Science Fiction

Readings & Assignments: Week Two

Science Fiction

Quiz: Week Two

1. In "Toward a Definition of Science Fiction," what does James Gunn say is the fundamental difference between science fiction and fantasy?

2. In "Estrangement and Cognition," Darko Suvin writes that "In the Twentieth century SF has moved into the sphere of anthropological and cosmological thought, becoming a diagnosis, a warning, a call to understanding and action, and—most important—a mapping of possible alternatives." In what numbered section does he define SF in this manner?

3. "Mimsy Were the Borogoves": What was the first thing Scott saw in the box when he opened it?

4. "Desertion": How many men did Fowler send outside the dome before he himself went out onto Jupiter? What was the real reason no one returned from outside the dome?

5. "Huddling Place": What is Webster's area of expertise in Martian biology?

6. "Arena": How did Larson get through the barrier?

7. "First Contact": How was the conflict between the two alien races resolved?

8. "The Monster": What did the Ganae not anticipate when they revived one of the long-dead human mummies?

9. "That Only a Mother": What was the talent that Henrietta developed at seven months of age?

10. Mars Is Heaven!": What state did the woman that they first met tell the astronauts they were in?

Science Fiction

Journal: Week Two

1. "Mimsy Were the Borogoves": Why do you think that toys have an effect on children's minds but not on their parents'? Is the author's critique of what one loses, if anything, by "growing up" a valid one? Explain?

2. "Desertion": Think about the decisions made by Fowler and Towser in the conclusion. If you could leave, but never return, or stay, but never leave, which choice would you make and why? What sort of extra-sensory perception or ability beyond our human limitations would make this a difficult question for you?

3. "Huddling Place": In this story, technology has created a world in which people seldom need to leave their chairs, much less their houses or property. Is replacing human interaction with technology slowly becoming a reality? Is this positive or negative? What about conditions such as agoraphobia? Should Webster be excused for not getting on the ship to Mars, even with what is at stake?

4. "Arena": Did the superior being make the correct decision in arranging the one-on-one winner-take-all battle? Was it more cruel and unfair to their civilizations or more logical and humane? Compare Bob Carson to the Allied Forces and the Red Roller to the Axis Forces of World War II, or Carson to David and the Roller to Goliath in the Bible.

5. "First Contact": Did you think the solution that the two parties agreed to was satisfactory? Propose a more beneficial solution. How does one build trust, anyway? Could the story remind readers of the history of Colonialism and British encounters with other cultures?

6. "The Monster": What "monster" is the title of the story referring to? The aliens? The last revived human? Or the reviving machine? Explain. If such a machine were ever actually developed, what exactly would we do with it?

7. "That Only a Mother": What drove the mother to believe that her child was normal? Was it ignorance or delusion? This story is about pregnant women exposed to high levels of radiation, but raises many difficult issues for discussion such as termination of pregnancy, the field of disability studies, and euthanasia. Write on one of these.

8. Mars Is Heaven!": If you were suddenly to meet a lost loved one, would you reject that person out of suspicion or be overwhelmed with emotion and accept him or her despite all reason? Think hard about this and explain. Now, in a summary, rewrite the main events of the story.

LITERARY CRITICISM | SCIENCE FICTION AND FANTASY

Speculations on Speculation: Theories of Science Fiction examines the roots, history, development, current status, and future directions of the field through the contributions of well-respected science-fiction writers, teachers, and critics. The articles speculate on the definition of science fiction, science fiction as serious literature, the most talented science-fiction writers, and where the genre is headed. Contributors include Brian Aldiss, Kathryn Cramer, Samuel R. Delany, David G. Hartwell, Ursula K. Le Guin, Barry Malzberg, Darko Suvin, Michael Swanwick, and many other outstanding authors. Examining all genres and subgenres of science fiction writing, this book provides differing viewpoints of science fiction, making an ideal basis for dynamic classroom discussions.

For orders and information please contact the publisher
Scarecrow Press, Inc.
A wholly owned subsidiary of
The Rowman & Littlefield Publishing Group, Inc.
4501 Forbes Boulevard, Suite 200
Lanham, Maryland 20706
1-800-462-6420
fax 717-794-3803
www.scarecrowpress.com
Cover design by Jen Huppert Design

ISBN-13: 978-0-8108-4902-0
ISBN-10: 0-8108-4902-X
90000
9 780810 849020

CULATIONS ON CULATION

heories of
NCE FICTION

Speculations on Speculation

Theories of Science Fiction

Edited by
James Gunn
Matthew Candelaria

THE SCARECROW PRESS, INC.
Lanham, Maryland • Toronto • Oxford
2005

SCARECROW PRESS, INC.

Published in the United States of America
by Scarecrow Press, Inc.
A wholly owned subsidiary of
The Rowman & Littlefield Publishing Group, Inc.
4501 Forbes Boulevard, Suite 200, Lanham, Maryland 20706
www.scarecrowpress.com

PO Box 317
Oxford
OX2 9RU, UK

British Library Cataloguing in Publication Information Available

Library of Congress Cataloging-in-Publication Data

Speculations on speculation : theories of science fiction / edited by James Gunn, Matthew Candelaria.
p. cm.
Includes bibliographical references and index.
ISBN 0-8108-4902-X (pbk. : alk. paper)
1. Science fiction—History and criticism. I. Gunn, James E., 1923– II. Candelaria, Matthew, 1973–
PN3433.5.S64 2005
809.3'8762—dc22

2004013012

™ The paper used in this publication meets the minimum requirements of American National Standard for Information Sciences—Permanence of Paper for Printed Library Materials, ANSI/NISO Z39.48-1992.
Manufactured in the United States of America.

Contents

CHAPTER ONE

Toward a Definition of Science Fiction

James Gunn

The most important, and most divisive, issue in science fiction is definition. I am brought back to it once more by an article in one of those fascinating developments in science fiction, the fanzine. The article "Science Fiction by the Numbers," written by Robert Sabella, was published in the winter 1985 issue of Richard Geis's *Science Fiction Review*.

My involvement with definition may have begun with my original discovery of science fiction and my realization that this literature was different from every other kind. I got deeper into the question when I wrote a master's thesis on modern science fiction in 1951 and even more involved when I started work on *Alternate Worlds* in 1970. My most pressing concerns, however, developed from my fifteen-year involvement in teaching science fiction and editing the anthology *The Road to Science Fiction* for my class. Much of my work in the field, as it turns out, has been the attempt to grope an understanding of what science fiction is, how it got to be that way, and how it differs from other kinds of literature.

The article in *Science Fiction Review* quoted my definition from *Alternate Worlds*, "a fantastic event of development considered rationally." That was an attempt to come up with a brief definition. But, as Mr. Sabella illustrates with his definition, brevity means lack of precision.

What my definition suggested was that fantasy and science fiction belong to the same general category of fiction—that is, the fictional world represented is not the world of the here and now or even the there and then but the fantastic world of unfamiliar events or developments. By "rational" the definition suggests (but does not explain) the difference between fantasy and science fiction.

A longer and more precise definition is attempted in my four-volume anthology, *The Road to Science Fiction*:

> Science fiction is the branch of literature that deals with the effects of change on people in the real world as it can be projected into the past, the future, or to distant places. It often concerns itself with scientific or technological change, and it usually involves matters whose importance is greater than the individual or the community; often civilization or the race itself is in danger.

But even this definition is not comprehensive, and I must confess to some waffling here with words like "often" and "usually." Perhaps for completeness the real definition requires the entire volume of *The Road to Science Fiction* with its examples. My semester-long course is actually a quest for definition that my students and I pursue by means of historical development, thematic analysis, comparison and contrast, and examples.

But let's have another go at what I consider to be the key critical question in the field. I remember an excellent debate between Damon Knight and me in my classroom in which Damon maintained there was no significant difference between fantasy and science fiction, and I insisted there was.

An immediate complication: do the words we use have the same meanings for us both? If Damon considers everything irrelevant except the fantastic element (or that part of the fiction that is contrary to things as we know them), then I never will convince him that there is a meaningful difference.

The problem of definition also is complicated by the fact that science fiction is not an ordinary kind of genre. Unlike the mystery, the western, the gothic, the love story, or the adventure story, to cite a few of the popular genres, science fiction has no typical action or place. Readers do not recognize it as they recognize other genres because of some critical

event (such as a crime and its detection) or its setting (the mythical West during the period 1865–1900). As a consequence, science fiction can incorporate other genres: we can have a science-fiction mystery, a science-fiction western, a science-fiction gothic, a science-fiction love story, or most likely of all, a science-fiction adventure story.

The first step toward definition, then, must be the elimination of those aspects of the fiction that are not unique to science fiction—the aspects of the mystery, the western, the gothic, the love story, and the adventure story, or even those elements of traditional fiction that do not relate to the changed situation, such as sex or extraneous characterization—before we can begin to recognize what is left as being irreducibly science fiction. Sometimes, of course, nothing is left, and we may conclude that the piece in question was not science fiction at all. If there is something left, that something, I have observed, is change. Some significant element of the situation is different from the world with which we are familiar, and the characters cannot respond to the situation in customary ways, that is, without recognizing that a changed situation requires analysis and a different response. Or if the characters attempt to respond traditionally, without recognizing the need for a different response, they fail, or they fail for the rest of us, the human species.

It may be useful here to make a comparison with what was called "new wave" SF, which seemed like science fiction and was usually published in science-fiction magazines, but to many long-time science-fiction readers did not seem to have "the right stuff." In the usual "new wave" story the situation was different, but the characters responded to the situation in the traditional ways, or, if the new ways, in ways that were inappropriate or had no likelihood of coping with the situations. Thus, the characters in those stories usually failed to cope with their situations, but their failure was attributed to the catastrophic scope of their situations or its incomprehensibility or to universal defects in human nature, and not to individual lack of knowledge, wisdom, character, or effort.

The situations of traditional fiction are those of the everyday world, including the everyday world of history. The broad area of fantastic literature is characterized by situations in which a significant element is different from the everyday.

As a mid-term examination I give my students an opportunity to choose a brief definition among the following and write an essay upon

it: Science fiction is a literature of (1) ideas; (2) change; (3) anticipation; (4) the human species. These are not particularly effective as definitions, though I think there is something to be said for (2) and (4), but they offer students the opportunity to develop and defend their own ideas. I bring it up now, however, because I may add another choice: (5) discontinuity.

Traditional fiction, it might be said, is the literature of continuity. Whatever the situation, it is continuous with everyday experience, and the decisions that must be made by the characters are decisions based upon prior experience, upon tradition. The moment characters in any kind of fiction encounter new situations or attempt new solutions to traditional situations, the story begins to feel like science fiction; science-fiction readers respond to them, and traditional critics reject them for a variety of reasons, but mostly because science fiction is the literature of discontinuity. Historical fiction that deals with moments of change, of discontinuity, often have appeals to readers similar to those of science fiction, which may explain why stories of prehistoric men, like those of Waterloo, London, Wells, and Golding, usually are considered science fiction.

One immediate objection might be raised to describing science fiction as the literature of discontinuity: perhaps the terms is appropriate to the "what if," speculative kind of story, in which the basis of the story is the element of the new and different. But what about the "if this goes on," extrapolative kind of story such as Pohl and Kornbluth's *The Space Merchants*? I would suggest that we only recognize the work as science fiction if the extrapolation produces a significant enough accumulation of change that it is, in actuality, discontinuous. If the extrapolation is minor, is not sufficiently discontinuous, such as *Seven Days in May*, for instance, or even *Dr. Strangelove*, then it doesn't feel quite like science fiction to us.

But we must then further differentiate science fiction and fantasy, which is also the literature of discontinuity, though often, to be sure, it is only discontinuous at certain moments or at certain periods of the day or night, and sometimes the discontinuity has alternative explanations. Mr. Sabella's suggestion, "A story is science fiction if it accepts *every* axiom of the real world plus one or more imaginary axioms," is on the right track, but I would like to approach it in another way.

The place I like to start is the reading experience, where, I believe, all criticism begins: First we read something and respond to it, and then we ask ourselves why we responded in that way. It seems to me that we read fantasy and science fiction differently—that is, we ask the text different kinds of questions. The kinds of questions we ask determine how we read it; if we ask the wrong kinds of questions, we will be unable to read the fiction properly. This, incidentally, is what we mean by "genre": our previous reading experience in literature with similar characteristics not only leads us to particular expectations about a particular piece when we encounter those characteristics but prepares us to ask the right questions, the questions to which it will respond.

Few of us analyze our generic experiences; we respond intuitively. And most readers respond intuitively (and differently) to fantasy and science fiction. If they do not they end up confused and sometimes disappointed because the fiction does not respond to their questions.

If the difference between fantastic literature and the literature of everyday experience lies in the changed situation, the difference between fantasy and science fiction lies in the fact that fantasy takes place in a world in which the rules of everyday experience do not apply, and science fiction in the world of everyday experience extended. That is, fantasy creates its own world and its own laws; science fiction accepts the real world and its laws. We could not live in the real world if we operated by the assumptions of the fantasy world; but the assumptions of the science-fiction world are compatible with our own. We can believe in the existence of aliens somewhere else in the universe, or that time machines or faster-than-light spaceships eventually may be developed, and still function without real-life problems; but if we behave in our everyday life as if werewolves, vampires, and doorways into other worlds exist, our lives will be difficult, even if we remain outside institutional walls.

When we read science fiction, we recognize that it applies to the real world, and we ask it real questions. The first one is: How did we get there from here? If the question is irrelevant or whimsical, then the fiction is fantasy. On the other hand, if we insist that the fantasy answer our real-world questions, we cannot read it. For instance, if we insist on knowing where the hole is located that Alice uses to get to Wonderland or how she can fall interminably without killing herself, or how

one can get through a mirror into the world beyond, we cannot read *Alice in Wonderland* or *Through the Looking Glass*, and part of our experience in growing up is learning how to distinguish fantasy from reality. We all, as children, may have cherished the notion that, like Alice, we might one day find the mirror that we could pass through into a brighter, better, or more exciting world, but we learn not to act upon it.

As a consequence, a reader instinctively (and a critic analytically) looks for the author's instructions on how to read a work. Usually a writer offers them early (unless the writer's strategy depends on reader uncertainty, a risk that writers should assume only for a suitable payoff, and whose risk, and payoff, a critic should assess); most fantasies begin fantastically. When a character falls down a rabbit hole or passes through a mirror, the writer is telling the reader: Don't ask realistic questions.

In the science-fiction story, on the other hand, realistic questions are essential for full understanding and enjoyment; the reader is supposed to compare the fictional world to the real world and find it not only better or worse, or simply different, but be able to ascertain what made it better or worse or different. If the reader doesn't ask hard questions of *Mission of Gravity*, say, or *The Left Hand of Darkness*, and reads them instead as fantasy, the reader misses most of the significance of those novels. The point of those novels, substantially different in subject and theme, though both occur on alien planets, lies not only in their differences from our world and our society but their resemblances to our experiences. And part of the pleasure we derive from them and our ability to learn from them comes from our recognition that laws of nature and assumptions about behavior apply to us in the same way they apply to the characters in them.

Science fiction, then, is the literature of change. Change is its subject matter and its method. Fantasy might be defined as the literature of difference. Fantasy occurs in a world not congruent with ours or incongruent in some significant way. Science fiction occurs in the world of everyday experience extended into the unknown.

The fact that some element of a science-fiction story may violate existing scientific theories, the time machine, say, or the faster-than-light spaceship, does not necessarily control our decision about whether to read the work as fantasy or science fiction. What is not possible in our state of knowledge may be possible in a hundred years or a thousand or a

million. The presence of a time machine or a faster-than-light spaceship does not make a work fantasy if we are supposed to consider them realistically, that is, if we are supposed to ask hard questions about them and their consequences. The reason authors like H. G. Wells in *The Time Machine* go to so much effort to make their time machines believable is to instruct the reader how to read their stories, to put them into the proper realistic frames of mind about the pasts or the futures they visit. A time machine could be used in a fantasy, of course, but if it is to be read as a fantasy the author should describe it in fanciful, that is, unrealistic, terms and warn the reader not to ask realistic questions.

Fantasy and science fiction belong to the same broad category of fiction that deals with events other than those that occur, or have occurred, in the everyday world. But they belong to distinctly different methods of looking at those worlds: fantasy is unrealistic; science fiction is realistic. Fantasy creates its own universe with its own laws; science fiction exists in our universe with its shared laws. Fantasy is a private vision that one accepts for the sake of vision; science fiction is a public vision that must meet every test of reality. The basis of fantasy is psychological truth; nothing else matters. The basis of science fiction is the real world. Does the story respond to hard questions? Nothing else matters.

The reason we should make a distinction between fantasy and science fiction is that we read them differently, and we misread them if we apply the reading protocols of one to the other. Borderline cases create the most serious difficulties. In my classes, I used to describe fantasy and science fiction as existing along a spectrum of explanation: the more explanation in a fantasy story the more like science fiction it seems; the more irrationalized assumptions in the science-fiction story, the more like fantasy it seems. And, I would say, when they met in the middle they were virtually indistinguishable, and we even call them, sometimes, "science fantasy."

I no longer find that satisfying. At that time, I think, I had not yet come to my realization that the science-fiction genre, because it has no characteristic action or place, is a kind of super-genre, capable of incorporating the others. Most of the difficult cases become easier to analyze if first the elements of other genres are peeled away. In the case of Edgar Rice Burrough's John Carter stories, for instance, we have a small

residue of evolutionary notions and cultural criticism; in A. E. van Vogt's *Null-A* novels, we have a larger residue of ideas that we are supposed to consider in the light of the real world: the ability of a new system of logic to liberate the rational mind as well as to develop super powers, and the effect of these on political structures on Earth and Venus and later as they extend into the galaxy.

The critical decision as to whether these works, and others like them, are better read as science fiction or fantasy is controlled by our feelings about whether we get more out of the works by subjecting them to hard questions or to none. On this basis, I would suggest that the Burrough's John Carter novels will be destroyed by hard questions and are best read as fantasy, and that van Vogt's *Null-A* novels ask for intellectual scrutiny even though their adventure plots sometimes frustrate our attempts to make sense of them.

The differences between the literature of continuity and the literature of discontinuity, and in the literature of discontinuity between the literature of change and the literature of difference, are real and significant. Applying to one the critical standards appropriate to another comes from a failure to recognize those differences and results in misreading and misunderstanding. A case in point is James Thurber's "The Macbeth Murder Case," in which an inveterate murder mystery reader, trapped without his favorite reading material on an island resort, misreads Shakespeare. Examples could be multiplied.

