*.

Wylie was a leader and prophet in the fight against pollution and for environmental protection, and he wrote numerous magazine articles in these causes. He helped to establish the Everglades National Park. Though best known as a critic of contemporary man and society, especially through his nonfiction book *Generation of Vipers* (1942), he wrote a number of science fiction novels: *Gladiator* (1930), *The Disappearance* (1951), *Tomorrow* (1954) and *Triumph* (1963). *Los Angeles 2017* was written first as a television motion picture (1970). His final novel, *The End of the Dream*, is also science fiction and was published posthumously (1972).

When Worlds Collide and its sequel, *After Worlds Collide*, both written in collaboration with Edwin Balmer, were considered science fiction classics when they first appeared, 1932-1933. A film version of *When Worlds Collide* was released in 1951.

The Science

Never mind what science fiction is. It has as many definitions as it has definers. For that matter, there's no universal agreement on the meaning of "science" and "technology." Having been asked to discuss the status of those elements in current sf, I won't stop to wrestle with the words, but will simply use them in their ordinary senses. In fact, sometimes I'll be using "science" as shorthand for "science and technology"; Newspeak like "scitech" (or "sci-fi") is just too ugly. It's worthwhile bearing the distinction in mind, if only because much sf has not been about science at all, but rather about technology. However, today they are so closely intertwined that my looseness of language ought not to confuse the question.

That question can be put: "Is science on its way out of sf? Is the scientific element being reduced to a few gimmicks and catchwords in a literature which is really about something else, such as depth psychology, social protest or mysticism, when it isn't mere tale telling with no intellectual content?" My assignment is not to say whether this would be good or bad. I'm supposed to find out which way the

wind is blowing, if that can be done.

In this study, for the record, my principal sources have been: the Nebula Award anthologies, numbers one through six; winners and runners-up among novels on the final Nebula ballots, 1965-1970; the two volumes of Hugo winners which Isaac Asimov has edited;

the MIT index to the magazines; the brains of my wife, Karen, and our own bookshelves and memories.* In what follows, I will for your convenience identify Nebula runners-up by a single asterisk in parentheses, winners by two.

I decided that a analytical approach offered the sole hope of getting anything like a meaningful answer to the problem. What I did was divide sf into four types with three attitudes, twelve sorts altogether, and compare how well they have been faring.

I make no extravagant claims. The method remains subjective, arbitrary and full of ambiguities. My classifications do not correspond to the real skeleton of sf; reality is always too big and various to fit into any neat scheme. I have nothing here except temporary scaffolding on which to walk around and look at the subject.

My concern is not with plot, character, philosophy, literary values though my illustrative examples will mostly be good stories -but with motifs relevant to the scientific content of sf. The names hung on the different classes are not very precise, but then, neither are the classes themselves. After these caveats, let's get started on the four species.

1. Hard science. This includes "hard technology." Stories employing it are what the public to this day tends to identify with sf as a whole. Actually, that always was a mistake.

A hard science story bases itself on real, present-day science or technology, and carries these further with a minimum of imaginary forces, materials or laws of nature. Among Jules Verne's works are classic examples of technological extrapolation, while Hal Clement's e.g., his novel Mission of Gravity and its sequel Star Light-represent perfect scientific extrapolation, where known facts of physics, chemistry, biology and astronomy go into the construction of fascinatingly strange worlds and creatures.

Of course, science includes theories, and way-out minority-opin-

(*Although they modestly asked not to be mentioned in the text, dammit, I do want to thank Lloyd Biggle, Jr., and Dean McLaughlin for vital assistance in getting certain materials.)

ion hypotheses, advanced by practicing scientists. A clearcut instance of an author's exploring at the very frontiers of knowledge, and beyond, is Larry Niven's novel Ringworld (**), an awesome vision of a vast, artificial, annular planet.

This sort of story offers a unique thrill. Those who know enough about the scientific subject can have their eyes opened to some astounding possibilities. They can also have fun playing what Clement calls The Game: trying to find errors, explicit or implicit, in the author's development.

The hard science does not have to be all or even most of what the story is about. Thus, Bob Shaw's "Light of Other Days" (*) and James Gunn's "The Listeners" (*) concentrate on human problems, while Kate Wilhelm's "The Planners" (**) begins with research on the DNARNA complex in order to deal almost entirely with the interior world of her protagonist. Other hard science works of high philosophical as well as literary value include Ursula K. Le Guin's "Nine Lives" (*) and The Left Hand of Darkness (**)-firmly grounded biological speculation and Frank Herbert's Dune (**)-ecology.