Traditional critics, when they have condescended to consider science fiction, have found it inadequate when measured against traditional standards. Robert Scholes wrote in his introductions to the Oxford series of author studies, "as long as the dominant criteria are believed to hold for all fiction, science fiction will be found inferior: deficient in psychological depth, in verbal nuance, and in plausibility of event. What is needed is a criticism serious in its standards and its concern for literary value but willing to take seriously a literature based on ideas, types, and events beyond ordinary experience."

Science fiction's recent popularity has made it a more tempting target: Exposure is easier than explanation; ridicule is wittier than analysis. But science fiction and fantasy never will receive meaningful criticism until the qualities that make them special are understood, and an appropriate set of critical standards is developed for them.

CHAPTER TWO

~

Coming to Terms

Gary K. Wolfe

One of the most common complaints about the scholarship of fantasy and science fiction is that, as Everett Bleiler put it in his 1984 Pilgrim Award acceptance speech, "Our terms have been muddled, imprecise, and heretical in the derivational sense of the word." Critics often resort to neologisms or specialized usages to talk about this literature, sometimes inventing whole new systems of literary classification. Fans and writers sometimes complain about the gnomic nomenclature of the academics, while the academics themselves complain of the looseness of the fans' favorite buzzwords. And since SF is a popular literature, the critical vocabulary has come to include terms originally confined to the publishing industry or the professional concerns of authors.

Few of these critical terms are defined in standard encyclopedic reference works about SF or fantasy, and fewer still are found in traditional handbooks of literature. But if the field is ever to establish a coherent critical vocabulary, scholars, fans, and writers each need to know what the others are talking about.

Academic: Used both as an adjective and a noun to describe the involvement of professional scholars and teachers in the criticism, history, theory, and teaching of science fiction. Such a meaning might seem obvious, but the term has gained a great many overtones, usually either disparaging or

defensive, and has come rather imprecisely to be contrasted both with "fan" or amateur scholarship in the field, and with the various "internal" works of history and criticism generated by science fiction and fantasy writers themselves. In this usage, the "academic" is often regarded as an outsider trained in traditional humanistic methodologies which are sometimes felt to be inadequate for science fiction; interestingly, the term is seldom applied to university scientists or even social scientists, suggesting that it refers not necessarily to the academic world per se, but specifically to inhabitants of English or history departments in universities.

Alternate History: A narrative premise claimed equally by science fiction and fantasy—namely, that time contains infinite branches and that universes may exist in which, for example, the Allies lost the Second World War (Philip K. Dick's *The Man in the High Castle* [1962]) or the Spanish Armada was victorious (Phyllis Eisenstein's *Shadow of Earth* [1979] or Keith Robert's *Pavane* [1962]). One of the earliest genre treatments of this theme, Murray Leinster's "Sidewise in Time" (1934), is clearly intended as science fiction. The theme has been present in the genre at least since 1926, although Darko Suvin has identified a number of "alternate histories" published as early as 1871. Suvin's definition, somewhat broader than the commonly accepted use of the term, relates the alternative history to utopian or satirical fiction, identifying it as "that form of SF in which an alternative locus (in space, time, etc.) that shares the material and causal verisimilitude of the writer's world is used to articulate different possible solutions of societal problems, those problems being of sufficient importance to require an alteration in the overall history of the narrated world." Another bibliography of such works, by Barton C. Hacker and Gordon B. Chamberlain, appeared in *Extrapolation*, 2.4 (Winter 1981).

Blurb: Promotional copy written on the dust covers of hard-bound books and on the front and back covers and front page of paperbacks. Although blurbs are most often written by promotional staff or freelance public relations writers, they often include quotations from reviews or specially solicited praise from fellow authors—to the extent that some well-known authors have reputations for excessive generosity in lending their names to the efforts of less well-known authors. Given the overall importance of marketing and packaging to the audience's perceptions of popular literature, blurbs can also be revealing clues to the changing attitudes toward genres such as science fiction or fantasy. One of the earliest science fiction anthologies, for example (Donald A. Wollheim's *The Pocket Book of Science Fiction*, 1943), featured a blurb that characterized the contents as belonging to "that realm of superscience where nonscientists try to anticipate science." Wollheim's later anthology *The Portable Novels of Science* (1945) avoided the term "science fiction" on the jacket cover by calling the contents "novels of scientific speculation," while an early Judith Merril anthology disguised the science fiction contents as "a different kind of mystery thrill" and a popular anthology by Orson Wells used the term "interplanetary stories." Similarly a 1944 fantasy anthology from Penguin disguised its contents as humor ("yarns based on delightful fantasy") despite the inclusion of such relatively grim tales as Jack London's "The Scarlet Plague." By the early 1950s, however, the paperback market for science fiction at least (fantasy would emerge later) became sufficiently strong that such evasive blurb copy was replaced by enthusiastic and frequent use of the term "science fiction" (except in the case of novels, such as Philip Wylie's *Tomorrow!* [1954], directed at a wider market) and this quickly led to complete lines of science fiction titles from Doubleday, Ballantine, and other publishers. (It is interesting to note, however, that after the success of Ray Bradbury's *The Martian Chronicles* [1950], which was labeled "Doubleday Science Fiction," his second book for Doubleday, *The Illustrated Man* [1951], was not identified as science fiction anywhere on the jacket.) As the market for science fiction grew and diversified, blurbs came more to reflect what was known of reader interest and consequently somewhat less hysterical; a common technique (still in use, although perhaps more in fantasy) was to compare the work with an acknowledged classic or a recent bestseller; reprints often became instant "classics" themselves. Although most serious readers claim not to be strongly influenced by blurbs, there is much to suggest that, along with cover design, they are crucial in capturing the casual reader and thus influencing sales figures, which in turn of course influence patterns of manuscript development and acquisition.

Cognitive Estrangement: Widely quoted term from Darko Suvin describing the defining characteristic of science fiction, which Suvin sees as estranged from the naturalistic world but cognitively connected to it. "Noncognitive estrangement," according to this scheme, would include myths, folktales, and fantasies that are neither naturalistic nor cognitively linked to the natural world. Suvin argues that the defining characteristics of science fiction are "estrangement" and "cognition," the latter

referring to those elements of variability and detail drawn from the empirical environment which establish a link between the experienced world of the reader and the world of the work of fiction; a flying carpet would violate this principle of cognition.

Desire: A term sometimes used to describe the wish-fulfillment aspect of the appeal of fantasy and sometimes used (as by Rosemary Jackson) to characterize the nature of language in fantasy narratives, as opposed to the more representational language of conventional narratives. Leo Bersani's use of this term (in *A Future for Astyanix: Character and Desire in Literature*, 1976), suggests that it refers to a generalized yearning for something beyond the real, and thus might in part account for the structures of character and narrative found in fantasy. The term has been used of science fiction as well, notably in Eizykman's *Science fiction et capitalisme* (1974), again with the implication of subverting dominant social structures through idealization of the possible. Much contemporary use of the term derives from the work of French psychoanalyst Jacques Lacan, and in particular his discussions of desire in its relationships to fantasy and to the "other."

Extrapolation: Probably derived from "interpolation" and used by statisticians to refer to the process of predicting a value beyond a known series by detecting patterns within the series. Extended into the social and natural sciences, "extrapolation" has become one of the most common characteristics cited in discussions and definitions of science fiction, and even provided the title for the field's first academic journal, founded in 1959. Generally, it is used to mean the technique of basing imaginary worlds or situations on existing ones through cognitive or rational means; a "satire," therefore, may be based on an extrapolation but need not be, since the relationship of the world of the satire to our own might be purely metaphorical. An example of an extrapolative science fiction satire is Frederik Pohl and C. M. Kornbluth's *The Space Merchants* (1952), in which a future society dominated by advertising agencies is clearly an outgrowth of trends visible in the early 1950s.

The term is closely allied with Speculative Fiction, and one of its earliest important usages occurred in the Robert A. Heinlein essay in which he proposed the latter term: in the "speculative science fiction story," he wrote, "accepted science and established facts are extrapolated to produce a new situation, new framework for human action." Perhaps in part because of its scholarly sound, the term quickly gained popularity, and by

1955 Basil Davenport could report that extrapolation was "a word that is almost as great a favorite in discussions of science fiction as 'space-warp' is in science fiction itself; it may be defined as 'plotting the curve.'" While treating extrapolation as a defining characteristic of science fiction would seem to limit the genre to fiction of the future, critics have managed to adapt the word to include extrapolations about the past, about Alternate Worlds, and about other favorite themes. Other critics, however, have argued for distinctions between "extrapolative" and "non-extrapolative" kinds of science fiction narratives, while still others have expressed hope that the term might be banished altogether as restrictive and misleading.

Ghetto: A kind of literary backwater. Since at least the late 1940s, science fiction writers and editors have complained of the "ghettoization" of the genre by publishers, booksellers, and reviewers. "Ghetto" thus refers not only to the evolution of science fiction as a commercial bookselling category, but to a complex of critical and social attitudes that have come to influence factors as disparate as authors' contracts, book design, the placement of popular reviews, the teaching of the genre, and literary fellowships and awards. While other genre writers have also complained about "ghettoes" of westerns, mysteries, romance novels, and the like, science fiction writers have been perhaps the most vocal and possibly the best organized group in opposing this tendency.

Anthony Boucher argued that such literary ghettoes arose from four factors: the tendency of popular writers to specialize in a particular genre, the tendency of readers to buy fiction by category, the tendency of academics to increasingly separate popular from "serious" fiction, and the realization on the part of publishers that more predictable sales could be gained by segmenting audiences according to special interests. In fact, the latter factor is arguably the most significant in the historical evolution of the "ghetto" of science fiction, which for much of its history has been dominated by magazines (which have been sold by popular category since the nineteenth century), and that did not enjoy significant paperback publication until long after Robert de Graaf of Pocket Books had discovered the principle of shelving genre books together in order to increase their sales. Similarly, hardbound science fiction did not become widespread until after hardcover publishers had been forced into similar marketing techniques by the success of the "paperback revolution." In more recent years, the very success of science fiction has exacerbated the situation, as authors who have established track records of dependable

sales within the genre often find it difficult to persuade publishers to market books in any other way; the most famous examples are Harlan Ellison's *contretemps* with a publisher who attempted to label as science fiction reprints of the author's early realistic and autobiographical writings, and Isaac Asimov's losing argument with a publisher who refused to label his 1972 novel *The Gods Themselves* as science fiction.

Hard Science Fiction (sometimes also "hardcore" science fiction): Science fiction in which the Ground Rules are known scientific principles, and in which speculation based on such principles constitutes a significant part of the work. Coined presumably on the model of "hard science" (the physical and biological, as opposed to social sciences), "hard science fiction" is ostensibly that "written around known scientific facts or at least not-unproven theories generated by 'real' scientists," according to Norman Spinrad. Thomas N. Scontia somewhat more narrowly defines it as a "closely reasoned technological story." Neither definition quite encompasses the breadth with which the term is actually used. However, in some cases it refers only to stories in which the setting is carefully worked out from known scientific principles (as in the work of Hal Clement or Larry Niven), in other cases to stories in which the plot hangs on such a principle, and in still other cases to almost any science fiction associated with such stories in time or place. In the latter sense, the term may become almost synonymous with science fiction of the Campbell Era. See also "Soft Science Fiction."

Heterotopia: Originally a medical and biological term referring to a displacement of an organ or an organism; thus, broadly, a "displacement." "Heterotopia" was suggested by Robert Plank in 1968 as a convenient term for works of fiction that invent "not only characters but also settings." Plank included science fiction, much fantasy, and utopian fiction under this term, which in this sense is obviously derivative of Utopia [151]. Although not widely adopted, the term was invoked in the subtitle of Samuel R. Delany's novel *Triton* (1976): "An Ambiguous Heterotopia."

Idiot Plot: Probably coined by James Blish but popularized through the reviews of Damon Knight, who defined it as a plot that "is kept in motion solely by virtue of the fact that everybody involved is an idiot." Specifically, he refers to stories in which characters act at the convenience of the author rather than through any perceivable motivation, and uses the term to attack fantastic works that seem based on the assumption that fantastic elements obviate the need for fictional credibility. Similar terms have been employed by other critics of popular fiction and film.

New Wave: Francoise Giroud's term *(nouvelle vague)* to describe a group of younger French film directors who emerged in the late 1950s has since been enthusiastically appropriated by promoters of almost any unconventional movement within a popular art form previously characterized by conventions or formulae. In science fiction, the term was introduced by Judith Merril in a 1966 essay for *The Magazine of Fantasy and Science Fiction* ("Books," 30, [January 1966]) to refer to the highly metaphorical and sometimes experimental fiction that began to appear in the English magazine *New Worlds* after Michael Moorcock assumed the editorship in 1964, and that was later popularized in the United States through Merril's own appallingly titled anthology *England Swings SF: Stories of Speculative Fiction* (Garden City: Doubleday, 1968). Although Harlan Ellison's anthology of original stories the preceding year (*Dangerous Visions*, Garden City: Doubleday, 1967) has sometimes been retroactively credited with unleashing the American version of the new wave, and though Ellison spoke of the book as "a revolution" of "new horizons, new forms, new styles, new challenges," Ellison himself has expressed chagrin at having been once labeled the "chief prophet" of the new wave in America (by *The New Yorker*: "The Talk of the Town: Evolution and Ideation," 16 September 1967). Similarly, many of the other writers associated with this movement, such as Brian Aldiss, J. G. Ballard, Thomas M. Disch, Samuel R. Delaney, and Robert Silverberg, have on frequent occasions expressed disdain for or confusion over the term. Nevertheless, writers associated with the new wave have been credited with introducing new narrative strategies into science fiction images as metaphor and with weakening the boundaries that had long separated science fiction from mainstream fiction.

Posthistory: Gene Wolfe's term for far future settings (such as in his own *Book of the New Sun* [1980–83]) in which artifacts from the present or near future constitute a kind of fragmentary or semilegendary history for the characters in that setting. The term is obviously modeled on "prehistory" in that it refers to a culture in which what we view as continuous historical process and documentation has been fragmented or obliterated; the technique is fairly common in works which have been characterized as medieval futurism.

Psychomyth: Term used by Ursula K. Le Guin to describe those of her stories which lack identifiable historical or science fictional referents, "more or less surrealistic tales, which share with fantasy the quality of taking place outside any history, outside of time, in that region of the living mind which—without invoking any consideration of immortality—seems to be without spatial or temporal limits at all."

Pulp: Originally a kind of cheap, acidic wood pulp paper, but now more often used to refer to the magazines published on such paper, which attained a collective circulation of nearly ten million per issue during the 1930s, according to Russel Nye (*The Unembarrassed Muse*, 1970). More broadly, the term came to characterize the fiction and illustrations published in those magazines, and finally to any fiction or illustrations making use of the pulp forms. The invention of the pulp magazine is generally credited to Frank Munsey, who in 1896 decided to convert his children's magazine *Golden Argosy* to a popular all-fiction magazine titled *Argosy*, and switched to cheap untrimmed wood-pulp paper in order to keep the price low. Pulp magazines are of particular importance to the history of American fantasy in that, beginning with *Weird Tales* in 1923, they provided a focal point, consolidated an audience, and began to establish conventions and formulas for several subgenres of fantasy, especially horror fiction and sword and sorcery. Science fiction pulps were equally successful, and many historians of the genre have dated its beginning as a self-conscious genre from the founding of *Amazing Stories* by Hugo Gernsback in 1926. Western, romance, detective, aviation, and war story pulps also flourished, but magazines devoted to other subgenres (such as *Oriental Tales*, begun in 1930) did not fare as well. John W. Campbell's *Unknown*, begun in 1939, did much to develop a modern popular genre of logical and often humorous fantasy parallel to science fiction, and such pulps as *Famous Fantastic Mysteries* and *The Avon Fantasy Reader* were instrumental in creating a younger audience for older lost-race fantasies and horror fiction. By the mid-1950s, most pulp magazines had been replaced by digest-size magazines, although critics and historians have since sometimes used the term to refer to any sensational formulaic fiction.

Sci-Fi: Neologism coined by science fiction fan Forrest J. Ackerman and that has become anathema to many science fiction writers and readers. Perhaps because of its widespread use in the popular media in what often seems a denigrating or stereotyping manner, "sci-fi" has, in effect, become

science fiction's equivalent of "nigger." More recently, however, some writers and critics have begun to suggest that the term may in fact have a legitimate use in describing highly formulaic mass-audience entertainments and particular Hollywood movies. Isaac Asimov, for example, defines sci-fi as "trashy material sometimes confused, by ignorant people, with s.f.," and cites the film *Godzilla Meets Mothra* as an example. Damon Knight has suggested the term be used for "the crude, basic kind of s.f. that satisfies the appetite for pseudoscientific marvels without appealing to any other portion of the intellect" (he also suggests the term be pronounced "skiffy"). Somewhat less condemnatory, Elizabeth Anne Hull has suggested that films such as *Star Wars* might appropriately be termed sci-fi to distinguish them from the more complex (but still not clearly defined) fictions labeled SF. However, neither argument has gained much acceptance outside the science fiction community, and "sci-fi" remains in wide use as a popular media term for science fiction in general.

SF (S.F., S-F): Ambiguous abbreviation almost universally favored in the science-fiction community over the more journalistic sci-fi, but even less clearly defined. SF (or sf) is most often used as shorthand for science fiction, but has also been used for science fantasy, speculative fiction, or structural fabulation. Widely popularized even outside the science fiction community by Judith Merril in her series of "year's best" anthologies (1956–69), all of which used the SF rubric, the usage has since become so prevalent that Isaac Asimov has suggested that speculative fiction may have been coined as an attempt to retain the initials SF while abandoning the more restrictive use of "science" as a modifier. Some writers now prefer to use the term without specifying its particular meaning; if "sci-fi" is the "nigger" of the field, SF is its "Ms."

Shaggy God Story: Michael Moorcock's label for tales that seek to achieve a sense of wonder by mechanically adapting biblical tales and providing science fictional "explanations" for them—as, for example, the "surprise ending" that reveals two characters to be Adam and Eve.

Soft Science Fiction: Probably a back formation from hard science fiction and used sometimes to refer to science fiction based on so-called "soft" sciences (anthropology, sociology, etc.), and sometimes refer to science fiction in which there is little science or awareness of science at all. Chad Oliver might be an example of an author who falls under the former definition; Ray Bradbury an example of the latter.

Space Opera: A term borrowed from Fandom, where it was coined by Wilson Tucker in 1941 to refer to the "outworn spaceship yarn" of the sort that had been prevalent in the pulps during much of the 1930s. Sometimes called adventure science fiction or science adventure, space operas are generally fast-paced intergalactic adventures on a grand scale, most closely associated with E. E. Smith, Edmond Hamilton, and the early Jack Williamson. Often characterized as westerns in space or "straight fantasy in science fiction drag" (Norman Spinrad), space opera may be either an historical or a generic term; contemporary films such as *Star Wars* have been labeled space operas, as have more complex works such as Cecilia Holland's 1976 novel *Floating Worlds*.

Wonder: Frequently invoked in definitions of fantasy but seldom defined, as in C. N. Manlove's phrase "a fiction evoking wonder." The term is equally common in discussions of science fiction with its "sense of wonder," but it is quite possible the meaning there is somewhat different, relating to philosophical notions of the undiscovered universe and romantic notions of the sublime in the face of vastness. In fantasy, the term need not imply awe and terror in the face of the natural world, but rather suggests the desire and longing arising out of the promise of other worlds or states of being. In this sense, the term is perhaps related to *Sehnsucht*. Casey Fredericks has characterized the "wonder effect" as "presenting both a radical and a recognizable change on the known world." As for the science fictional "sense of wonder," Samuel R. Delany has suggested that the phrase gained currency through the criticism of Damon Knight, and may have been borrowed from W. H. Auden's 1939 poem "In Memory of Sigmund Freud" (which spoke of the "sense of wonder" offered by the night). It is equally possible, however, that the phrase had gained some currency before the Auden poem, perhaps through the use of "wonder" in the titles of pulp magazines as early as 1929.

CHAPTER THREE

~

Estrangement and Cognition[1]

Darko Suvin

1. Science Fiction as Fiction (Estrangement)

1.1. The importance of science fiction (SF) in our time is on the increase. First, there are strong indications that its popularity in the leading industrial nations (United States, USSR, United Kingdom, Japan) has risen sharply over the last 100 years, despite all the local and short-range fluctuations. SF has particularly affected such key strata or groups of modern society as college graduates, young writers, and the avant-garde of general readers appreciative of new sets of values. This is a significant cultural effect that goes beyond any merely quantitative census. Second, if one takes the minimal generic difference of the presence of a narrative novum (the dramatic personae and/or their context) significantly different from what is the norm in "naturalistic" or empiricist fiction, it will be found that SF has an interesting and close kinship with other literary subgenres that flourished at different times and places of literary history: the classical and medieval "fortunate island" story, the "fabulous voyage" story from antiquity on, the renaissance and baroque "utopia" and "planetary novel," the Enlightenment "state [political] novel," the modern "anticipation" and "anti-utopia." Moreover, although SF shares with myth, fantasy, fairytale, and pastoral an opposition to naturalistic or empiricist literary genres, it differs very significantly in

approach and social function from such adjoining non-naturalistic or meta-empirical genres. Both these complementary aspects, the sociological and the methodological, are being vigorously debated by writers and critics in several countries, evidence of a lively interest in a genre that should undergo scholarly discussion, too.

In this chapter, I will argue for an understanding of SF as the *literature of cognitive estrangement*. This definition seems to possess the unique advantage of rendering justice to a literary tradition that is coherent through the ages and within itself, yet distinct from nonfictional utopianism, from naturalistic literature, and from other non-naturalistic fiction. It thus makes it possible to lay the basis for a coherent poetics of SF.

1.2. I want to begin by postulating a spectrum or spread of literary subject matter that extends from the ideal extreme of exact recreation of the author's empirical environment[2] to exclusive interest in a strange newness, a *novum*. From the eighteenth to the twentieth centuries, the literary mainstream of our civilization has been nearer to the first of these two extremes. However, at the beginnings of a literature, the concern with a domestication of the amazing is very strong. Early tale-tellers relate amazing voyages into the next valley, where they found dog-headed people and good rock salt that could be stolen or at the worst bartered for. Their stories are a syncretic travelogue and *voyage imaginaire*, a daydream and intelligence report. This implies a curiosity about the unknown beyond the next mountain range (sea, ocean, solar system), where the thrill of knowledge joined the thrill of adventure.

From Iambulus and Euhemerus through the classical utopia to Verne's island of Captain Nemo and Wells's island of Dr. Moreau, an island in the far-off ocean is the paradigm of the aesthetically most satisfying goal of the SF voyage. This is particularly true if we subsume under this the planetary island in the aether ocean—usually the moon—that we encounter from Lucian through Cyran to Swift's mini-Moon of Laputa, and on into the nineteenth century. Yet the parallel paradigm of the valley, "over the range" (the subtitle of Butler's SF novel *Erewhon*), which shuts it in as a wall, is perhaps as revealing. It recurs almost as frequently, from the earliest folktales about the sparkling valley of Terrestrial Paradise and the dark valley of the Dead, both already in *Gilgamesh*. Eden is the mythological localization of utopian longing, just as Wells's valley in "The Country of the

Blind" is still within the liberating tradition that contends that the world is not necessarily the way our present empirical valley happens to be, and whoever thinks his valley is the world is blind. Whether island or valley, whether in space or (from the industrial and bourgeois revolutions on) in time, the new framework is correlative to the new inhabitants. The aliens—utopians, monsters, or simply differing strangers—are a mirror to man just as the differing country is a mirror for his world. But the mirror is not only a reflecting one, it is also a transforming one—virgin womb and alchemical dynamo: the mirror is a crucible.

Thus it is not only the basic human and humanizing curiosity that gives birth to SF. Beyond an undirected inquisitiveness, which makes for a semantic game without clear referent, this genre has always been wedded to a hope of finding in the unknown the ideal environment, tribe, state, intelligence, or other aspect of the supreme good (or to a fear of and revulsion from its contrary). At all events, the *possibility* of other strange, covariant coordinate systems and semantic fields is assumed.

1.3. The approach to the imaginary locality, or localized daydream, practiced by the genre of SF is a supposedly factual one. Columbus's (technically or genologically nonfictional) letter on the Eden he glimpsed beyond the Orinoco mouth, and Swift's (technically nonfactual) voyage to Laputa, Balnibarbi, Glubbdubbdrib, Luggnagg, "and Japan" represent two extremes in the constant intermingling of imaginary and empirical possibilities. Thus SF takes off from a fictional ("literary") hypothesis and develops it with totalizing ("scientific") rigor—the specific difference between Columbus and Swift is smaller than their generic proximity. The effect of such factual reporting of fictions is one of confronting a set normative system—a Ptolemaic-type closed-world picture—with a point of view or look implying a new set of norms; in literary theory this is known as the attitude of *estrangement*. This concept was first developed on non-naturalistic texts by the Russian formalists ("ostranenie," Viktor Shklovsky) and most successfully underpinned by an anthropological and historical approach in the work of Bertolt Brecht, who wanted to write "plays for a scientific age." While working on a play about the prototypical scientist Galileo, he defined this attitude ("Verfremdungseffekt") in his *Short Organon for the Theatre:* "A representation which estranges is one which allows us to recognize its subject, but at the same time makes it seem unfamiliar."

And further: for somebody to see all normal happenings in a dubious light, "he would need to develop that detached eye with which the great Galileo observed a swinging chandelier. He was amazed by that pendulum motion as if he had not expected it and could not understand its occurring, and this enabled him to come at the rules by which it was governed." Thus, the look of estrangement is both cognitive and creative; and, as Brecht goes on to say, "One cannot simply exclaim that such an attitude pertains to science, but not to art. Why should not art, in its own way, try to serve the great social task of mastering Life?"[3] (Later, Brecht would note that it might be time to stop speaking in terms of masters and servants altogether.)

In SF the attitude of estrangement—used by Brecht in a different way, within a still predominantly "realistic" context—has grown into the *formal framework* of the genre.

2. Science Fiction as Cognition (Critique and Science)

2.1. The use of estrangement both as underlying attitude and dominant formal device is found also in the *myth*, a "timeless" and religious approach looking in its own way beneath (or above) the empiric surface. However, SF sees the norms of any age, including emphatically its own, as unique, changeable, and therefore subject to a *cognitive* view. The myth is diametrically opposed to the cognitive approach since it conceives human relations as fixed and supernaturally determined, emphatically denying Montaigne's "*la constance même n'est qu'un branle plus languissant.*" The myth absolutizes and even personifies apparently constant motifs from sluggish societies. Conversely, SF, which focuses on the variable and future-bearing elements from the empirical environment, is found predominantly in the great whirlpool periods of history, such as the sixteenth through seventeenth and nineteenth through twentieth centuries. Where the myth claims to explain once and for all the essence of phenomena, SF first posits them as problems and then explores where they lead; it sees the mythical static identity as an illusion, usually as fraud, at best only as a temporary realization of potentially limitless contingencies. It does not ask about "The Man" or "The World," but which man? In which kind of world? And why such a man in such a kind of world? As a literary genre, SF is fully as opposed

to supernatural or metaphysical estrangement as it is to naturalism or empiricism.

2.2. SF is, then, a literary genre whose necessary and sufficient conditions are the presence and interaction of estrangement and cognition, and whose main formal device is an imaginative framework alternative to the author's empirical environment.

Estrangement differentiates SF from the "realistic" literary mainstream extending from the eighteenth century into the twentieth. Cognition differentiates it not only from myth, but also from the folk (fairy) tale and the fantasy. The *folktale* also doubts the laws of the author's empirical world, but it escapes out of its horizons and into a closed collateral world indifferent to cognitive possibilities. It does not use imagination as a means of understanding the tendencies latent in reality but as an end sufficient unto itself and cut off from the real contingencies. The stock folktale accessory, such as the flying carpet, evades the empirical law of physical gravity—as the hero evades social gravity—by imagining its opposite. This wish-fulfilling element is its strength and its weakness, for it never pretends that a carpet could be expected to fly—that a humble third son could be expected to become king—while there is gravity. It simply posits another world beside yours where some carpets do, magically, fly, and some paupers do, magically, become princes, and into which you cross purely by an act of faith and fancy. Anything is possible in a folktale, because a folktale is manifestly impossible. Furthermore, the lower-class genre of folktale was from the seventeenth to eighteenth century on transformed into the more compensatory, and often simplistic, *individualist fairytale*. Therefore, SF retrogressing into *fairytale* (for example, "space opera" with a hero-princess-monster triangle in astronautic costume) is committing creative suicide.

Even less congenial to SF is the *fantasy* (ghost, horror, gothic, weird) tale, a genre committed to the interposition of anti-cognitive laws into the empirical environment. Where the folktale is indifferent, the fantasy is inimical to the empirical world and its laws. The thesis could be defended that the fantasy is significant insofar as it is impure and fails to establish a superordinated maleficent world of its own, causing a grotesque tension between arbitrary supernatural phenomena and the empirical norms they infiltrate. Gogol's Nose is significant because it is

walking down the Nevski Prospect, with a certain rank in the civil service, and so on; if the Nose were in a completely fantastic world—say H. P. Lovecraft's—it would be just another ghoulish thrill. When fantasy does not make for such a tension between the supernatural and the author's empirical environment, its monotonous reduction of all possible horizons to Death makes of it just a subliterature of mystification. Commercial lumping of it into the same category as SF is thus a grave disservice and rampantly sociopathological phenomenon.

2.3. The *pastoral*, on the other hand, is essentially closer to SF. Its imaginary framework of a world without money-economy, state apparatus, and depersonalizing urbanization allows it to isolate, as in a laboratory, two human motivations: erotics and power-hunger. This approach relates to SF as alchemy does to chemistry and nuclear physics: an early try in the right direction with insufficient foundations. SF has much to learn from the pastoral tradition, primarily from its directly sensual relationships that do not manifest class alienation. This lesson has in fact often been absorbed, whenever SF has sounded the theme of the triumph of the humble (Restif, Morris, and others, up to Simak, Christopher, Yefremov, etc.). Unfortunately, the baroque pastoral abandoned this theme and jelled into a conventional sentimentality, discrediting the genre; but when pastoral escapes preciosity, its hope can fertilize the SF field as an antidote to pragmatism, commercialism, other-directedness, and technocracy.

2.4. Claiming a Galilean estrangement for SF does not at all mean committing it to scientific vulgarization or even technological prognostication, which it was engaged in at various times (Verne, the United States in the 1920s and 1930s, USSR under Stalinism). The needful and meritorious task of popularization can be a useful element of SF works at a juvenile level. But even the *roman scientfique*, such as Verne's *From the Earth to the Moon*—or the surface level of Wells's *Invisible Man*—though a legitimate SF form, is a lower stage in its development. It is very popular with audiences just approaching SF, such as the juvenile, because it introduces into the old empirical context only *one* easily digestible new technological variable (moon missile or rays that lower the refractive index of organic matter).[4] The euphoria provoked by this approach is real but limited, better suited to the short story and a new audience. It evaporates much quicker as positivistic

natural science loses prestige in the humanistic sphere after the world wars (compare Nemo's *Nautilus* as against the U.S. Navy's atomic submarine of the same name), and surges back with prestigious peacetime applications in new methodologies (astronautics, cybernetics). Even in Verne the "science novel" has a structure of transient estrangement, which is specific to murder mysteries, not to a mature SF.

2.5. After such delimitations, it is perhaps possible at least to indicate some differentiations within the concept of "cognitiveness" or "cognition." As used here, this term implies not only a reflecting *of* but also *on* reality. It implies a creative approach tending toward a dynamic transformation rather than toward a static mirroring of the author's environment. Such typical SF methodology—from Lucian, More, Rabelais, Cyrano, and Swift to Wells, London, Zamyatin, and writers of the last decades—is a *critical* one, often satirical, combining a belief in the potentialities of reason with methodical doubt in the most significant cases. The kinship of this cognitive critique with the philosophical fundaments of modern science is evident.

3. The World of the Science Fiction Genre (Concept and Some Functions)

3.0. As a full-fledged literary genre, SF has its own repertory of functions, conventions, and devices. Many of them are highly interesting and might prove very revealing for literary history and theory in general. I shall discuss some of these—such as the historically crucial shift of the locus of estrangement from space to time—in the chapters that follow. I shall not, however, attempt a systematic survey of such functions and devices, which would properly be the subject of another book, one that encompassed modern SF as well. I should only like to mention that all the estranging devices in SF are related to the cognition espoused, and that, together with the historical venerability of the genre's tradition, this seems to me a second, methodological reason for according SF much more importance than is usual in academe. However, it might here be possible to sketch some determining parameters of the genre.

3.1. In a typology of literary genres for our cognitive age, one basic parameter would take into account the relationship of the world(s)

each genre presents and the "zero world" of empirically verifiable properties around the author (this being "zero" in the sense of a central reference point in a coordinate system, or of the control group in an experiment). Let us call this empirical world *naturalistic*. In it, and in the corresponding "naturalistic" or "realistic" literature, ethics is in no significant relation to physics. Modern mainstream fiction is forbidden the pathetic fallacy of earthquakes announcing the assassination of rulers or drizzles accompanying the sadness of the heroine. It is the activity of the protagonists, interacting with other, physically equally unprivileged figures, that determines the outcome. However superior technologically or sociologically one side in the conflict may be, any predetermination as to its outcome is felt as an ideological imposition and genological impurity: the basic rule of naturalistic literature is that man's destiny is man.[5] On the contrary, in the non-naturalistic, *metaphysical* literary genres discussed in 2.1 and 2.2, circumstances around the hero are neither passive nor neutral. In the folktale and the fantasy, ethics coincides with (positive or negative) physics, in the tragic myth it compensates the physics, in the "optimistic" myth it supplies the coincidence with a systematic framework.

The world of a work of SF is not a priori intentionally oriented toward its protagonists, either positively or negatively; the protagonists may succeed or fail in their objectives, but nothing in the basic contract with the reader, in the physical laws of their worlds, guarantees either. SF thus shares with the dominant literature of our civilization a mature approach analogous to that of modern science and philosophy, as well as the omnitemporal horizons of such an approach—aspects that will be discussed in the following chapters.

3.2. As a matter of historical record, SF has started from a prescientific or protoscientific approach of debunking satire and naive social critique and moved closer to the increasingly sophisticated natural and human sciences. The natural sciences caught up and surpassed the literary imagination in the nineteenth century; the sciences dealing with human relationships might be argued to have caught up with it in their highest theoretical achievements but have certainly not done so in their alienated social practice. In the twentieth century SF has moved into the sphere of anthropological and cosmological thought, becoming a diagnosis, a warning, a call to understanding and action, and—most important—a mapping of possible alternatives. This historical movement of SF can be envisaged as an enrichment of and shift from a basic direct model to an indirect model. What matters here is that the concept of a science fiction tradition or genre is a logical corollary of the recognition of SF as the literature of cognitive estrangement. It can be gleaned from my approach and examples that I think the literary genre that I am trying to define embraces the subgenres mentioned in 1.1, from Greek and earlier times until today (the Islands of the Blessed, utopias, fabulous voyages, planetary novels, *Staatsromane*, anticipations, and dystopias—as well as the Verne-type *romans scientifiques*, the Wellsian scientific romance variant, and the twentieth-century magazine- and anthology-based SF *sensu stricto*). If the argument of this chapter holds, the inner kinship of these subgenres is stronger than their obvious autonomous, differentiating features. Some historical discussion of these kinships and differences will be attempted later on in this book; here I want only to observe that the significant writers in this line were quite aware of their coherent tradition and explicitly testified to it (the axis Lucian-More-Fabelais–Cyrano-Swift–M. Shelley–Verne–Wells is a main example). Also, certain among the most perspicacious surveyors of aspects of the field, like Ernst Bloch, Lewis Mumford, or Northrop Frye, can be construed as assuming this unity.

3.3. The novelty of such a concept shows most distinctly when one attempts to find a name for the genre as it is here conceived. Ideally this name should clearly set it apart from (1) nonliterature; (2) the empiricist literary mainstream; (3) noncognitive estrangings such as fantasy; and furthermore (4) it should try to add as little as possible to the already prevailing confusion of tongues in this region. The academically most acceptable designation has been that of a literature of *utopian thought*. The concept is no doubt partly relevant but fails to meet the first criterion above; logically, such an approach was usually taught and considered within the scope of either the history of ideas or political and sociological theory. Although I would agree that literature (and especially this genre) is most intimately involved with life—indeed, that the destiny of humanity is its *telos*—I think one should quickly add that literature is also more than an ideational or

sociological document. Since this is the rationale for any systematic literary study and scholarship, I may not need to belabor the point.