Both these novels contain, in addition, a lot of anthropology. This may lead you to ask what I mean by "hard science." The linguistics in it may justify putting Samuel R. Delany's Babel 17 (**) here, but what about John Brunner's Stand on Zanzibar (!)? I'd say yes to it too, if only because of the sociometrics the author used in his thinking. On the other hand, 1984 doesn't belong in this category.

Now, no story will fit entirely into any of my classes. Quite often a writer makes certain assumptions which go-altogether beyond existing science, or directly contrary to it. For instance, to get his characters to one of his meticulously detailed extrasolar planets in reasonable time, Clement must suppose that man in the future will find a way to travel faster than light . . . regardless of what twentieth-century physicists think. Classification is basically dependent on where the emphasis lies: which brings us to our next

species.

2. Imaginary science. I avoid calling this "pseudoscience" because that would look pejorative. Many fine and intellectually stimulating stories have turned on the development of an idea for whose reality we have no evidence, or which the evidence is actually against. Examples are H. G. Wells's The Time Machine and Robert Heinlein's "By His Bootstraps." The first set forth the notion of deliberately using the (almost certainly impossible) phenomenon of time travel, which earlier writers like Mark Twain had postulated. The second worked out, with marvelous ingenuity, several implications of such use.

The employment of chronokinesis, or whatever, does not automatically make a story type 2. Thus, I'd put L. Sprague de Camp's "A Gun for Dinosaur" under "hard science" because it's mainly about paleontology, the time machine being a mere device for getting people onto the scene.

On the other hand, I'd take what most people think of as the granddaddy of hard science stories, Hugo Gernsback's *Ralph 124C41+*, and set it very firmly right here. Aside from a vague mention of something like radar, which Hertz had already forecast, nearly the whole of its "technology" consists of words and has no relationship to real engineering-except in its spirit of technical man triumphant.

Besides time travel and faster-than-light travel, common imaginary science ideas include psionics, parallel universes, etc. I'd classify most of James Blish's work under the present heading, though of course he writes topflight hard science whenever he wants to. So does Theodore Sturgeon; but stories of his like "The Man Who Learned Loving" (*) and "Slow Sculpture" (**) assume things quite unknown to science.

To be sure, science may one day discover them, or something like them. We would be foolhardy to suppose that we, today, have any final answers. Hence my second class differs from my first more in degree than in kind. Further specimens are Delany's *The Einstein Intersection* (**), Anne McCaffrey's "Dragonrider" (**) and Joanna Russ's *And Chaos Died* (*):

which shows how vital a part of sf imaginary science is.

I repeat, a story belongs here only if the exploration of such an idea is integral to it, not if the author has simply found it convenient to make certain postulates. That brings us to our next class.

3. Quasiscience. I can't find a better name for this species. It comprises those stories wherein the real or imaginary science is principally background or incidental material.

I do not mean they are costume Westerns or the like. The future civilization's far-advanced knowledge, or the extraterrestrial setting, or the telepath, or any similar sf appurtenance, is (or should be) quite essential. But these concepts are not what the author develops. His focus is entirely elsewhere.

Examples include Jack Vance's "The Last Castle" (**) and Cordon Dickson's "Call Him Lord" (**), both conspicuous for color and adventure as well as presenting societies different from our own; Richard Wilson's "Mother to the World" (**) and Alexei Panshin's *Rite of Passage* (**), which concentrate on

interpersonal relationships; Robert Silverberg's horror story "Passengers" (**); Norman Spinrad's vatic Bug Jack Barron (*).

Sometimes it's hard to know where to put a work-which demonstrates once more the artificiality of categories. Is Isaac Asimov's "Foundation" series quasiscience, using a galactic background to treat of history and politics; or is it about the imaginary science of psychohistory; or is it an extrapolation of historiography, which is a real science? I call it quasiscience, because it seems to me that the "psychohistory" is flatly postulated for story purposes rather than elaborated for its own sake. You-or the Good Doctor-may disagree. Similarly controversial may be my placing here Philip Jose Farmer's "Riders of the Purple Wage" (*).

These, and many more, prove that quasiscience is a valuable part of sf. Indeed, it includes the majority, probably the large majority, of all the sf ever published. When its authors are honest craftsmen, they make every effort to get straight their scientific facts and the logic of their imaginary phenomena.