The only proper way of searching for a solution seems to require starting from the qualities defining the genre, since this would take care of the criteria 1 to 3 at least. Taking the kindred thesaurus concepts of *science* for cognition, and *fiction* for estrangement, I believe there is a sound reason for calling this whole new genre science fiction *(sensu lato)*.

There are two main objections to such a solution. First, cognition is wider than science; I argued as much myself in 2.5. It is much less weighty, however, if one takes "science" in a sense closer to the German *Wissenschaft*, French *science*, or Russian *nauka*, which include not only natural but also all the cultural or historical sciences and even scholarship (cf. *Literaturwissenscaft, sciences humaines)*. As a matter of fact, that is what science has been taken to stand for in the practice of SF: not only More or Zamyatin, but the writings of Americans such as Asimov, Heinein, Pohl, Dick, etc., would be completely impossible without sociological, psychological, historical, anthropological, and other parallels. Further, an element of convention enters into all names (compare "comparative literature"), but it has proved harmless as long as the name is handy, approximate enough, and above all applied to a clearly defined body of works. The second objection is that the use of "science fiction" confuses the whole genre with the twentieth-century SF from which the name was taken. Given the advantages of the only term at hand fulfilling the above criteria, I would argue that this is at worst a minor drawback; nobody has serious trouble in distinguishing between More's book, the country described in it, and the subgenre of utopia. The trouble begins with the variety of unrelated interdisciplinary and ideological interpretations foisted upon such a term; "science fiction" might perhaps escape the interdisciplinary part of that obstacle race. Furthermore, there are always advantages to acknowledging clearly one's methodological premises. As both Lukacs and Eliot would agree, any tradition is modified and reestablished by a sufficiently significant new development, from whose vantage point it can be reinterpreted. This is, I would maintain, the case with the mentioned *ci-devant* traditions, for example, of "utopian literature," in the age of science fiction. If that is accepted, the new name is no drawback at all, but simply an onomastic consummation.

4. For a Poetics of Science Fiction (Anticipation)

4.1. The above sketch should, no doubt, be supplemented by a sociological analysis of the "inner environment" of SF, exiled since the beginning of the twentieth century into a reservation or ghetto that was protective and is now constrictive, cutting off new developments from healthy competition and the highest critical standards. Such a sociological discussion would enable us to point out the important differences between the highest reaches of the genre, glanced at here in order to define functions and standards of SF, and its debilitating average.[6]

4.2. If the whole above argument is found acceptable, it will be possible to supplement it also by a survey of forms and subgenres. Along with some that recur in an updated form—such as the utopia and fabulous voyage—the anticipation, the superman story, the artificial intelligence story (robots, androids, and so on), time-travel, catastrophe, the meeting with aliens, and others, would have to be analyzed. The various forms and subgenres of SF could then be checked for their relationships to other literary genres, to each other, and to various sciences. For example, the utopias are—whatever else they may be—clearly sociological fictions or social-science fiction, whereas modern SF is analogous to modern polycentric cosmology, uniting time and space in Einsteinian worlds with different but covariant dimensions and time scales. Significant modern SF, with deeper and more lasting sources of enjoyment, also presupposes more complex and wider cognitions: it discusses primarily the political, psychological, and anthropological *use and effect of knowledge, of philosophy of science*, and the becoming of failure of new realities as a result of it. The consistency of extrapolation, precision of analogy, and width of reference in such a cognitive discussion turn into aesthetic factors. (That is why the "scientific novel" discussed in 2.3 is not deemed completely satisfactory—it is aesthetically poor because it is scientifically meager.) Once the elastic criteria of literary structuring have been met, *a cognitive—in most cases strictly scientific—element becomes a measure of aesthetic quality, of the specific pleasure to be sought in SF*. In other words, the cognitive nucleus of the plot codetermines the fictional estrangement itself.

Notes

1. The first version of this essay emerged from a lecture given in spring 1968 in J. M. Holquist's seminar on fantastic literature in the Yale University Department of Slavic Languages and Literatures. I have derived much profit from discussions with him, with Jacques Ehrmann, my UMass colleague David Porter, and my McGill colleagues Irwin and Myrna Gopnik. The final version owes much to Stanislaw Lem's *Fantastyka i futurologia*, which considerably emboldened me in further pursuits within this protean field, even where I differed from some of Lem's emphases and conclusions.

2. A benefit of discussing the seemingly peripheral subject of "science fiction" is that one has to go back to first principles; one cannot really assume them as given. One must ask, for example, what is literature? Usually, when discussing literature one determines what it says (its subject matter) and how it says what it says (the approach to its themes). If we are talking about literature in the sense of significant works possessing certain minimal aesthetic qualities rather than in the sociological sense of everything that gets published at a certain time or in the ideological sense of all the writings on certain themes, this principle can more precisely be formulated as a double question. First epistemologically, what possibility for aesthetic qualities is offered by different thematic fields ("subjects")? The answer given by the aesthetics prevalent at the moment is: an absolutely equal possibility. With this answer is booted out of the field of aesthetics and into the lap of ideologists, who pick it up by our default and proceed to bungle it. Second, historically, how has such a possibility in fact been used? Once one begins with such considerations, one comes quickly up against the rather unclear concept of *realism* (not the prose literary movement in the nineteenth century but a metahistorical stylistic principle), since this genre is often pigeonholed as nonrealistic. I would not object but would heartily welcome such labels if one had first persuasively defined what is "real" and what is "reality." True, this genre raises basic philosophical issues, but it is perhaps not necessary to face them in an initial approach. Therefore, I shall here substitute for "reality" (whose existence independent of any observer or group of observers I do not at all doubt, in fact) the concept of "the author's empirical environment," which seems as immediately clear as any.

3. Viktor Shklovsky, "Iskusstvo kak priem," in *Sborniki po teorii poètich-eskogo iazyka*, 2 (Petrograd, 1917). In the translation "Art as Technique," in Lee T. Lemon and Marion J. Reis, eds. *Russian Formalist Criticism* (Lincoln, Neb., 1965), *ostranenie* is rendered somewhat clumsily as "defamiliarization." See also Victor Erlich's classical survey, *Russian Formalism* (The Hague, 1955).

Bertolt Brecht, "Kleines Organon für das Theater," in his *Gesammelte Werke*, 16 (Frankfurt, 1973), translated in John Willett, ed., *Brecht on Theatre* (New York, 1964). My quotations are from pp. 192 and 196 of this translation, but I have changed Mr. Willet's translation of *Verfremdung* as "alienation" into my "estrangement," since "alienation" evokes incorrect, indeed opposite connotations: estrangement was for Brecht an approach militating directly against social and cognitive alienation. See Ernst Bloch, "*Entgremdung, Verfremdung*: Alienation, Estrangement," in Erika Munk, ed., *Brecht* (New York, 1972).

4. Note the functional difference from the anti-gravity metal in Wells's *First Men in the Moon*, which is an introductory or "plausibility-validating" device and not the be-all of a much richer novel.

5. In such cases as certain novels by Hardy and plays by Ibsen, or some of the more doctrinaire works of the historical school of naturalism, where determinisms strongly stress circumstance at the expense of the main figures' activity, we have, underneath a surface appearance of "naturalism," an approach to tragic myth using a shamefaced validation for an unbelieving age. As contrary to Shakespeare or the romantics, in this case ethics follows physics in a supposedly causal chain (most often through biology). An analogous approach to fairytale is to be found in, say, the mimicry of "naturalism" in which Hollywood happy-end movies engage.

6. A first approach to the sociology of SF may be found in the special issue of Science-Fiction Studies, November 1977, edited and with an introduction by me.

"See here, Fara Clark," he bellowed from the doorway. "You can't get away with this. This is defiance of the law."

Fara was silent as His Honor waddled farther into the building. It was puzzling, almost amazing, that Mayor Dale would risk his plump, treasured body. Puzzlement ended as the mayor said in a low voice:

"Good work, Fara; I knew you had it in you. There's dozens of us in Glay behind you, so stick it out. I had to yell at you just now, because there's a crowd outside. Yell back at me, will you? Let's have a real name calling. But, first, a word of warning: the manager of the Automatic Repair Shop is on his way here with his bodyguards, two of them—"

Shakily, Fara watched the mayor go out. The crisis was at hand. He braced himself, thought: "Let them come, let them—"

It was easier than he had thought—for the men who entered the shop turned pale when they saw the holstered revolver. There was a violence of blustering, nevertheless, that narrowed finally down to:

"Look here," the man said, "we've got your note for twelve thousand one hundred credits. You're not going to deny you owe that money."

"I'll buy it back," said Fara in a stony voice, "for exactly half, not a cent more."

The strong-jawed young man looked at him for a long time. "We'll take it," he said finally, curtly.

Fara said: "I've got the agreement here—"

His first customer was old man Miser Lan Harris. Fara stared at the long-faced oldster with a vast surmise, and his first, amazed comprehension came of how the weapon shop must have settled on Harris' lot—by arrangement.

It was an hour after Harris had gone that Creel's mother stamped into the shop. She closed the door.

"Well," she said, "you did it, eh? Good work. I'm sorry if I seemed rough with you when you came to my place, but we weapon-shop supporters can't afford to take risks for those who are not on our side.

"But never mind that. I've come to take Creel home. The important thing is to return everything to normal as quickly as possible."

It was over; incredibly it was over. Twice, as he walked home that night, Fara stopped in midstride, and wondered if it had not all been a dream. The air was like wine. The little world of Glay spread before him, green and gracious, a peaceful paradise where time had stood still.

MIMSY WERE THE BOROGOVES

by Lewis Padgett

There's no use trying to describe either Unthahorsten or his surroundings, because, for one thing, a good many million years had passed since 1942 Anno Domini, and, for another, Unthahorsten wasn't on Earth, technically speaking. He was doing the equivalent of standing in the equivalent of a laboratory. He was preparing to test his time machine.

Having turned on the power, Unthahorsten suddenly realized that the Box was empty. Which wouldn't do at all. The device needed a control, a three-dimensional solid which would react to the conditions of another age. Otherwise Unthahorsten couldn't tell, on the machine's return, where and when it had been. Whereas a solid in the Box would automatically be subject to the entropy and cosmic ray bombardment of the other era, and Unthahorsten could measure the changes, both qualitative and quantitative, when the machine returned. The Calculators could then get to work and, presently, tell Unthahorsten that the Box had briefly visited 1,000,000 A.D., 1,000 A.D., or 1 A.D., as the case might be.

Not that it mattered, except to Unthahorsten. But he was childish in many respects.

There was little time to waste. The Box was beginning to glow and shiver. Unthahorsten stared around wildly, fled into the next glossatch, and groped in a storage bin there. He came up with an armful of peculiar-looking stuff. Uh-huh. Some of the discarded toys of his son Snowen, which the boy had brought with him when he had passed over from Earth, after mastering the necessary technique. Well, Snowen needed this junk no longer. He was conditioned, and had put away

First published in 1943 ("Lewis Padgett" was a pseudonym employed by Henry Kuttner and his wife, C. L. Moore)

childish things. Besides, though Unthahorsten's wife kept the toys for sentimental reasons, the experiment was more important.

Unthahorsten left the glossatch and dumped the assortment into the Box, slamming the cover shut just before the warning signal flashed. The Box went away. The manner of its departure hurt Unthahorsten's eyes.

He waited.

And he waited.

Eventually he gave up and built another time machine, with identical results. Snowen hadn't been annoyed by the loss of his old toys, nor had Snowen's mother, so Unthahorsten cleaned out the bin and dumped the remainder of his son's childhood relics in the second time machine's Box.

According to his calculations, this one should have appeared on Earth, in the latter part of the nineteenth century, A.D. If that actually occurred, the device remained there.

Disgusted, Unthahorsten decided to make no more time machines. But the mischief had been done. There were two of them, and the first—

Scott Paradine found it while he was playing hooky from the Glendale Grammar School. There was a geography test that day, and Scott saw no sense in memorizing place names—which in 1942 was a fairly sensible theory. Besides, it was the sort of warm spring day, with a touch of coolness in the breeze, which invited a boy to lie down in a field and stare at the occasional clouds till he fell asleep. Nuts to geography! Scott dozed.

About noon he got hungry, so his stocky legs carried him to a nearby store. There he invested his small hoard with penurious care and a sublime disregard for his gastric juices. He went down by the creek to feed.

Having finished his supply of cheese, chocolate, and cookies, and having drained the soda-pop bottle to its dregs, Scott caught tadpoles and studied them with a certain amount of scientific curiosity. He did not persevere. Something tumbled down the bank and thudded into the muddy ground near the water, so Scott, with a wary glance around, hurried to investigate.

It was a box. It was, in fact, the Box. The gadgetry hitched to it meant little to Scott, though he wondered why it was so fused and burnt. He pondered. With his jackknife he pried and probed, his tongue sticking out from a corner of his mouth—Hm-m-m. Nobody was around. Where had the box come from? Somebody must have left it here, and sliding soil had dislodged it from its precarious perch.

"That's a helix," Scott decided, quite erroneously. It was helical, but

it wasn't a helix, because of the dimensional warp involved. Had the thing been a model airplane, no matter how complicated, it would have held few mysteries to Scott. As it was, a problem was posed. Something told Scott that the device was a lot more complicated than the spring motor he had deftly dismantled last Friday.

But no boy has ever left a box unopened, unless forcibly dragged away. Scott probed deeper. The angles on this thing were funny. Short circuit, probably. That was why—*uh*! The knife slipped. Scott sucked his thumb and gave vent to experienced blasphemy.

Maybe it was a music box.

Scott shouldn't have felt depressed. The gadgetry would have given Einstein a headache and driven Steinmetz raving mad. The trouble was, of course, that the box had not yet completely entered the space-time continuum where Scott existed, and therefore it could not be opened. At any rate, not till Scott used a convenient rock to hammer the helical non-helix into a more convenient position.

He hammered it, in fact, from its contact point with the fourth dimension, releasing the space-time torsion it had been maintaining. There was a brittle snap. The box jarred slightly, and lay motionless, no longer only partially in existence. Scott opened it easily now.

The soft, woven helmet was the first thing that caught his eye, but he discarded that without much interest. It was just a cap. Next he lifted a square, transparent crystal block, small enough to cup in his palm—much too small to contain the maze of apparatus within it. In a moment Scott had solved that problem. The crystal was a sort of magnifying glass, vastly enlarging the things inside the block. Strange things they were, too. Miniature people, for example—

They moved. Like clockwork automatons, though much more smoothly. It was rather like watching a play. Scott was interested in their costumes, but fascinated by their actions. The tiny people were deftly building a house. Scott wished it would catch fire, so he could see the people put it out.

Flames licked up from the half-completed structure. The automatons, with a great deal of odd apparatus, extinguished the blaze.

It didn't take Scott long to catch on. But he was a little worried. The manikins would obey his thoughts. By the time he discovered that, he was frightened, and threw the cube from him.

Halfway up the bank, he reconsidered and returned. The crystal block lay partly in the water, shining in the sun. It was a toy; Scott sensed that, with the unerring instinct of a child. But he didn't pick it up immediately. Instead, he returned to the box and investigated its remaining contents.

He found some really remarkable gadgets. The afternoon passed all too quickly. Scott finally put the toys back in the box and lugged it home, grunting and puffing. He was quite red-faced by the time he arrived at the kitchen door.

His find he hid at the back of a closet in his own room upstairs. The crystal cube he slipped into his pocket, which already bulged with string, a coil of wire, two pennies, a wad of tinfoil, a grimy defense stamp, and a chunk of feldspar. Emma, Scott's two-year-old sister, waddled unsteadily in from the hall and said hello.

"Hello, Slug," Scott nodded, from his altitude of seven years and some months. He patronized Emma shockingly, but she didn't know the difference. Small, plump, and wide-eyed, she flopped down on the carpet and stared dolefully at her shoes.

"Tie 'em, Scotty, please?"

"Sap," Scott told her kindly, but knotted the laces. "Dinner ready yet?" Emma nodded.

"Let's see your hands." For a wonder they were reasonably clean, though probably not aseptic. Scott regarded his own paws thoughtfully and, grimacing, went to the bathroom, where he made a sketchy toilet. The tadpoles had left traces.

Dennis Paradine and his wife Jane were having a cocktail before dinner, downstairs in the living room. He was a youngish, middle-aged man with gray-shot hair and a thinnish, prim-mouthed face; he taught philosophy at the university. Jane was small, neat, dark, and very pretty. She sipped her Martini and said:

"New shoes. Like 'em?"

"Here's to crime," Paradine muttered absently. "Huh? Shoes? Not now. Wait till I've finished this. I had a bad day."

"Exams?"

"Yeah. Flaming youth aspiring toward manhood. I hope they die. In considerable agony. *Insh'Allah!*"

"I want the olive," Jane requested.

"I know," Paradine said despondently. "It's been years since I've tasted one myself. In a Martini, I mean. Even if I put six of 'em in your glass, you're still not satisfied."

"I want yours. Blood brotherhood. Symbolism. That's why."

Paradine regarded his wife balefully and crossed his long legs. "You sound like one of my students."

"Like that hussy Betty Dawson, perhaps?" Jane unsheathed her nails. "Does she still leer at you in that offensive way?"

"She does. The child is a neat psychological problem. Luckily she

isn't mine. If she were—" Paradine nodded significantly. "Sex consciousness and too many movies. I suppose she still thinks she can get a passing grade by showing me her knees. Which are, by the way, rather bony."

Jane adjusted her skirt with an air of complacent pride. Paradine uncoiled himself and poured fresh Martinis. "Candidly, I don't see the point of teaching those apes philosophy. They're all at the wrong age. Their habit-patterns, their methods of thinking, are already laid down. They're horribly conservative, not that they'd admit it. The only people who can understand philosophy are mature adults or kids like Emma and Scotty."

"Well, don't enroll Scotty in your course," Jane requested. "He isn't ready to be a *Philosophiae Doctor*. I hold no brief for child geniuses, especially when it's my son."

"Scotty would probably be better at it than Betty Dawson," Paradine grunted.

" 'He died an enfeebled old dotard at five,' " Jane quoted dreamily. "I want your olive."

"Here. By the way, I like the shoes."

"Thank you. Here's Rosalie. Dinner?"

"It's all ready, Miz Pa'dine," said Rosalie, hovering. "I'll call Miss Emma 'n' Mista' Scotty."

"I'll get 'em." Paradine put his head into the next room and roared, "Kids! Come and get it!"

Small feet scuttered down the stairs. Scott dashed into view, scrubbed and shining, a rebellious cowlick aimed at the zenith. Emma pursued, levering herself carefully down the steps. Halfway she gave up the attempt to descend upright and reversed, finishing the task monkey-fashion, her small behind giving an impression of marvelous diligence upon the work in hand. Paradine watched, fascinated by the spectacle, till he was hurled back by the impact of his son's body.

"Hi, dad!" Scott shrieked.

Paradine recovered himself and regarded Scott with dignity. "Hi, yourself. Help me in to dinner. You've dislocated at least one of my hip joints."

But Scott was already tearing into the next room, where he stepped on Jane's new shoes in an ecstasy of affection, burbled an apology, and rushed off to find his place at the dinner table. Paradine cocked up an eyebrow as he followed, Emma's pudgy hand desperately gripping his forefinger.

"Wonder what the young devil's been up to?"

"No good, probably," Jane sighed. "Hello, darling. Let's see your ears."

"They're *clean*. Mickey licked 'em."

"Well, that Airedale's tongue is far cleaner than your ears," Jane pondered, making a brief examination. "Still, as long as you can hear, the dirt's only superficial."

"Fisshul?"

"Just a little, that means." Jane dragged her daughter to the table and inserted her legs into a high chair. Only lately had Emma graduated to the dignity of dining with the rest of the family, and she was, as Paradine remarked, all eat up with pride by the prospect. Only babies spilled food, Emma had been told. As a result, she took such painstaking care in conveying her spoon to her mouth that Paradine got the jitters whenever he watched.

"A conveyer belt would be the thing for Emma," he suggested, pulling out a chair for Jane. "Small buckets of spinach arriving at her face at stated intervals."

Dinner proceeded uneventfully until Paradine happened to glance at Scott's plate. "Hello, there. Sick? Been stuffing yourself at lunch?"

Scott thoughtfully examined the food still left before him. "I've had all I need, dad," he explained.

"You usually eat all you can hold, and a great deal more," Paradine said. "I know growing boys need several tons of foodstuff a day, but you're below par tonight. Feel O.K.?"

"Uh-huh. Honest, I've had all I need."

"All you *want*?"

"Sure. I eat different."

"Something they taught you at school?" Jane inquired.

Scott shook his head solemnly.

"Nobody taught me. I found it out myself. I use spit."

"Try again," Paradine suggested. "It's the wrong word."

"Uh . . . s-saliva. Hm-m-m?"

"Uh-huh. More pepsin? Is there pepsin in the salivary juices, Jane? I forget."

"There's poison in mine," Jane remarked. "Rosalie's left lumps in the mashed potatoes again."

But Paradine was interested. "You mean you're getting everything possible out of your food—no wastage—and eating less?"

Scott thought that over. "I guess so. It's not just the sp . . . saliva. I sort of measure how much to put in my mouth at once, and what stuff to mix up. I dunno. I just do it."

"Hm-m-m," said Paradine, making a note to check up later. "Rather a revolutionary idea." Kids often get screwy notions, but this one might not be so far off the beam. He pursed his lips. "Eventually I suppose people will eat quite differently—I mean the *way* they eat, as well as what. What they eat, I mean. Jane, our son shows signs of becoming a genius."

"Oh?"

"It's a rather good point in dietetics he just made. Did you figure it out yourself, Scott?"

"Sure," the boy said, and really believed it.

"Where'd you get the idea?"

"Oh, I—" Scott wriggled. "I dunno. It doesn't mean much, I guess."

Paradine was unreasonably disappointed. "But surely—"

"S-s-s-spit!" Emma shrieked, overcome by a sudden fit of badness. "*Spit!*" she attempted to demonstrate, but succeeded only in dribbling into her bib.

With a resigned air Jane rescued and reproved her daughter, while Paradine eyed Scott with rather puzzled interest. But it was not till after dinner, in the living room, that anything further happened.

"Any homework?"

"N-no," Scott said, flushing guiltily. To cover his embarrassment he took from his pocket a gadget he had found in the box, and began to unfold it. The result resembled a tesseract, strung with beads. Paradine didn't see it at first, but Emma did. She wanted to play with it.

"No. Lay off, Slug," Scott ordered. "You can watch me." He fumbled with the beads, making soft, interested noises. Emma extended a fat forefinger and yelped.

"Scotty," Paradine said warningly.

"I didn't hurt her."

"Bit me. It did," Emma mourned.

Paradine looked up. He frowned, staring. What in—

"Is that an abacus?" he asked. "Let's see it, please."

Somewhat unwillingly Scott brought the gadget across to his father's chair. Paradine blinked. The "abacus," unfolded, was more than a foot square, composed of thin, rigid wires that interlocked here and there. On the wires the colored beads were strung. They could be slid back and forth, and from one support to another, even at the points of jointure. But—a pierced bead couldn't cross *interlocking* wires—

So, apparently, they weren't pierced. Paradine looked closer. Each small sphere had a deep groove running around it, so that it could be revolved and slid along the wire at the same time. Paradine tried to pull one free. It clung as though magnetically. Iron? It looked more like plastic.

The framework itself—Paradine wasn't a mathematician. But the angles formed by the wires were vaguely shocking, in their ridiculous lack of Euclidean logic. They were a maze. Perhaps that's what the gadget was—a puzzle.

"Where'd you get this?"

"Uncle Harry gave it to me," Scott said on the spur of the moment. "Last Sunday, when he came over." Uncle Harry was out of town, a circumstance Scott well knew. At the age of seven, a boy soon learns that the vagaries of adults follow a certain definite pattern, and that they are fussy about the donors of gifts. Moreover, Uncle Harry would not return for several weeks; the expiration of that period was unimaginable to Scott, or, at least, the fact that his lie would ultimately be discovered meant less to him than the advantages of being allowed to keep the toy.

Paradine found himself growing slightly confused as he attempted to manipulate the beads. The angles were vaguely illogical. It was like a puzzle. This red bead, if slid along *this* wire to *that* junction, should reach *there*—but it didn't. A maze, odd, but no doubt instructive. Paradine had a well-founded feeling that he'd have no patience with the thing himself.

Scott did, however, retiring to a corner and sliding beads around with much fumbling and grunting. The beads *did* sting, when Scott chose the wrong ones or tried to slide them in the wrong direction. At last he crowed exultantly.

"I did it, dad!"

"Eh? What? Let's see." The device looked exactly the same to Paradine, but Scott pointed and beamed.

"I made it disappear."

"It's still there."

"That blue bead. It's gone now."

Paradine didn't believe that, so he merely snorted. Scott puzzled over the framework again. He experimented. This time there were no shocks, even slight. The abacus had showed him the correct method. Now it was up to him to do it on his own. The bizarre angles of the wires seemed a little less confusing now, somehow.

It was a most instructive toy—

It worked, Scott thought, rather like the crystal cube. Reminded of that gadget, he took it from his pocket and relinquished the abacus to Emma, who was struck dumb with joy. She fell to work sliding the beads, this time without protesting against the shocks—which, indeed, were very minor—and, being imitative, she managed to make a bead disappear almost as quickly as had Scott. The blue bead reappeared—but Scott didn't notice. He had forethoughtfully retired into an angle of the chesterfield with an overstuffed chair and amused himself with the cube.

There were little people inside the thing, tiny manikins much enlarged by the magnifying properties of the crystal, and they moved, all right. They built a house. It caught fire, with realistic-seeming flames, and stood by waiting. Scott puffed urgently. "Put it *out*!"

But nothing happened. Where was that queer fire engine, with revolving arms, that had appeared before? Here it was. It came sailing into the picture and stopped. Scott urged it on.

This was fun. Like putting on a play, only more real. The little people did what Scott told them, inside of his head. If he made a mistake, they waited till he'd found the right way. They even posed new problems for him—

The cube, too, was a most instructive toy. It was teaching Scott, with alarming rapidity—and teaching him very entertainingly. But it gave him no really new knowledge as yet. He wasn't ready. Later—later—

Emma grew tired of the abacus and went in search of Scott. She couldn't find him, even in his room, but once there the contents of the closet intrigued her. She discovered the box. It contained treasure-trove—a doll, which Scott had already noticed but discarded with a sneer. Squealing, Emma brought the doll downstairs, squatted in the middle of the floor, and began to take it apart.

"Darling! What's that?"

"Mr. Bear!"

Obviously it wasn't Mr. Bear, who was blind, earless, but comforting in his soft fatness. But all dolls were named Mr. Bear to Emma.

Jane Paradine hesitated. "Did you take that from some other little girl?"

"I didn't. She's mine."

Scott came out from his hiding place, thrusting the cube into his pocket. "Uh—that's from Uncle Harry."

"Did Uncle Harry give that to you, Emma?"

"He gave it to me for Emma," Scott put in hastily, adding another stone to his foundation of deceit. "Last Sunday."

"You'll break it, dear."

Emma brought the doll to her mother. "She comes apart. See?"

"Oh? It . . . *ugh*!" Jane sucked in her breath. Paradine looked up quickly.

"What's up?"

She brought the doll over to him, hesitated, and then went into the dining room, giving Paradine a significant glance. He followed, closing the door. Jane had already placed the doll on the cleared table.

"This isn't very nice, is it, Denny?"

"Hm-m-m." It was rather unpleasant, at first glance. One might have expected an anatomical dummy in a medical school, but a child's doll—

The thing came apart in sections, skin, muscles, organs, miniature but quite perfect, as far as Paradine could see. He was interested. "Dunno. Such things haven't the same connotations to a kid—"

"Look at that liver. Is it a liver?"

"Sure. Say, I . . . this is funny."

"What?"

"It isn't anatomically perfect, after all." Paradine pulled up a chair. "The digestive tract's too short. No large intestine. No appendix, either."

"Should Emma have a thing like this?"

"I wouldn't mind having it myself," Paradine said. "Where on earth did Harry pick it up? No, I don't see any harm in it. Adults are conditioned to react unpleasantly to innards. Kids don't. They figure they're solid inside, like a potato. Emma can get a sound working knowledge of physiology from this doll."

"But what are those? Nerves?"

"No, these are the nerves. Arteries here; veins here. Funny sort of aorta—" Paradine looked baffled. "That . . . what's Latin for network? Anyway . . . huh? *Rita? Rata?*"

"*Rales*," Jane suggested at random.

"That's a sort of breathing," Paradine said crushingly. "I can't figure out what this luminous network of stuff is. It goes all through the body, like nerves."

"Blood."

"Nope. Not circulatory, not neural—funny! It seems to be hooked up with the lungs."

They became engrossed, puzzling over the strange doll. It was made with remarkable perfection of detail, and that in itself was strange, in view of the physiological variation from the norm. "Wait'll I get that Gould," Paradine said, and presently was comparing the doll with anatomical charts. He learned little, except to increase his bafflement.

But it was more fun than a jigsaw puzzle.

Meanwhile, in the adjoining room, Emma was sliding the beads to and fro in the abacus. The motions didn't seem so strange now. Even when the beads vanished. She could almost follow that new direction—almost—

Scott panted, staring into the crystal cube and mentally directing, with many false starts, the building of a structure somewhat more complicated than the one which had been destroyed by fire. He, too, was learning—being conditioned—

Paradine's mistake, from a completely anthropomorphic standpoint, was that he didn't get rid of the toys instantly. He did not realize their significance, and, by the time he did, the progression of circumstances had got well under way. Uncle Harry remained out of town, so Paradine couldn't check with him. Too, the midterm exams were on, which meant arduous mental effort and complete exhaustion at night; and Jane was slightly ill for a week or so. Emma and Scott had free rein with the toys.

"What," Scott asked his father one evening, "is a wabe, dad?"

"Wave?"

He hesitated. "I . . . don't *think* so. Isn't wabe right?"

"Wab is Scot for web. That it?"

"I don't see how," Scott muttered, and wandered off, scowling, to amuse himself with the abacus. He was able to handle it quite deftly now. But, with the instinct of children for avoiding interruptions, he and Emma usually played with the toys in private. Not obviously, of course—but the more intricate experiments were never performed under the eye of an adult.

Scott was learning fast. What he now saw in the crystal cube had little relationship to the original simple problems. But they were fascinatingly technical. Had Scott realized that his education was being guided and supervised—though merely mechanically—he would probably have lost interest. As it was, his initiative was never quashed.

Abacus, cube, doll—and other toys the children found in the box—

Neither Paradine nor Jane guessed how much of an effect the contents of the time machine were having on the kids. How could they? Youngsters are instinctive dramatists, for purposes of self-protection. They have not yet fitted themselves to the exigencies—to them partially inexplicable—of a mature world. Moreover, their lives are complicated by human variables. They are told by one person that playing in the mud is permissible, but that, in their excavations, they must not uproot flowers or small trees. Another adult vetoes mud *per se*. The Ten Commandments are not carved on stone; they vary, and children are helplessly dependent on the caprice of those who give them birth and feed and clothe them. And tyrannize. The young animal does not resent that benevolent tyranny, for it is an essential part of nature. He is, however, an individualist, and maintains his integrity by a subtle, passive fight.

Under the eyes of an adult he changes. Like an actor on-stage, when he remembers, he strives to please, and also to attract attention to him-

self. Such attempts are not unknown to maturity. But adults are less obvious—to other adults.

It is difficult to admit that children lack subtlety. Children are different from the mature animal because they think in another way. We can more or less easily pierce the pretenses they set up—but they can do the same to us. Ruthlessly a child can destroy the pretenses of an adult. Iconoclasm is their prerogative.

Foppishness, for example. The amenities of social intercourse, exaggerated not quite to absurdity. The gigolo—

"Such *savoir faire*! Such punctilious courtesy!" The dowager and the blond young thing are often impressed. Men have less pleasant comments to make. But the child goes to the root of the matter.

"You're *silly*!"

How can an immature human understand the complicated system of social relationships? He can't. To him, an exaggeration of natural courtesy is silly. In his functional structure of life-patterns, it is rococo. He is an egotistic little animal, who cannot visualize himself in the position of another—certainly not an adult. A self-contained, almost perfect natural unit, his wants supplied by others, the child is much like a unicellular creature floating in the blood stream, nutriment carried to him, waste products carried away—

From the standpoint of logic, a child is rather horribly perfect. A baby may be even more perfect, but so alien to an adult that only superficial standards of comparison apply. The thought processes of an infant are completely unimaginable. But babies think, even before birth. In the womb they move and sleep, not entirely through instinct. We are conditioned to react rather peculiarly to the idea that a nearly-viable embryo may think. We are surprised, shocked into laughter, and repelled. Nothing human is alien.

But a baby is not human. An embryo is far less human.

That, perhaps, was why Emma learned more from the toys than did Scott. He could communicate his thoughts, of course; Emma could not, except in cryptic fragments. The matter of the scrawls, for example—

Give a young child pencil and paper, and he will draw something which looks different to him than to an adult. The absurd scribbles have little resemblance to a fire engine, but it *is* a fire engine, to a baby. Perhaps it is even three-dimensional. Babies think differently and see differently.

Paradine brooded over that, reading his paper one evening and watching Emma and Scott communicate. Scott was questioning his sister. Sometimes he did it in English. More often he had resource to gibberish and sign language. Emma tried to reply, but the handicap was too great.

Finally Scott got pencil and paper. Emma liked that. Tongue in cheek, she laboriously wrote a message. Scott took the paper, examined it, and scowled.

"That isn't right, Emma," he said.

Emma nodded vigorously. She seized the pencil again and made more scrawls. Scott puzzled for a while, finally smiled rather hesitantly, and got up. He vanished into the hall. Emma returned to the abacus.

Paradine rose and glanced down at the paper, with some mad thought that Emma might abruptly have mastered calligraphy. But she hadn't. The paper was covered with meaningless scrawls, of a type familiar to any parent. Paradine pursed his lips.

It might be a graph showing the mental variations of a manic-depressive cockroach, but probably wasn't. Still, it no doubt had meaning to Emma. Perhaps the scribble represented Mr. Bear.

Scott returned, looking pleased. He met Emma's gaze and nodded. Paradine felt a twinge of curiosity.

"Secrets?"

"Nope. Emma . . . uh . . . asked me to do something for her."

"Oh." Paradine, recalling instances of babies who had babbled in unknown tongues and baffled linguists, made a note to pocket the paper when the kids had finished with it. The next day he showed the scrawl to Elkins at the university. Elkins had a sound working knowledge of many unlikely languages, but he chuckled over Emma's venture into literature.

"Here's a free translation, Dennis. Quote. I don't know what this means, but I kid the hell out of my father with it. Unquote."

The two men laughed and went off to their classes. But later Paradine was to remember the incident. Especially after he met Holloway. Before that, however, months were to pass, and the situation to develop even further toward its climax.

Perhaps Paradine and Jane had evinced too much interest in the toys. Emma and Scott took to keeping them hidden, playing with them only in private. They never did it overtly, but with a certain unobtrusive caution. Nevertheless, Jane especially was somewhat troubled.

She spoke to Paradine about it one evening. "That doll Harry gave Emma."

"Yeah?"

"I was downtown today and tried to find out where it came from. No soap."

"Maybe Harry bought it in New York."

Jane was unconvinced. "I asked them about the other things, too.

They showed me their stock—Johnsons's a big store, you know. But there's nothing like Emma's abacus."

"Hm-m-m." Paradine wasn't much interested. They had tickets for a show that night, and it was getting late. So the subject was dropped for the nonce.

Later it cropped up again, when a neighbor telephoned Jane.

"Scotty's never been like that, Denny. Mrs. Burns said he frightened the devil out of her Francis."

"Francis? A little fat bully of a punk, isn't he? Like his father. I broke Burns' nose for him once, when we were sophomores."

"Stop boasting and listen," Jane said, mixing a highball. "Scott showed Francis something that scared him. Hadn't you better—"

"I suppose so." Paradine listened. Noises in the next room told him the whereabouts of his son. "Scotty!"

"Bang," Scott said, and appeared smiling. "I killed 'em all. Space pirates. You want me, dad?"

"Yes. If you don't mind leaving the space pirates unburied for a few minutes. What did you do to Francis Burns?"

Scott's blue eyes reflected incredible candor. "Huh?"

"Try hard. You can remember, I'm sure."

"Uh. Oh, that. I didn't do nothing."

"Anything," Jane corrected absently.