We have a final class to which that requirement does not always apply.

4. Counterscience. Again, I have no good name. "Fantasy" isn't right, though fantasies can be placed here, e.g., Fritz Leiber's "Ill Met in Lankmar" (**). But many stories wear some of the trappings of sf while ignoring the standards of accuracy or logic which I have mentioned. This does not-repeat, not-mean that they are bad stories. On the contrary, their approach can be legitimate and necessary to the authors' purposes.

A case would be Roger Zelazny's "The Doors of His Face, the Lamps of His Mouth" (**), wherein he used a model of the planet Venus which had already been disproved in order to tell a hell of a fine yarn. Obviously this is the rubric for Blish's Black Easter (*), Keith Laumer's Kafkaesque "In the Queue" (*) and much of the work of Brian Aldiss, J. G. Ballard, Philip K. Dick and R. A. Lafferty. Proof enough that counterscience can inspire good writing!

Still, only in recent years has it become conspicuous in sf This is doubtless one reason why certain commentators think the field is changing its whole character.

Another reason is that there seems to be a new attitude taken by many writers, especially younger ones: a wariness of or outright hostility toward science and technology, a turning to "inner space" or actual mysticism. How important is this trend? In an effort to understand, I found myself defining three classes of attitude, philosophy or what have-you. They cut across the four classes of motif, are equally arbitrary and blurry, but will perhaps be useful.

(a) Technophilia. This is the viewpoint which the popular mind associates with sf. Science, discovery, material achievement and the rest are basically good. In them lies a necessary if not sufficient condition for the improvement of man's lot, even his mental and spiritual lot.

Gernsbackian sf (usually) expressed this in its most primitive exuberance. A more mature version, admitting that technology can be misused though still finding man's best hope in it, is exemplified by Heinlein's *The Moon Is a Harsh Mistress* (*). Frederik Pohl's "Day Million" (*) says technology will change our inmost nature . . . and approves. Ursula K. Le Guin sees mind expansions and changes so subtle that you, or she herself, may not agree with me that her writing is technophilic.

Do not confuse technophilia with technolatry! We today have learned, the hard way, what Thoreau and Henry Adams knew, that in blind expansionism lies doom. The modern technophile says, "What we need is not less science and technology, but more, of the right kinds: a science which sees man in perspective, a technology which will let him treat his world and his fellows with reverence. The gains of moving onward are worth the risks and costs."

(b) Neutrality. In most sf, the issue hardly arises. The science and technology, at whatever level is postulated, are simply there. They may have been used well or ill, but the story does not suggest that this was an inevitable consequence of their very existence Gary Wright's "Mirror of lee" (*) and Michael Moorcock's "Behold the Man" (*) both give me this impression, although one is essentially upbeat, the other tragic. I would likewise call neutral those stories which, examining alternatives, call for us to choose the better ones but do not say we have already taken a wrong turning.

In this science-dominated age, it would seem that nominally neutral stories are, by and large, pro-science. "He who is not against us is with us." However, being a technophile myself, I felt it best to demarcate a middle ground.

(e) Technophobia. It is an oversimplification to speak of "antiscience sf." For one thing, many stories involving a green utopia suppose that what has made it possible is a superior technology (be this improved engineering, a rationalized society, psionics or whatever) and hence are technophilic. So is, say, Walter Miller's *A Canticle for Leibowitz*. In this famous book, though sinful man destroys his own works again and again, it is right that he strive to rebuild.

For another thing, our dangers are real enough, and the author

may just be reminding us of how late the hour has grown: like Harlan Ellison when he shows a hopelessly devastated and degraded world in "A Boy and His Dog" (*). Or he may be telling a horror story, like Delany's "Aye, and Gomorrah" (*) or Dickson's grimly humorous "Computers Don't Argue" (*)-using

radiation or computers where his Victorian forebears would have used ghosts. (Remember, Victorian ghosts were not necessarily evil. See Kipling's beautiful "They.") I must classify these narratives as technophobic, but do not regard them as indicating any trend.

In contrast, some tales do depict the rationalism of science, the artifices of technology, as inescapably destructive and dehumanizing. If we are to be saved, they say, we must declare a moratorium; or we must revert to an earlier level; or we must take off in a totally different direction, perhaps abandoning rationalism—even rationality altogether. Other stories intimate we've gone beyond redemption.