"Anything. Honest. I just let him look into my television set, and it . . . it scared him."

"Television set?"

Scott produced the crystal cube. "It isn't really that. See?"

Paradine examined the gadget, startled by the magnification. All he could see, though, was a maze of meaningless colored designs.

"Uncle Harry—"

Paradine reached for the telephone. Scott gulped. "Is . . . is Uncle Harry back in town?"

"Yeah."

"Well, I gotta take a bath." Scott headed for the door. Paradine met Jane's gaze and nodded significantly.

Harry was home, but disclaimed all knowledge of the peculiar toys. Rather grimly, Paradine requested Scott to bring down from his room all of the playthings. Finally they lay in a row on the table, cube, abacus, doll, helmetlike cap, several other mysterious contraptions. Scott was cross-examined. He lied valiantly for a time, but broke down at last and bawled, hiccuping his confession.

"Get the box these things came in," Paradine ordered. "Then head for bed."

"Are you . . . *hup*! . . . gonna punish me, daddy?"

"For playing hooky and lying, yes. You know the rules. No more shows for two weeks. No sodas for the same period."

Scott gulped. "You gonna keep my things?"

"I don't know yet."

"Well . . . g'night, daddy. G'night, mom."

After the small figure had gone upstairs, Paradine dragged a chair to the table and carefully scrutinized the box. He poked thoughtfully at the fused gadgetry. Jane watched.

"What is it, Denny?"

"Dunno. Who'd leave a box of toys down by the creek?"

"It might have fallen out of a car."

"Not at that point. The road doesn't hit the creek north of the railroad trestle. Empty lots—nothing else." Paradine lit a cigarette. "Drink, honey?"

"I'll fix it." Jane went to work, her eyes troubled. She brought Paradine a glass and stood behind him, ruffling his hair with her fingers. "Is anything wrong?"

"Of course not. Only—where did these toys come from?"

"Johnsons's didn't know, and they get their stock from New York."

"I've been checking up, too," Paradine admitted. "That doll"—he poked it—"rather worried me. Custom jobs, maybe, but I wish I knew who'd made 'em."

"A psychologist? The abacus—don't they give people tests with such things?"

Paradine snapped his fingers. "Right! And say! There's a guy going to speak at the university next week, fellow named Holloway, who's a child psychologist. He's a big shot, with quite a reputation. He might know something about it."

"Holloway? I don't—"

"Rex Holloway. He's . . . hm-m-m! He doesn't live far from here. Do you suppose he might have had these things made himself?"

Jane was examining the abacus. She grimaced and drew back. "If he did, I don't like him. But see if you can find out, Denny."

Paradine nodded. "I shall."

He drank his highball, frowning. He was vaguely worried. But he wasn't scared—yet.

Rex Holloway was a fat, shiny man, with a bald head and thick spectacles, above which his thick, black brows lay like bushy caterpillars. Paradine brought him home to dinner one night a week later. Hol-

loway did not appear to watch the children, but nothing they did or said was lost on him. His gray eyes, shrewd and bright, missed little.

The toys fascinated him. In the living room the three adults gathered around the table, where the playthings had been placed. Holloway studied them carefully as he listened to what Jane and Paradine had to say. At last he broke his silence.

"I'm glad I came here tonight. But not completely. This is very disturbing, you know."

"Eh?" Paradine stared, and Jane's face showed her consternation. Holloway's next words did not calm them.

"We are dealing with madness."

He smiled at the shocked looks they gave him. "All children are mad, from an adult viewpoint. Ever read Hughes' 'High Wind in Jamaica'?"

"I've got it." Paradine secured the little book from its shelf. Holloway extended a hand, took it, and flipped the pages till he had found the place he wanted. He read aloud:

" 'Babies of course are not human—they are animals, and have a very ancient and ramified culture, as cats have, and fishes, and even snakes; the same in kind as these, but much more complicated and vivid, since babies are, after all, one of the most developed species of the lower vertebrates. In short, babies have minds which work in terms and categories of their own which cannot be translated into the terms and categories of the human mind.' "

Jane tried to take that calmly, but couldn't. "You don't mean that Emma—"

"Could you think like your daughter?" Holloway asked. "Listen: 'One can no more think like a baby than one can think like a bee.' "

Paradine mixed drinks. Over his shoulder he said, "You're theorizing quite a bit, aren't you? As I get it, you're implying that babies have a culture of their own, even a high standard of intelligence."

"Not necessarily. There's no yardstick, you see. All I say is that babies think in other ways than we do. Not necessarily *better*—that's a question of relative values. But with a different manner of extension—" He sought for words, grimacing.

"Fantasy," Paradine said, rather rudely, but annoyed because of Emma. "Babies don't have different senses from ours."

"Who said they did?" Holloway demanded. "They use their minds in a different way, that's all. But it's quite enough!"

"I'm trying to understand," Jane said slowly. "All I can think of is my Mixmaster. It can whip up batter and potatoes, but it can squeeze oranges, too."

"Something like that. The brain's a colloid, a very complicated machine. We don't know much about its potentialities. We don't even know how much it can grasp. But it *is* known that the mind becomes conditioned as the human animal matures. It follows certain familiar theorems, and all thought thereafter is pretty well based on patterns taken for granted. Look at this." Holloway touched the abacus. "Have you experimented with it?"

"A little," Paradine said.

"But not much. Eh?"

"Well—"

"Why not?"

"It's pointless," Paradine complained. "Even a puzzle has to have some logic. But those crazy angles—"

"Your mind has been conditioned to Euclid," Holloway said. "So this—thing—bores us, and seems pointless. But a child knows nothing of Euclid. A different sort of geometry from ours wouldn't impress him as being illogical. He believes what he sees."

"Are you trying to tell me that this gadget's got a fourth-dimensional extension?" Paradine demanded.

"Not visually, anyway," Holloway denied. "All I say is that our minds, conditioned to Euclid, can see nothing in this but an illogical tangle of wires. But a child—especially a baby—might see more. Not at first. It'd be a puzzle, of course. Only a child wouldn't be handicapped by too many preconceived ideas."

"Hardening of the thought-arteries," Jane interjected.

Paradine was not convinced. "Then a baby could work calculus better than Einstein? No, I don't mean that. I can see your point, more or less clearly. Only—"

"Well, look. Let's suppose there are two kinds of geometry—we'll limit it, for the sake of the example. Our kind, Euclidean, and another, which we'll call x. X hasn't much relationship to Euclid. It's based on different theorems. Two and two needn't equal four in it; they could equal y_2, or they might not even *equal*. A baby's mind is not yet conditioned, except by certain questionable factors of heredity and environment. Start the infant on Euclid—"

"Poor kid," Jane said.

Holloway shot her a quick glance. "The basis of Euclid. Alphabet blocks. Math, geometry, algebra—they come much later. We're familiar with that development. On the other hand, start the baby with the basic principles of our x logic."

"Blocks? What kind?"

Holloway looked at the abacus. "It wouldn't make much sense to u
But we've been conditioned to Euclid."

Paradine poured himself a stiff shot of whiskey. "That's pretty awfu
You're not limiting to math."

"Right! I'm not limiting it at all. How can I? I'm not conditioned t
x logic."

"There's the answer," Jane said, with a sigh of relief. "Who is? It'
take such a person to make the sort of toys you apparently think thes
are."

Holloway nodded, his eyes, behind the thick lenses, blinking. "Such
people may exist."

"Where?"

"They might prefer to keep hidden."

"Supermen?"

"I wish I knew. You see, Paradine, we've got yardstick trouble again
By our standards these people might seem super-doopers in certain re-
spects. In others they might seem moronic. It's not a quantitative dif-
ference; it's qualitative. They *think* different. And I'm sure we can do
things they can't."

"Maybe they wouldn't want to," Jane said.

Paradine tapped the fused gadgetry on the box. "What about this? I
implies—"

"A purpose, sure."

"Transportation?"

"One thinks of that first. If so, the box might have come from any-
where."

"Where—things are—*different*?" Paradine asked slowly.

"Exactly. In space, or even time. I don't know; I'm a pyschologist.
Unfortunately I'm conditioned to Euclid, too."

"Funny place it must be," Jane said. "Denny, get rid of those toys."

"I intend to."

Holloway picked up the crystal cube. "Did you question the children
much?"

Paradine said, "Yeah. Scott said there were people in that cube when
he first looked. I asked him what was in it now."

"What did he say?" The psychologist's eyes widened.

"He said they were building a place. His exact words. I asked him
who—people? But he couldn't explain."

"No, I suppose not," Holloway muttered. "It must be progressive.
How long have the children had these toys?"

"About three months, I guess."

"Time enough. The perfect toy, you see, is both instructive and me-

chanical. It should do things, to interest a child, and it should teach,
preferably unobtrusively. Simple problems at first. Later—"

"*X* logic," Jane said, white-faced.

Paradine cursed under his breath. "Emma and Scott are perfectly
normal!"

"Do you know how their minds work—now?"

Holloway didn't pursue the thought. He fingered the doll. "It would
be interesting to know the conditions of the place where these things
came from. Induction doesn't help a great deal, though. Too many fac-
tors are missing. We can't visualize a world based on the *x* factor—
environment adjusted to minds thinking in *x* patterns. This luminous
network inside the doll. It could be anything. It could exist inside us,
though we haven't discovered it yet. When we find the right stain—"
He shrugged. "What do you make of this?"

It was a crimson globe, two inches in diameter, with a protruding
knob upon its surface.

"What could anyone make of it?"

"Scott? Emma?"

"I hadn't even seen it till about three weeks ago. Then Emma started
to play with it." Paradine nibbled his lip. "After that, Scott got inter-
ested."

"Just what do they do?"

"Hold it up in front of them and move it back and forth. No particular
pattern of motion."

"No Euclidean pattern," Holloway corrected. "At first they couldn't
understand the toy's purpose. They had to be educated up to it."

"That's horrible," Jane said.

"Not to them. Emma is probably quicker at understanding *x* than is
Scott, for her mind isn't yet conditioned to this environment."

Paradine said, "But I can remember plenty of things I did as a child.
Even as a baby."

"Well?"

"Was I—mad—then?"

"The things you don't remember are the criterion of your madness,"
Holloway retorted. "But I use the word 'madness' purely as a conve-
nient symbol for the variation from the known human norm. The arbi-
trary standard of sanity."

Jane put down her glass. "You've said that induction was difficult,
Mr. Holloway. But it seems to me you're making a great deal of it from
very little. After all, these toys—"

"I *am* a psychologist, and I've specialized in children. I'm not a

layman. These toys mean a great deal to me, chiefly because they mean so little."

"You might be wrong."

"Well, I rather hope I am. I'd like to examine the children."

Jane rose in arms. "How?"

After Holloway had explained, she nodded, though still a bit hesitantly. "Well, that's all right. But they're not guinea pigs."

The psychologist patted the air with a plump hand. "My dear girl! I'm not a Frankenstein. To me the individual is the prime factor—naturally, since I work with minds. If there's anything wrong with the youngsters, I want to cure them."

Paradine put down his cigarette and slowly watched blue smoke spiral up, wavering in an unfelt draft. "Can you give a prognosis?"

"I'll try. That's all I can say. If the undeveloped minds have been turned into the *x* channel, it's necessary to divert them back. I'm not saying that's the wisest thing to do, but it probably is from our standards. After all, Emma and Scott will have to live in this world."

"Yeah. Yeah. I can't believe there's much wrong. They seem about average, thoroughly normal."

"Superficially they may seem so. They've no reason for acting abnormally, have they? And how can you tell if they—think differently?"

"I'll call 'em," Paradine said.

"Make it informal, then. I don't want them to be on guard."

Jane nodded toward the toys. Holloway said, "Leave the stuff there, eh?"

But the psychologist, after Emma and Scott were summoned, made no immediate move at direct questioning. He managed to draw Scott unobtrusively into the conversation, dropping key words now and then. Nothing so obvious as a word-association test—co-operation is necessary for that.

The most interesting development occurred when Holloway took up the abacus. "Mind showing me how this works?"

Scott hesitated. "Yes, sir. Like this—" He slid a bead deftly through the maze, in a tangled course, so swiftly that no one was quite sure whether or not it ultimately vanished. It might have been merely legerdemain. Then, again—

Holloway tried. Scott watched, wrinkling his nose.

"That right?"

"Uh-huh. It's gotta go *there*—"

"Here? Why?"

"Well, that's the only way to make it work."

But Holloway was conditioned to Euclid. There was no apparent reason why the bead should slide from this particular wire to the other. It looked like a random factor. Also, Holloway suddenly noticed, this wasn't the path the bead had taken previously, when Scott had worked the puzzle. At least, as well as he could tell.

"Will you show me again?"

Scott did, and twice more, on request. Holloway blinked through his glasses. Random, yes. And a variable. Scott moved the bead along a different course each time.

Somehow, none of the adults could tell whether or not the bead vanished. If they had expected to see it disappear, their reactions might have been different.

In the end nothing was solved. Holloway, as he said good night, seemed ill at ease.

"May I come again?"

"I wish you would," Jane told him. "Any time. You still think—"

He nodded. "The children's minds are not reacting normally. They're not dull at all, but I've the most extraordinary impression that they arrive at conclusions in a way we don't understand. As though they used algebra while we used geometry. The same conclusion, but a different method of reaching it."

"What about the toys?" Paradine asked suddenly.

"Keep them out of the way. I'd like to borrow them, if I may—"

That night Paradine slept badly. Holloway's parallel had been ill-chosen. It led to disturbing theories. The *x* factor—The children were using the equivalent of algebraic reasoning, while adults used geometry.

Fair enough. Only—

Algebra can give you answers that geometry cannot, since there are certain terms and symbols which cannot be expressed geometrically. Suppose *x* logic showed conclusions inconceivable to an adult mind?

"Damn!" Paradine whispered. Jane stirred beside him.

"Dear? Can't you sleep either?"

"No." He got up and went into the next room. Emma slept peacefully as a cherub, her fat arm curled around Mr. Bear. Through the open doorway Paradine could see Scott's dark head motionless on the pillow.

Jane was beside him. He slipped his arm around her.

"Poor little people," she murmured. "And Holloway called them mad. I think we're the ones who are crazy, Dennis."

"Uh-huh. We've got jitters."

Scott stirred in his sleep. Without awakening, he called what was obviously a question, though it did not seem to be in any particular language. Emma gave a little mewling cry that changed pitch sharply.

She had not wakened. The children lay without stirring.

But Paradine thought, with a sudden sickness in his middle, it was exactly as though Scott had asked Emma something, and she had replied.

Had their minds changed so that even—sleep—was different to them?

He thrust the thought away. "You'll catch cold. Let's get back to bed. Want a drink?"

"I think I do," Jane said, watching Emma. Her hand reached out blindly toward the child; she drew it back. "Come on. We'll wake the kids."

They drank a little brandy together, but said nothing. Jane cried in her sleep, later.

Scott was not awake, but his mind worked in slow, careful building. Thus—

"They'll take the toys away. The fat man . . . listava dangerous, maybe. But the Ghoric direction won't show . . . evankrus dun-hasn't-them. Intransdection . . . bright and shiny. Emma. She's more khopranik-high now than . . . I still don't see how to . . . thavarar lixery dist—"

A little of Scott's thoughts could still be understood. But Emma had become conditioned to *x* much faster.

She was thinking, too.

Not like an adult or a child. Not even like a human. Except, perhaps, a human of a type shockingly unfamiliar to *genus homo*.

Sometimes Scott himself had difficulty in following her thoughts.

If it had not been for Holloway, life might have settled back into an almost normal routine. The toys were no longer active reminders. Emma still enjoyed her dolls and sand pile, with a thoroughly explicable delight. Scott was satisfied with baseball and his chemical set. They did everything other children did, and evinced few, if any, flashes of abnormality. But Holloway seemed to be an alarmist.

He was having the toys tested, with rather idiotic results. He drew endless charts and diagrams, corresponded with mathematicians, engineers, and other psychologists, and went quietly crazy trying to find rhyme or reason in the construction of the gadgets. The box itself, with its cryptic machinery, told nothing. Fusing had melted too much of the stuff into slag. But the toys—

It was the random element that baffled investigation. Even that was a matter of semantics. For Holloway was convinced that it wasn't really random. There just weren't enough known factors. No adult could work the abacus, for example. And Holloway thoughtfully refrained from letting a child play with the thing.

The crystal cube was similarly cryptic. It showed a mad pattern of colors, which sometimes moved. In this it resembled a kaleidoscope. But the shifting of balance and gravity didn't affect it. Again the random factor.

Or, rather, the unknown. The *x* pattern. Eventually Paradine and Jane slipped back into something like complacence, with a feeling that the children had been cured of their mental quirk, now that the contributing cause had been removed. Certain of the actions of Emma and Scott gave them every reason to quit worrying.

For the kids enjoyed swimming, hiking, movies, games, the normal functional toys of this particular time-sector. It was true that they failed to master certain rather puzzling mechanical devices which involved some calculation. A three-dimensional jigsaw globe Paradine had picked up, for example. But he found that difficult himself.

Once in a while there were lapses. Scott was hiking with his father one Saturday afternoon, and the two had paused at the summit of a hill. Beneath them a rather lovely valley was spread.

"Pretty, isn't it?" Paradine remarked.

Scott examined the scene gravely. "It's all wrong," he said.

"Eh?"

"I dunno."

"What's wrong about it?"

"Gee—" Scott lapsed into puzzled silence. "I dunno."

The children had missed their toys, but not for long. Emma recovered first, though Scott still moped. He held unintelligible conversations with his sister, and studied meaningless scrawls she drew on paper he supplied. It was almost as though he was consulting her, anent difficult problems beyond his grasp.

If Emma understood more, Scott had more real intelligence, and manipulatory skill as well. He built a gadget with his Meccano set, but was dissatisfied. The apparent cause of his dissatisfaction was exactly why Paradine was relieved when he viewed the structure. It was the sort of thing a normal boy would make, vaguely reminiscent of a cubistic ship.

It was a bit too normal to please Scott. He asked Emma more questions, though in private. She thought for a time, and then made more scrawls with an awkwardly clutched pencil.

"Can you read that stuff?" Jane asked her son one morning.

"Not read it, exactly. I can tell what she means. Not all the time, but mostly."

"Is it writing?"

"N-no. It doesn't mean what it *looks* like."

"Symbolism," Paradine suggested over his coffee.