Though disagreeing, I admit that such viewpoints are philosophically respectable and that we technophiles have something to learn here too. In any event, technophobia can lead to good writing. The most notable example must be *Brave New World*, but one could also name Thomas Disch's *The Genocides* (*), Wilson Tucker's *The Year of the Quiet Sun* (*), and Kurt Vonnegut's *Slaughterhouse-Five* (*)—to pick three out of a fairly large bag.

The authors may deny that these works are technophobic. Again I remind you that subjectivity is built into literary analysis. Certainly the authors need not be technophobic in their opinions about the real world. I know for a fact that some are not.

Obviously, hard science stories will be mostly technophilic; but *Brave New World* is about as hard-science as they come. One suspects the highest percentage of technophobia will be found in the counterscience group; but I'd call Niven's "Not Long Before the End" (*) technophilic, even if the technology is the dying art of magic. This illustrates how the classifications of theme and attitude intercut each other.

And now, having established them, let's use them to try to find

out what the facts of the case are.

To those critics who see in counterscience, imaginary science or technophobia an overwhelming wave, I can say a blunt "Nonsense!" Counterscience is as old as fantasy, which is probably the oldest literary form in the world. Imaginary science w

have long had with us, as in E. E. Smith's influential "Skylark" and "Lensman" series, not to speak of Wells, Stapledon & Co. Both of the latter expressed reservations about the idea that engineers are

infallible guides to paradise. As for overt technophobia, early sf was full of Mad Scientists, Absent-minded Professors, Ravenous Monsters and Things Man Was Never Meant to Know. It was largely the editorial influence of the late John W. Campbell which eliminated these cliches and, indeed, brought the four species of sf toward full development. Neither he nor any of his competent colleagues tried to impose a particular attitude on the writers.

To be sure, the mix has varied from place to place and time to time. All my twelve sorts are still around and doing quite well, thank you, provided the individual stories are good. The question I was set to answer therefore boils down to: "What has the characteristic mix been in the last several years; and what has been the relative success-in sales or critical recognition-of each sort of sf?"

The reply depends largely on personal judgment and gut reaction. How would you describe a given work? To get an overview of my own feelings, I made a table of my assessments. The items were the Nebula winning novels and runners-up since the award was instituted, and those shorter stories which have appeared in the Nebula anthologies. (Lacking copies of the final ballots, I had to leave out the remaining nominees in the latter category.) Because of the difficulty and frequent arbitrariness of every assessment, I shan't reproduce my table here. The illustrations given ought to tell you the general style of my thinking. Why not make up your own chart and see how it compares? I'll simply report my results.

In the anthologies:

1. Hard .science: 10 stories, 2 winners. Technophilic, 5; neutral, 4 (including both winners), technophobic, 1.
2. Imaginary science: 10 stories, 1 winner. Technophilic, 5 (including the winner); neutral, 4; technophobic, 1.
3. Quasiscience: 11 stories, 7 winners. Technophilic, 3 (all winners); neutral, 3 (1 winner); technophobic, 5 (3 winners).
4. Counterscience: 14 stories, 2 winners. Technophilic, 1; neutral, 9 (including both winners); technophobic, 4.

This looks fairly well balanced between the different sorts. Remember, though: the editors were required to print the winners, but made their choices among the runners-up since it was impossible to include every one of these. So the anthology contents are bound to reflect individual preferences, as well as the desire to produce a variegated volume.

This is borne out by the noticeably different outcome for novels:

1. Hard science: 12 entries, 5 winners. Technophilic, 8 (including 4 winners); neutral, 4 (including 1 winner); technophobic, none.

2. Imaginary science: 8 entries, 1 winner. Technophilic, none; neutral, 5 (including the winner); technophobic, 3.

3. Quasiscience: 12 entries, 1 winner. Technophilic, 3; neutral, 5 (including the winner); technophobic, 4.

4. Counterscience: 7 entries, no winners. Technophilic, none; neutral, 3; technophobic, 4.

Thus, if my assessments are correct, hard science and technophilia are flourishing-maybe more than ever! The impression gets reinforcement from the awards bestowed by fans rather than writers: yesterday's International Fantasy Awards, today's Hugos. This table says:

1. Hard science: 14. Technophilic, 9; neutral, 5; technophobic, none.

2. Imaginary science: 11. Technophilic, 3; neutral, 8; technophobic, none.

3. Quasiscience: 14. Technophilic, 9; neutral, 3; technophobic, 2.

4. Counterscience: 3. Technophilic, none; neutral, 3; technophobic, none.

Evidently readers continue to go for "traditional" sf. A study of the MIT index, to check up on my recollection of what the magazines have been publishing, lends confirmation, as does the fact that Analog, long identified with that tradition, continues to enjoy much the highest circulation. It would be interesting to have sales figures on the novels; but at least the bulk of those which are appearing fit into my first three

classes of theme and my first two of mood. This seems to indicate that those types sell best.