Jane looked at him, her eyes widening. "Denny—"

He winked and shook his head. Later, when they were alone, he said, "Don't let Holloway upset you. I'm not implying that the kids are corresponding in an unknown tongue. If Emma draws a squiggle and says it's a flower, that's an arbitrary rule—Scott remembers that. Next time she draws the same sort of squiggle, or tries to—well!"

"Sure," Jane said doubtfully. "Have you noticed Scott's been doing a lot of reading lately?"

"I noticed. Nothing unusual, though. No Kant or Spinoza."

"He browses, that's all."

"Well, so did I, at his age," Paradine said, and went off to his morning classes. He lunched with Holloway, which was becoming a daily habit, and spoke of Emma's literary endeavors.

"Was I right about symbolism, Rex?"

The psychologist nodded. "Quite right. Our own language is nothing but arbitrary symbolism now. At least in its application. Look here." On his napkin he drew a very narrow ellipse. "What's that?"

"You mean what does it represent?"

"Yes. What does it suggest to you? It could be a crude representation of—what?"

"Plenty of things," Paradine said. "Rim of a glass. A fried egg. A loaf of French bread. A cigar."

Holloway added a little triangle to his drawing, apex joined to one end of the ellipse. He looked up at Paradine.

"A fish," the latter said instantly.

"Our familiar symbol for a fish. Even without fins, eyes or mouth, it's recognizable, because we've been conditioned to identify this particular shape with our mental picture of a fish. The basis of a rebus. A symbol, to us, means a lot more than what we actually see on paper. What's in your mind when you look at this sketch?"

"Why—a fish."

"Keep going. What do you visualize—everything!"

"Scales," Paradine said slowly, looking into space. "Water. Foam. A fish's eye. The fins. The colors."

"So the symbol represents a lot more than just the abstract idea *fish*. Note the connotation's that of a noun, not a verb. It's harder to express actions by symbolism, you know. Anyway—reverse the process. Suppose you want to make a symbol for some concrete noun, say *bird*. Draw it."

Paradine drew two connected arcs, concavities down.

"The lowest common denominator," Holloway nodded. "The natural

tendency is to simplify. Especially when a child is seeing something for the first time and has few standards of comparison. He tries to identify the new thing with what's already familiar to him. Ever notice how a child draws the ocean?" He didn't wait for an answer; he went on.

"A series of jagged points. Like the oscillating line on a seismograph. When I first saw the Pacific, I was about three. I remember it pretty clearly. It looked—tilted. A flat plain, slanted at an angle. The waves were regular triangles, apex upward. Now I didn't *see* them stylized that way, but later, remembering, I had to find some familiar standard of comparison. Which is the only way of getting any conception of an entirely new thing. The average child tries to draw these regular triangles, but his co-ordination's poor. He gets a seismograph pattern."

"All of which means what?"

"A child sees the ocean. He stylizes it. He draws a certain definite pattern, symbolic, to him, of the sea. Emma's scrawls may be symbols, too. I don't mean that the world looks different to her—brighter, perhaps, and sharper, more vivid and with a slackening of perception above her eye level. What I do mean is that her thought-processes are different, that she translates what she sees into abnormal symbols."

"You still believe—"

"Yes, I do. Her mind has been conditioned unusually. It may be that she breaks down what she sees into simple, obvious patterns—and realizes a significance to those patterns that we can't understand. Like the abacus. She saw a pattern in that, though to us it was completely random."

Paradine abruptly decided to taper off these luncheon engagements with Holloway. The man was an alarmist. His theories were growing more fantastic than ever, and he dragged in anything, applicable or not, that would support them.

Rather sardonically he said, "Do you mean Emma's communicating with Scott in an unknown language?"

"In symbols for which she hasn't any words. I'm sure Scott understands a great deal of those—scrawls. To him, an isosceles triangle may represent any factor, though probably a concrete noun. Would a man who knew nothing of algebra understand what H_2O meant? Would he realize that the symbol could evoke a picture of the ocean?"

Paradine didn't answer. Instead, he mentioned to Holloway Scott's curious remark that the landscape, from the hill, had looked all wrong. A moment later, he was inclined to regret his impulse, for the psychologist was off again.

"Scott's thought-patterns are building up to a sum that doesn't equal

this world. Perhaps he's subconsciously expecting to see the world where those toys came from."

Paradine stopped listening. Enough was enough. The kids were getting along all right, and the only remaining disturbing factor was Holloway himself. That night, however, Scott evinced an interest, later significant, in eels.

There was nothing apparently harmful in natural history. Paradine explained about eels.

"But where do they lay their eggs? Or do they?"

"That's still a mystery. Their spawning grounds are unknown. Maybe the Sargasso Sea, or the deeps, where the pressure can help them force the young out of their bodies."

"Funny," Scott said, thinking deeply.

"Salmon do the same thing, more or less. They go up rivers to spawn." Paradine went into detail. Scott was fascinated.

"But that's *right*, dad. They're born in the river, and when they learn how to swim, they go down to the sea. And they come back to lay their eggs, huh?"

"Right."

"Only they wouldn't *come* back," Scott pondered. "They'd just send their eggs—"

"It'd take a very long ovipositor," Paradine said, and vouchsafed some well-chosen remarks upon oviparity.

His son wasn't entirely satisfied. Flowers, he contended, sent their seeds long distances.

"They don't guide them. Not many find fertile soil."

"Flowers haven't got brains, though. Dad, why do people live *here*?"

"Glendale?"

"No—*here*. This whole place. It isn't all there is, I bet."

"Do you mean the other planets?"

Scott was hesitant. "This is only—part—of the big place. It's like the river where the salmon go. Why don't people go on down to the ocean when they grow up?"

Paradine realized that Scott was speaking figuratively. He felt a brief chill. The—ocean?

The young of the species are not conditioned to live in the completer world of their parents. Having developed sufficiently, they enter that world. Later they breed. The fertilized eggs are buried in the sand, far up the river, where later they hatch.

And they learn. Instinct alone is fatally slow. Especially in the case of a specialized genus, unable to cope even with this world, unable to

feed or drink or survive, unless someone has foresightedly provided for those needs.

The young, fed and tended, would survive. There would be incubators and robots. They would survive, but they would not know how to swim downstream, to the vaster world of the ocean.

So they must be taught. They must be trained and conditioned in many ways.

Painlessly, subtly, unobtrusively. Children love toys that do things—and if those toys teach at the same time—

In the latter half of the nineteenth century an Englishman sat on a grassy bank near a stream. A very small girl lay near him, staring up at the sky. She had discarded a curious toy with which she had been playing, and now was murmuring a wordless little song, to which the man listened with half an ear.

"What was that, my dear?" he asked at last.

"Just something I made up, Uncle Charles."

"Sing it again." He pulled out a notebook.

The girl obeyed.

"Does it mean anything?"

She nodded. "Oh, yes. Like the stories I tell you, you know."

"They're wonderful stories, dear."

"And you'll put them in a book some day?"

"Yes, but I must change them quite a lot, or no one would understand. But I don't think I'll change your little song."

"You mustn't. If you did, it wouldn't mean anything."

"I won't change that stanza, anyway," he promised. "Just what does it mean?"

"It's the way out, I think," the girl said doubtfully. "I'm not sure yet. My magic toys told me."

"I wish I knew what London shop sold those marvelous toys!"

"Mamma bought them for me. She's dead. Papa doesn't care."

She lied. She had found the toys in a box one day, as she played by the Thames. And they were indeed wonderful.

Her little song—Uncle Charles thought it didn't mean anything. (He wasn't her real uncle, she parenthesized. But he was nice.) The song meant a great deal. It was the way. Presently she would do what it said, and then—

But she was already too old. She never found the way.

Paradine had dropped Holloway. Jane had taken a dislike to him, naturally enough, since what she wanted most of all was to have her

fears calmed. Since Scott and Emma acted normally now, Jane felt satisfied. It was partly wishful-thinking, to which Paradine could not entirely subscribe.

Scott kept bringing gadgets to Emma for her approval. Usually she'd shake her head. Sometimes she would look doubtful. Very occasionally she would signify agreement. Then there would be an hour of laborious, crazy scribbling on scraps of note paper, and Scott, after studying the notations, would arrange and rearrange his rocks, bits of machinery, candle ends, and assorted junk. Each day the maid cleaned them away, and each day Scott began again.

He condescended to explain a little to his puzzled father, who could see no rhyme or reason in the game.

"But why this pebble right here?"

"It's hard and round, dad. It *belongs* there."

"So is this one hard and round."

"Well, that's got vaseline on it. When you get that far, you can't *see* just a hard round thing."

"What comes next? This candle?"

Scott looked disgusted. "That's toward the end. The iron ring's next."

It was, Paradine thought, like a Scout trail through the woods, markers in a labyrinth. But here again was the random factor. Logic halted—familiar logic—at Scott's motives in arranging the junk as he did.

Paradine went out. Over his shoulder he saw Scott pull a crumpled piece of paper and a pencil from his pocket, and head for Emma, who was squatted in a corner thinking things over.

Well—

Jane was lunching with Uncle Harry, and, on this hot Sunday afternoon there was little to do but read the papers. Paradine settled himself in the coolest place he could find, with a Collins, and lost himself in the comic strips.

An hour later a clatter of feet upstairs roused him from his doze. Scott's voice was crying exultantly, "This is it, Slug! Come on—"

Paradine stood up quickly, frowning. As he went into the hall the telephone began to ring. Jane had promised to call—

His hand was on the receiver when Emma's faint voice squealed with excitement. Paradine grimaced. What the devil was going on upstairs?

Scott shrieked, "Look out! This way!"

Paradine, his mouth working, his nerves ridiculously tense, forgot the phone and raced up the stairs. The door of Scott's room was open.

The children were vanishing.

They went in fragments, like thick smoke in a wind, or like movement in a distorting mirror. Hand in hand they went, in a direction Paradine could not understand, and as he blinked there on the threshold, they were gone.

"Emma!" he said, dry-throated. *"Scotty!"*

On the carpet lay a pattern of markers, pebbles, an iron ring—junk. A random pattern. A crumpled sheet of paper blew toward Paradine.

He picked it up automatically.

"Kids. Where are you? Don't hide—

"Emma! SCOTTY!"

Downstairs the telephone stopped its shrill, monotonous ringing. Paradine looked at the paper he held.

It was a leaf torn from a book. There were interlineations and marginal notes, in Emma's meaningless scrawl. A stanza of verse had been so underlined and scribbled over that it was almost illegible, but Paradine was thoroughly familiar with "Through the Looking Glass." His memory gave him the words—

'Twas brillig, and the slithy toves
  Did gyre and gimbel in the wabe.
All mimsy were the borogoves,
  And the mome raths outgrabe.

Idiotically he thought: Humpty Dumpty explained it. A wabe is the plot of grass around a sundial. A sundial. Time—It has something to do with time. A long time ago Scotty asked me what a wabe was. Symbolism.

'Twas brillig—

A perfect mathematical formula, giving all the conditions, in symbolism the children had finally understood. The junk on the floor. The toves had to be made slithy—vaseline?—and they had to be placed in a certain relationship, so that they'd gyre and gimbel.

Lunacy!

But it had not been lunacy to Emma and Scott. They thought differently. They used x logic. Those notes Emma had made on the page—she'd translated Carroll's words into symbols both she and Scott could understand.

The random factor had made sense to the children. They had fulfilled the conditions of the time-space equation. *And the mome raths outgrabe—*

Paradine made a rather ghastly little sound, deep in his throat. He looked at the crazy pattern on the carpet. If he could follow it, as the

kids had done—But he couldn't. The pattern was senseless. The random factor defeated him. He was conditioned to Euclid.

Even if he went insane, he still couldn't do it. It would be the wrong kind of lunacy.

His mind had stopped working now. But in a moment the stasis of incredulous horror would pass—Paradine crumpled the page in his fingers. "Emma, Scotty," he called in a dead voice, as though he could expect no response.

Sunlight slanted through the open windows, brightening the golden pelt of Mr. Bear. Downstairs the ringing of the telephone began again.

HUDDLING PLACE

by Clifford D. Simak

The drizzle sifted from the leaden skies, like smoke drifting through the bare-branched trees. It softened the hedges and hazed the outlines of the buildings and blotted out the distance. It glinted on the metallic skins of the silent robots and silvered the shoulders of the three humans listening to the intonations of the black-garbed man, who read from the book cupped between his hands.

"For I am the Resurrection and the Life—"

The moss-mellowed graven figure that reared above the door of the crypt seemed straining upward, every crystal of its yearning body reaching toward something that no one else could see. Straining as it had strained since that day of long ago when men had chipped it from the granite to adorn the family tomb with a symbolism that had pleased the first John J. Webster in the last years he held of life.

"And whosoever liveth and believeth in Me—"

Jerome A. Webster felt his son's fingers tighten on his arm, heard the muffled sobbing of his mother, saw the lines of robots standing rigid, heads bowed in respect to the master they had served. The master who now was going home—to the final home of all.

Numbly, Jerome A. Webster wondered if they understood—if they understood life and death—if they understood what it meant that Nelson F. Webster lay there in the casket, that a man with a book intoned words above him.

Nelson F. Webster, fourth of the line of Websters who had lived on these acres, had lived and died here, scarcely leaving, and now was going to his final rest in that place the first of them had prepared for

First published in 1944

Neptune—a last, false flicker of aimless life, but not life. Life was dead. The world was dead.

'I knew there would never be another sound here. For all the little remainder of time. For this was the dark and the night of time and the universe. It was inevitable, the inevitable end that had been simply more distant in my day—in the long, long-gone time when the stars were mighty lighthouses of a mighty space, not the dying, flickering candles at the head of a dead planet.

'It had been inevitable then; the candles must burn out for all their brave show. But now I could see them guttering low, the last, fruitless dregs of energy expiring as the machines below had spent their last dregs of energy in that hopeless, utterly faithful gesture—to attempt the repair of the city already dead.

'The universe had been dead a billion years. It had been. This, I saw, was the last radiation of the heat of life from an already-dead body—the feel of life and warmth, imitation of life by a corpse. Those suns had long and long since ceased to generate energy. They were dead, and their corpses were giving off the last, lingering life heat before they cooled.

'I ran. I think I ran—down away from the flickering, red suns in the sky. Down to the shrouding blackness of the dead city below, where neither light, nor heat, nor life, nor imitation of life bothered me.

'The utter blackness quieted me somewhat. So I turned off my oxygen valves, because I wanted to die sane, even here, and I knew I'd never come back.

'The impossible happened! I came to with that raw oxygen in my face. I don't know how I came—only that here is warmth and life.

'Somewhere, on the far side of that bismuth coil, inevitable still, is the dead planet and the flickering, guttering candles that light the death watch I must keep at the end of time.'

DESERTION

CLIFFORD D. SIMAK

Four men, two by two, had gone into the howling maelstrom that was Jupiter and had not returned. They had walked into the keening gale—or rather, they had loped, bellies low against the ground, wet sides gleaming in the rain.

For they did not go in the shape of men.

Now the fifth man stood before the desk of Kent Fowler, head of Dome No. 3, Jovian Survey Commission.

Under Fowler's desk, old Towser scratched a flea, then settled down to sleep again.

Harold Allen, Fowler saw with a sudden pang, was young—too young. He had the easy confidence of youth, the face of one who never had known fear. And that was strange. For men in the domes of Jupiter did know fear—fear and humility. It was hard for Man to reconcile his puny self with the mighty forces of the monstrous planet.

'You understand,' said Fowler, 'that you need not do this. You understand that you need not go.'

It was formula, of course. The other four had been told the same thing, but they had gone. This fifth one, Fowler knew, would go as well. But suddenly he felt a dull hope stir within him that Allen wouldn't go.

'When do I start?' asked Allen.

There had been a time when Fowler might have taken quiet pride in that answer, but not now. He frowned briefly.

'Within the hour,' he said.

Allen stood waiting, quietly.

'Four other men have gone out and have not returned,' said Fowler. 'You know that, of course. We want you to return. We don't want you going off on any heroic rescue expedition. The main thing, the only thing, is that you come back, that you prove man can live in a Jovian form. Go to the first survey stake, no

Neptune—a last, false flicker of aimless life, but not life. Life was dead. The world was dead.

'I knew there would never be another sound here. For all the little remainder of time. For this was the dark and the night of time and the universe. It was inevitable, the inevitable end that had been simply more distant in my day—in the long, long-gone time when the stars were mighty lighthouses of a mighty space, not the dying, flickering candles at the head of a dead planet.

'It had been inevitable then; the candles must burn out for all their brave show. But now I could see them guttering low, the last, fruitless dregs of energy expiring as the machines below had spent their last dregs of energy in that hopeless, utterly faithful gesture—to attempt the repair of the city already dead.

'The universe had been dead a billion years. It had been. This, I saw, was the last radiation of the heat of life from an already-dead body—the feel of life and warmth, imitation of life by a corpse. Those suns had long and long since ceased to generate energy. They were dead, and their corpses were giving off the last, lingering life heat before they cooled.

'I ran. I think I ran—down away from the flickering, red suns in the sky. Down to the shrouding blackness of the dead city below, where neither light, nor heat, nor life, nor imitation of life bothered me.

'The utter blackness quieted me somewhat. So I turned off my oxygen valves, because I wanted to die sane, even here, and I knew I'd never come back.

'The impossible happened! I came to with that raw oxygen in my face. I don't know how I came—only that here is warmth and life.

'Somewhere, on the far side of that bismuth coil, inevitable still, is the dead planet and the flickering, guttering candles that light the death watch I must keep at the end of time.'

DESERTION

CLIFFORD D. SIMAK

Four men, two by two, had gone into the howling maelstrom that was Jupiter and had not returned. They had walked into the keening gale—or rather, they had loped, bellies low against the ground, wet sides gleaming in the rain.

For they did not go in the shape of men.

Now the fifth man stood before the desk of Kent Fowler, head of Dome No. 3, Jovian Survey Commission.

Under Fowler's desk, old Towser scratched a flea, then settled down to sleep again.

Harold Allen, Fowler saw with a sudden pang, was young—too young. He had the easy confidence of youth, the face of one who never had known fear. And that was strange. For men in the domes of Jupiter did know fear—fear and humility. It was hard for Man to reconcile his puny self with the mighty forces of the monstrous planet.

'You understand,' said Fowler, 'that you need not do this. You understand that you need not go.'

It was formula, of course. The other four had been told the same thing, but they had gone. This fifth one, Fowler knew, would go as well. But suddenly he felt a dull hope stir within him that Allen wouldn't go.