Let me reemphasize that if you go through the same exercise of evaluating and tabulating, you will doubtless get different figures. However, I bet you'll find the same basic pattern.

And let me finish by reiterating the most important point of all. Every sort of sf is valuable. None threatens any other. They are not only complementary, they blur together; to the extent that they are distinct, they keep cross-fertilizing; in their vigorous diversity, we can hope that the reader will find delight.

POUL ANDERSON

THEODORE STURGEON

The Fiction

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In the best scientific tradition, we should define our terms. According to the Random House Dictionary, fiction is "the class of literature comprising works of imaginative narration, esp. in prose form." That will do, I suppose, though the temptation to apply it to advertising, political speeches, legal briefs, certain history books, some sermons and Form 1040 is overwhelming.

The same dictionary, in the process of distinguishing among fiction, fabrication and figment, says fiction "suggests a story invented and fashioned either to entertain or to deceive." One might say that is a better definition for the kind of fiction we are talking about than the primary one—except for that "either/or." The stories designed both to entertain and to deceive would make a bibliography five feet thick.

If by these remarks you deduce that I find the definitions unsatisfactory, you deduce rightly; I find, however, that I cannot quote any sole source for my definitions, intuitions and working parameters for the concept "fiction." Yet cite these subjective parameters I must, for it is within these that I write, teach, re

view' and occasionally criticize fiction.

It comes down to this: fiction is people.

Good fiction cannot be wrought from ideas. Idea pieces can be fascinating and important and moving and provocative, but they can also be (and often are) tracts, fulminations, pedantries and muddy blaster pieces. Fiction (in my very personal operating definition) is people; the action and reaction and interaction of people on people, of ideas and events and growth and change on people. People read fiction, and fiction is at its most successful when the reader identifies with someone or some-several in the narrative, so that the narrative happens to the reader and is recalled as his own experience.

Good science fiction is perforce good fiction . . . and at the risk of colliding with a man I respect most highly, I shall swerve into the "science" area just this much: "Science," in its most radical etymological significance, does not mean "method" or "technology" or "discipline" or anything else remotely like these. It means knowledge. Science fiction is knowledge fiction, and a murrain on those who would exclude from it stories of the inner spaces, of mind and its convolutions, and feelings, and permutations in and around the spectra of "soul," for all these are legitimate areas of extant and extrapolated knowledge. If ever the emphasis turns on self-knowledge, this should not disqualify it-most especially if in other ways the fiction achieves that sharing, that participative quality of "it happened to me. "

Too much-painfully and infuriatingly too much-is made of the game of categorization. It is, I think, the intrusion of what I refuse to call the scientific method, saying rather the technological method, into art. Categorization has its uses, of course. When analyzing an amorphous mass, it can be helpful to break it into parts so the parts can be examined separately. We have, however, nearly reached a point at which it is impossible to think, to rather

(*The author regularly reviews science fiction in Galaxy. National Review and The New York Times Book Review.)

lyze, even to enjoy unless and until the right-sounding categorization has been made. Mostly we don't read anything-perhaps even can't read it-unless we are told beforehand what it's about! What ever happened to a reader who could say to a closed book: "Tell me a story!"-not caring what the story was about? He's gone the way of the general fiction magazine, and all we have left are specialists. A writer makes a new phrase, a new way, and the response is immediate: "This is New Wave." Thereupon the prejudices assert themselves and the category of reader in which I have placed myself immediately reacts (pro or con) to the category to which I have assigned "New Wave."

On careful examination, New Wave shows itself to be no one thing. It is many things; at its worst a self-conscious, infantile defiance of the rules by a writer who has never properly learned them, like an artist who is nonobjective because he has never learned to draw, or a second semester student of music who arduously goes through a composition removing harmonies and inserting discords. At its best, the so-called New Wave is the expression of growth and change, and that is no less than the expression of life itself. Your hard-core purist is anything but life-oriented; heaven preserve us from those who would devitalize science fiction, who would keep it from maturing and evolving.

Increasingly, the Nebula Award stories are good-really good fiction. They have to be, for they are chosen by the people who know the field best and love it most. No one can ever know how much envy, how much rue, how much agonizing honesty goes into those votes, for the voters, each one of them, had reason to hope (he is, way down deep, sure) that his work would be selected. No one can know how often a writer with a good chance of winning the honor cast his vote for someone else when sheer honesty demanded it, only to see that other win by that one vote. It is a fine thing to win a "Hugo"-but the qualification to vote for a Hugo is to buy a ticket to the annual World Convention, and (it's been done) a man can buy ten votes by buying ten memberships. To qualify for the Nebula voting, you have to be a working writer,

and the winners have been selected by their peers.

Increasingly, too, the distaff shows its strength. Women were libbed in science fiction a long time ago, and are judged now as writers-just that.

It was my plan to climax this effusion with a list of my favorites, with a word about how far so-and-so has come, and how close what's-his name has come so many times, and how sure I am he'll make it within the year. And to do this I shall reveal to you that I have spent a lot of hours with all the Nebula collections. A heady experience.

And in its way a frightening one too. I have had the horrid thought that perhaps the Hugo, essentially a reader's award, is after all more significant than a writer's one like this. How close can a professional get to being boxed in by his own professionalism? And really, can one be coldly separate from the fact that one knows some of these people, and that A's story is after all better than B's, but then B is such an incredibly wonderful person and A is such a nothing

No, I won't chance it. You decide. If these stories move you, write to those authors and tell them so. You bear more weight with them than I do . . . you can, perhaps, react more fairly.

I'll settle for this: from where I sit, this is the most remarkable and informative series in the field.

THEODORE STURGEON

Los Angeles

In Memoriam

This information has been compiled from several sources, among them two science fiction news publications, Luna Monthly (655 Orchard Street, Oradell, New Jersey) and Locus (3400 Ulloa Street, San Francisco, California). The major source was The Encyclopedia of Science Fiction and Fantasy, by Donald H. Tuck. The 1959 version of this truly monumental reference work will soon be replaced by a three-volume revised, expanded and updated edition, to be published by Advent: Publishers (P.O. Box 9228, Chicago, Illinois) beginning in 1973. With the kind cooperation of Advent: Publishers I was able to consult the unpublished 1973 edition.

-Lloyd Biggle, Jr.

ROBERT ARTHUR (November 1, 1909-April 28, 1969)

1 Born Robert Arthur Feder, he worked as an oil operator before he

joined MGM as a screenwriter in 1937. He became a prominent Hollywood writer and subsequently produced radio and TV programs. He wrote a number of science fiction stories for the magazines of the early 1940s, and his series about Murchison Morks was later featured in Argosy. He published a collection of stories for juveniles, Ghosts and More Ghosts (1963), and two anthologies, Davy Jones' Haunted Locker (1965) and Monster Mix (1968).

His wife was Joan Vatssek (b. 1916), likewise an author of science fiction.

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JOHN W. CAMPBELL (June 8, 1910-July 11, 1971)

Born in Newark, New Jersey, where his father was an electrical engineer for Bell Telephone, he himself studied engineering and science at MIT and Duke University, but the direction his career was to take had been determined when he sold his first science fiction at the age of seventeen. Writing under his own name and the pseudonyms Arthur McCann, Don A. Stuart and Karl van Campen, he quickly established himself as a leading science fiction author. His later phenomenal success as an editor has tended to eclipse his own writing achievements, but two of his stories, "Twilight" (1934) and "Who Goes There?" (1938), are included in The Science Fiction Hall of Fame collections, the honor roll of all time great science fiction stories selected by members of Science Fiction Writers of America; and when a list was recently compiled of the best short science fiction written before 1940, four of the six stories were by John W. Campbell.

In 1937 he began editing *Astounding Stories* as an assistant to F. Orlin Tremaine, and in 1938 he succeeded Tremaine as editor.

! As *Astounding Science Fiction*, the magazine moved to the head

' of the field and remained there, and the list of writers Campbell discovered and developed reads like a science fiction honor roll: Heinlein, del Rey, Asimov, Sturgeon, de Camp, van Vogt, Leiber, Simak, Anderson, Budrys . . . the list goes on and on. He edited *Astounding Stories*, later *Analog*, for thirty-four years and two months, and during that time he was the only reader the magazine

_ had. lie read every manuscript submitted.

His fiction is widely anthologized, and paperback collections of his stories are still reissued. Nonfiction writings include a collection of his editorials from *Analog* (1968) and one of the first books on atomic energy, *The Atomic Story* (1947). As editor, he compiled a series of anthologies of stories from his magazine, *Astounding Science Fiction Anthology* (1952), *Prologue to Analog* (1962) and the series beginning with *Analog I* (1963).

"And now that he is dead, where can we find ten people who by united effort might serve as a pale replacement for the man who, in the world of science fiction, lived a super-story more thrilling than any even he ever wrote." -Isaac Asimov

"John Campbell began an era in science fiction. He found it a literature of gimmicks and stage effects and made it a literature of ideas." -P. Schuyler Miller

"He . . . stood as its most massive and central pillar for over three decades; and the development of science fiction itself had literally been dominated by his ideas and his presence." -Gordon R. Dickson

. . . the greatest editor science fiction ever had." -Frederik Pohl

"John was the great discoverer, the knower, the teller and teacher. He was uncompromising in his wants and demands, but you couldn't fault him for that; he was always willing to work harder than you to get it out of you. Once I got seven thousand words of comment from him on a five-thousand-word story."
-Theodore Sturgeon

"Of course you can give me whatever I want. I know that! And if I tell you what I want, that's exactly what you'll give me. Un-uh! Go home and do me something I won't know I want until I see it!" -John W. Campbell, quoted by artist Kelly Freas

"He was the only man I know who could say 'Good Morning,' and make it an order." -Bjo Trimble

"Science fiction, to which he devoted his life, forever will bear the hallmark of his greatness." -Clifford D. Simak

"Losing him now is very much like having Jupiter or Saturn ripped from the solar system: it leaves a huge empty place and sets up all sorts of cosmic perturbation and reverberations." -Robert Silverberg

"As an editor, he was so large a man that he made a tiny and seemingly unimportant field grow to fit his vision and his stature. As a man and a friend, he was much greater." Lester del Rey

AUGUST DERLETH (February 24, 1909-July 4, 1971)

Author, anthologist, editor, publisher, he was born, lived and died in Sauk City, Wisconsin. He wrote his first story at the age of thirteen, and at sixteen he sold a story to *Weird Tales*. At the University of Wisconsin he wrote his B.A. thesis on "The Weird Tale in English Since 1890."

He personally produced more than one hundred books, ran three publishing houses and was a regular contributor to newspapers and magazines. An ardent disciple of H. P. Lovecraft, he founded Arkham House with Donald Wandrei in 1939 when he was unable to persuade any publisher to bring out an omnibus volume of Lovecraft's works. He became executor of Lovecraft's estate and continued to publish his works and correspondence.

His own writing ranged from weird and detective stories to poetry, biography and history. In 1938 he received a Guggenheim Fellowship to enable him to continue his *Sac Prairie Saga*, books about the prairie country. Derleth edited nine anthologies of science fiction stories and six of supernatural stories.

GUY S. ENDORE (July 4, 1900-February 12, 1970)

Novelist, biographer and screenwriter, he was born in New York City and attended Carnegie Institute of Technology before graduating from Columbia University. His short story "Men of Iron" appeared in the *Magazine of Fantasy and Science Fiction* in 1949. Fantasy novels were *Methinks the Lady* (1945) and *The Werewolf of Paris* (1933).

JOHN BEYNON HARRIS JOHN WYNDHAM] (July 10, 1903-March 11, 1969)

Although his occupations ranged from farming to advertising, with an interval of reading for the bar, Harris was the dean of British authors in the science fiction and fantasy fields, where he was active for almost forty years. He began writing in the 1930s under his own name; later he used the pseudonym "John Beynon." After service in World War II, he adopted the pseudonym "John Wyndham," under which he became one of the foremost science fiction authors, with a large following outside the field.

The Day of the Triads (1951) appeared in *Collier's*, was widely reprinted and translated, received the International Fantasy Award in 1952, was serialized on BBC Radio, and was released as a feature film in 1963. *The Midwich Cuckoos* (1957) was produced as a film entitled *Village of the Damned*, released in 1960. Other novels were *Out of the Deepes* (British title, *The Kraken Wakes*, 1953), *Re-Birth* (British title, *The Chrysalids*, 1955), *Chocky* (1968), *The Outward Urge* (1959), *Planet Plane* (1936), *The*

Secret People (1956), The Trouble with Lichen (1960). Some of his numerous short stories were collected under the titles Consider Her Ways (1961) and Tales of Gooseflesh and Laughter (1956).

WILLY LEY (October 2, 1906-June 24, 1969)

One of the most popular science fiction personalities of this era, paradoxically Willy Ley was not (except for three stories published under the pseudonym Robert Willey) a writer of science fiction. He was born in Berlin, and his early ambition was to be a paleontolo

gist. He was one of the founders of the German Rocket Society, was the author of the first book about rockets and space travel for the layman, and collaborated with Fritz Lang on a famous science fiction film, The Girl in the Moon. When the Nazis ordered him to stop writing articles on rocketry, he came to the United States with the help of the American Rocket Society. He became a naturalized U.S. citizen in 1944.

He called himself an historian of science, and in America he became a foremost writer of popular books on scientific subjects. He wrote voluminously about rocketry, space travel, astronomy, historical zoology and the many fascinating byways of science and science history his inquiring mind had touched. Conquest of Space (with Chesley Bonestell, 1949) won the International Fantasy Award.

Ley was a popular lecturer on science subjects, and he attended and addressed many of the World' Science Fiction Conventions, beginning with the first, in New York City, in 1939. He died just four weeks before his dreams of a lifetime were realized in the first moon landing.

NOEL M. Loomis (April 3, 1905-September 7, 1969)

A linotype machinist by trade, he was born in Wakita, Oklahoma, attended Clarendon College and the University of Oklahoma, and worked as a printer, editor and newspaperman in several western cities. He wrote fiction in many fields, often under the pseudonym "Benj. Miller." He was best known as a writer of Western and mystery stories, and he held offices in Western Writers of America. His most prominent science fiction books were City of Glass (1942), its sequel, Iron Men (1945) and Man with Absolute Motion (1955).

SEABURY QUINN (January 1, 1889-December 24, 1969)

Born in Washington, D.C., he graduated from the National University in 1910 and was admitted to the District of Columbia bar. He alternated between law and journalism throughout his life. He edited trade papers, taught medical jurisprudence and worked as a government lawyer while authoring some five hundred stories, many of which appeared in *Weird Tales*, where Quinn was a noted writer. Best known are stories of the Jules de Grandin series, which were published in *Weird Tales* from 1925 to 1951.

SEWELL PEASLEE WRIGHT (August 7, 1897-March 31, 1970)

Though born in Butler, Pennsylvania, Wright spent the early years of his life in Toledo, Ohio, and graduated from the University of Toledo. In World War I he served in the Chemical Warfare Section, and subsequently he worked on newspapers in Toledo, Portland and Tulsa. In 1920 he joined an advertising agency in Springfield, Illinois, which he later purchased and named S. P. Wright and Co. He was a radio ham and proud of the fact that he described radar in a science fiction story before it was invented. He wrote in several fields, and his books include a text on advertising. His first science fiction story was sold in 1923, and in the 1930s he became a well-known science fiction writer. His best remembered stories are those of his John Hansen series.

PHILIP WYLIE (May 12, 1902-October 25, 1971)

Born in Beverly, Massachusetts, Wylie attended Princeton University for three years. He subsequently worked as a press agent, advertising manager and screenwriter, and he collaborated on the script for the screen version of H. G. Wells's *Island of Doctor Moreau*, released as *Island of Lost Souls*.

Wylie was a leader and prophet in the fight against pollution and for environmental protection, and he wrote numerous magazine articles in these causes. He helped to establish the Everglades National Park. Though best known as a critic of contemporary man and society, especially through his nonfiction book *Generation of Vipers* (1942), he wrote a number of science fiction novels: *Gladiator* (1930), *The Disappearance* (1951), *Tomorrow* (1954) and *Triumph* (1963). *Los Angeles 2017* was written first as a television motion picture (1970). His final novel, *The End of the Dream*, is also science fiction and was published posthumously (1972).

When Worlds Collide and its sequel, *After Worlds Collide*, both written in collaboration with Edwin Balmer, were considered science fiction classics when they first appeared, 1932-1933. A film version of *When Worlds Collide* was released in 1951.