'When do I start?' asked Allen.

There had been a time when Fowler might have taken quiet pride in that answer, but not now. He frowned briefly.

'Within the hour,' he said.

Allen stood waiting, quietly.

'Four other men have gone out and have not returned,' said Fowler. 'You know that, of course. We want you to return. We don't want you going off on any heroic rescue expedition. The main thing, the only thing, is that you come back, that you prove man can live in a Jovian form. Go to the first survey stake, no

further, then come back. Don't take any chances. Don't investigate anything. Just come back.'

Allen nodded. 'I understand all that.'

'Miss Stanley will operate the converter,' Fowler went on. 'You need have no fear on that particular score. The other men were converted without mishap. They left the converter in apparently perfect condition. You will be in thoroughly competent hands. Miss Stanley is the best qualified conversion operator in the Solar System. She has had experience on most of the other planets. That is why she's here.'

Allen grinned at the woman and Fowler saw something flicker across Miss Stanley's face—something that might have been pity, or rage—or just plain fear. But it was gone again and she was smiling back at the youth who stood before the desk. Smiling in that prim, schoolteacherish way she had of smiling, almost as if she hated herself for doing it.

'I shall be looking forward,' said Allen, 'to my conversion.'

And the way he said it, he made it all a joke, a vast ironic joke.

But it was no joke.

It was serious business, deadly serious. Upon these tests, Fowler knew, depended the fate of men on Jupiter. If the tests succeeded, the resources of the giant planet would be thrown open. Man would take over Jupiter as he already had taken over the other smaller planets. And if they failed——

If they failed, Man would continue to be chained and hampered by the terrific pressure, the greater force of gravity, the weird chemistry of the planet. He would continue to be shut within the domes, unable to set actual foot upon the planet, unable to see it with direct, unaided vision, forced to rely upon the awkward tractors and the televisor, forced to work with clumsy tools and mechanisms or through the medium of robots that themselves were clumsy.

For Man, unprotected and in his natural form, would be blotted out by Jupiter's terrific pressure of fifteen thousand pounds per square inch, pressure that made terrestrial sea bottoms seem a vacuum by comparison.

Even the strongest metal Earthmen could devise couldn't exist under pressure such as that, under the pressure and the alkaline rains that forever swept the planet. It grew brittle and flaky, crumbling like clay, or it ran away in little streams and puddles of

ammonia salts. Only by stepping up the toughness and strength of that metal, by increasing its electronic tension, could it be made to withstand the weight of thousands of miles of swirling, choking gases that made up the atmosphere. And even when that was done, everything had to be coated with tough quartz to keep away the rain—the liquid ammonia that fell as bitter rain.

Fowler sat listening to the engines in the sub-floor of the dome—engines that ran on endlessly, the dome never quiet of them. They had to run and keep on running, for if they stopped the power flowing into the metal walls of the dome would stop, the electronic tension would ease up and that would be the end of everything.

Towser roused himself under Fowler's desk and scratched another flea, his leg thumping hard against the floor.

'Is there anything else?' asked Allen.

Fowler shook his head. 'Perhaps there's something you want to do,' he said. 'Perhaps you——'

He had meant to say write a letter and he was glad he caught himself quick enough so he didn't say it.

Allen looked at his watch. 'I'll be there on time,' he said. He swung around and headed for the door.

Fowler knew Miss Stanley was watching him and he didn't want to turn and meet her eyes. He fumbled with a sheaf of papers on the desk before him.

'How long are you going to keep this up?' asked Miss Stanley and she bit off each word with a vicious snap.

He swung around in his chair and faced her then. Her lips were drawn into a straight, thin line, her hair seemed skinned back from her forehead tighter than ever, giving her face that queer, almost startling death-mask quality.

He tried to make his voice cool and level. 'As long as there's any need of it,' he said. 'As long as there's any hope.'

'You're going to keep on sentencing them to death,' she said. 'You're going to keep marching them out face to face with Jupiter. You're going to sit in here safe and comfortable and send them out to die.'

'There is no room for sentimentality, Miss Stanley,' Fowler said, trying to keep the note of anger from his voice. 'You know as well as I do why we're doing this. You realize that Man in his own form simply cannot cope with Jupiter. The only answer is to turn men

into the sort of things that can cope with it. We've done it on the other planets.

'If a few men die, but we finally succeed, the price is small. Through the ages men have thrown away their lives on foolish things, for foolish reasons. Why should we hesitate, then, at a little death in a thing as great as this?'

Miss Stanley sat stiff and straight, hands folded in her lap, the lights shining on her greying hair and Fowler, watching her, tried to imagine what she might feel, what she might be thinking. He wasn't exactly afraid of her, but he didn't feel quite comfortable when she was around. Those sharp blue eyes saw too much, her hands looked far too competent. She should be somebody's Aunt sitting in a rocking chair with her knitting needles. But she wasn't. She was the top-notch conversion unit operator in the Solar System and she didn't like the way he was doing things.

'There is something wrong, Mr Fowler,' she declared.

'Precisely,' agreed Fowler. 'That's why I'm sending young Allen out alone. He may find out what it is.'

'And if he doesn't?'

'I'll send someone else.'

She rose slowly from her chair, started towards the door, then stopped before his desk.

'Some day,' she said, 'you will be a great man. You never let a chance go by. This is your chance. You knew it was when this dome was picked for the tests. If you put it through, you'll go up a notch or two. No matter how many men may die you'll go up a notch or two.'

'Miss Stanley,' he said and his voice was curt, 'young Allen is going out soon. Please be sure that your machine——'

'My machine,' she told him icily, 'is not to blame. It operates along the co-ordinates the biologists set up.'

He sat hunched at his desk, listening to her footsteps go down the corridor.

What she said was true, of course. The biologists had set up the co-ordinates. But the biologists could be wrong. Just a hair-breadth of difference, one iota of digression and the converter would be sending out something that wasn't the thing they meant to send. A mutant that might crack up, go haywire, come unstuck under some condition or stress of circumstance wholly unsuspected.

For Man didn't know much about what was going on outside. Only what his instruments told him was going on. And the samplings of those happenings furnished by those instruments and mechanisms had been no more than samplings, for Jupiter was unbelievably large and the domes were very few.

Even the work of the biologists in getting the data on the Lopers, apparently the highest form of Jovian life, had involved more than three years of intensive study and after that two years of checking to make sure. Work that could have been done on Earth in a week or two. But work that, in this case, couldn't be done on Earth at all, for one couldn't take a Jovian life form to Earth. The pressure here on Jupiter couldn't be duplicated outside of Jupiter and at Earth pressure and temperature the Lopers would simply have disappeared in a puff of gas.

Yet it was work that had to be done if Man ever hoped to go about Jupiter in the life form of the Lopers. For before the converter could change a man to another life form, every detailed physical characteristic of that life form must be known—surely and positively, with no chance of mistake.

Allen did not come back.

The tractors, combing the nearby terrain, found no trace of him, unless the skulking thing reported by one of the drivers had been the missing Earthman in Loper form.

The biologists sneered their most accomplished academic sneers when Fowler suggested the co-ordinates might be wrong. Carefully they pointed out, the co-ordinates worked. When a man was put into the converter and the switch was thrown, the man became a Loper. He left the machine and moved away, out of sight, into the soupy atmosphere.

Some quirk, Fowler had suggested; some tiny deviation from the thing a Loper should be, some minor defect. If there were, the biologists said, it would take years to find it.

And Fowler knew that they were right.

So there were five men now instead of four and Harold Allen had walked out into Jupiter for nothing at all. It was as if he'd never gone so far as knowledge was concerned.

Fowler reached across his desk and picked up the personnel file, a thin sheaf of paper neatly clipped together. It was a thing he

dreaded but a thing he had to do. Somehow the reason for these strange disappearances must be found. And there was no other way than to send out more men.

He sat for a moment listening to the howling of the wind above the dome, the everlasting thundering gale that swept across the planet in boiling, twisting wrath.

Was there some threat out there, he asked himself? Some danger they did not know about? Something that lay in wait and gobbled up the Lopers, making no distinction between Lopers that were bona fide and Lopers that were men? To the gobblers, of course, it would make no difference.

Or had there been a basic fault in selecting the Lopers as the type of life best fitted for existence on the surface of the planet? The evident intelligence of the Lopers, he knew, had been one factor in that determination. For if the thing Man became did not have capacity for intelligence, Man could not for long retain his own intelligence in such a guise.

Had the biologists let that one factor weigh too heavily, using it to offset some other factor that might be unsatisfactory, even disastrous? It didn't seem likely. Stiffnecked as they might be, the biologists knew their business.

Or was the whole thing impossible, doomed from the very start? Conversion to other life forms had worked on other planets, but that did not necessarily mean it would work on Jupiter. Perhaps Man's intelligence could not function correctly through the sensory apparatus provided Jovian life. Perhaps the Lopers were so alien there was no common ground for human knowledge and the Jovian conception of existence to meet and work together.

Or the fault might lie with Man, be inherent with the race. Some mental aberration which, coupled with what they found outside, wouldn't let them come back. Although it might not be an aberration, not in the human sense. Perhaps just one ordinary human mental trait, accepted as commonplace on Earth, would be so violently at odds with Jovian existence that it would blast human sanity.

Claws rattled and clicked down the corridor. Listening to them, Fowler smiled wanly. It was Towser coming back from the kitchen, where he had gone to see his friend, the cook.

Towser came into the room, carrying a bone. He wagged his tail at Fowler and flopped down beside the desk, bone between his paws. For a long moment his rheumy old eyes regarded his master and Fowler reached down a hand to ruffle a ragged ear.

'You still like me, Towser?' Fowler asked and Towser thumped his tail.

'You're the only one,' said Fowler.

He straightened and swung back to the desk. His hand reached out and picked up the file.

Bennett? Bennett had a girl waiting for him back on Earth.

Andrews? Andrews was planning on going back to Mars Tech just as soon as he earned enough to see him through a year.

Olson? Olson was nearing pension age. All the time telling the boys how he was going to settle down and grow roses.

Carefully, Fowler laid the file back on the desk.

Sentencing men to death. Miss Stanley had said that, her pale lips scarcely moving in her parchment face. Marching men out to die while he, Fowler, sat here safe and comfortable.

They were saying it all through the dome, no doubt, especially since Allen had failed to return. They wouldn't say it to his face, of course. Even the man or men he called before this desk and told they were the next to go, wouldn't say it to him.

But he would see it in their eyes.

He picked up the file again. Bennett, Andrews, Olson. There were others, but there was no use in going on.

Kent Fowler knew that he couldn't do it, couldn't face them, couldn't send more men out to die.

He leaned forward and flipped up the toggle on the intercommunicator.

'Yes, Mr Fowler.'

'Miss Stanley, please.'

He waited for Miss Stanley, listening to Towser chewing halfheartedly on the bone. Towser's teeth were getting bad.

'Miss Stanley,' said Miss Stanley's voice.

'Just wanted to tell you, Miss Stanley, to get ready for two more.'

'Aren't you afraid,' asked Miss Stanley, 'that you'll run out of them? Sending out one at a time, they'd last longer, give you twice the satisfaction.'

'One of them,' said Fowler, 'will be a dog.'

'A dog!'

'Yes, Towser.'

He heard the quick, cold rage that iced her voice. 'Your own dog! He's been with you all these years——'

'That's the point,' said Fowler. 'Towser would be unhappy if I left him behind.'

It was not the Jupiter he had known through the televisor. He had expected it to be different, but not like this. He had expected a hell of ammonia rain and stinking fumes and the deafening, thundering tumult of the storm. He had expected swirling clouds and fog and the snarling flicker of monstrous thunderbolts.

He had not expected the lashing downpour would be reduced to drifting purple mist that moved like fleeing shadows over a red and purple sward. He had not even guessed the snaking bolts of lightning would be flares of pure ecstasy across a painted sky.

Waiting for Towser, Fowler flexed the muscles of his body, amazed at the smooth, sleek strength he found. Not a bad body, he decided, and grimaced at remembering how he had pitied the Lopers when he glimpsed them through the television screen.

For it had been hard to imagine a living organism based upon ammonia and hydrogen rather than upon water and oxygen, hard to believe that such a form of life could know the same quick thrill of life that humankind could know. Hard to conceive of life out in the soupy maelstrom that was Jupiter, not knowing, of course, that through Jovian eyes it was no soupy maelstrom at all.

The wind brushed against him with what seemed gentle fingers and he remembered with a start that by Earth standards the wind was a roaring gale, a two-hundred-mile an hour howler laden with deadly gases.

Pleasant scents seeped into his body. And yet scarcely scents, for it was not the sense of smell as he remembered it. It was as if his whole being was soaking up the sensation of lavender—and yet not lavender. It was something, he knew, for which he had no word, undoubtedly the first of many enigmas in terminology. For the words he knew, the thought symbols that served him as an Earthman would not serve him as a Jovian.

The lock in the side of the dome opened and Towser came tumbling out—at least he thought it must be Towser.

He started to call to the dog, his mind shaping the words he meant to say. But he couldn't say them. There was no way to say them. He had nothing to say them with.

For a moment his mind swirled in muddy terror, a blind fear that eddied in little puffs of panic through his brain.

How did Jovians talk? How——

Suddenly he was aware of Towser, intensely aware of the bumbling, eager friendliness of the shaggy animal that had followed him from Earth to many planets. As if the thing that was Towser had reached out and for a moment sat within his brain.

And out of the bubbling welcome that he sensed, came words.

'Hiya, pal.'

Not words, really, better than words. Thought symbols in his brain, communicated thought symbols that had shades of meaning words could never have.

'Hiya, Towser,' he said.

'I feel good,' said Towser. 'Like I was a pup. Lately I've been feeling pretty punk. Legs stiffening up on me and teeth wearing down to almost nothing. Hard to mumble a bone with teeth like that. Besides, the fleas give me hell. Used to be I never paid much attention to them. A couple of fleas more or less never meant much in my early days.'

'But . . . but——' Fowler's thoughts tumbled awkwardly. 'You're talking to me!'

'Sure thing,' said Towser. 'I always talked to you, but you couldn't hear me. I tried to say things to you, but I couldn't make the grade.'

'I understood you sometimes,' Fowler said.

'Not very well,' said Towser. 'You knew when I wanted food and when I wanted a drink and when I wanted out, but that's about all you ever managed.'

'I'm sorry,' Fowler said.

'Forget it,' Towser told him. 'I'll race you to the cliff.'

For the first time, Fowler saw the cliff, apparently many miles away, but with a strange crystalline beauty that sparkled in the shadow of the many-coloured clouds.

Fowler hesitated. 'It's a long way——'

'Ah, come on,' said Towser and even as he said it he started for the cliff.

Fowler followed, testing his legs, testing the strength in that new body of his, a bit doubtful at first, amazed a moment later, then running with a sheer joyousness that was one with the red and

purple sward, with the drifting smoke of the rain across the land.

As he ran the consciousness of music came to him, a music that beat into his body, that surged throughout his being, that lifted him on wings of silver speed. Music like bells might make from some steeple on a sunny, springtime hill.

As the cliff drew nearer the music deepened and filled the universe with a spray of magic sound. And he knew the music came from the tumbling waterfall that feathered down the face of the shining cliff.

Only, he knew, it was no waterfall, but an ammonia-fall and the cliff was white because it was oxygen, solidified.

He skidded to a stop beside Towser where the waterfall broke into a glittering rainbow of many hundred colours. Literally many hundred, for here, he saw, was no shading of one primary to another as human beings saw, but a clear-cut selectivity that broke the prism down to its last ultimate classification.

'The music,' said Towser.

'Yes, what about it?'

'The music,' said Towser, 'is vibrations. Vibrations of water falling.'

'But, Towser, you don't know about vibrations.'

'Yes, I do,' contended Towser. 'It just popped into my head.'

Fowler gulped mentally. 'Just popped!'

And suddenly, within his own head, he held a formula—the formula for a process that would make metal to withstand the pressure of Jupiter.

He stared, astounded, at the waterfall and swiftly his mind took the many colours and placed them in their exact sequence in the spectrum. Just like that. Just out of blue sky. Out of nothing, for he knew nothing either of metals or of colours.

'Towser,' he cried. 'Towser, something's happening to us!'

'Yeah, I know,' said Towser.

'It's our brains,' said Fowler. 'We're using them, all of them, down to the last hidden corner. Using them to figure out things we should have known all the time. Maybe the brains of Earth things naturally are slow and foggy. Maybe we are the morons of the universe. Maybe we are fixed so we have to do things the hard way.'

And, in the new sharp clarity of thought that seemed to grip him, he knew that it would not only be the matter of colours in a

waterfall or metals that would resist the pressure of Jupiter. He sensed other things, things not yet quite clear. A vague whispering that hinted of greater things, of mysteries beyond the pale of human thought, beyond even the pale of human imagination. Mysteries, fact, logic built on reasoning. Things that any brain should know if it used all its reasoning power.

'We're still mostly Earth,' he said. 'We're just beginning to learn a few of the things we are to know—a few of the things that were kept from us as human beings, perhaps because we were human beings. Because our human bodies were poor bodies. Poorly equipped for thinking, poorly equipped in certain senses that one has to have to know. Perhaps even lacking in certain senses that are necessary to true knowledge.'

He stared back at the dome, a tiny black thing dwarfed by the distance.

Back there were men who couldn't see the beauty that was Jupiter. Men who thought that swirling clouds and lashing rain obscured the planet's face. Unseeing human eyes. Poor eyes. Eyes that could not see the beauty in the clouds, that could not see through the storm. Bodies that could not feel the thrill of trilling music stemming from the rush of broken water.

Men who walked alone, in terrible loneliness, talking with their tongue like Boy Scouts wigwagging out their messages, unable to reach out and touch one another's mind as he could reach out and touch Towser's mind. Shut off forever from that personal, intimate contact with other living things.

He, Fowler, had expected terror inspired by alien things out here on the surface, had expected to cower before the threat of unknown things, had steeled himself against disgust of a situation that was not of Earth.

But instead he had found something greater than Man had ever known. A swifter, surer body. A sense of exhilaration, a deeper sense of life. A sharper mind. A world of beauty that even the dreamers of the Earth had not yet imagined.

'Let's get going,' Towser urged.

'Where do you want to go?'

'Anywhere,' said Towser. 'Just start going and see where we end up. I have a feeling . . . well, a feeling——'

'Yes, I know,' said Fowler.

For he had the feeling, too. The feeling of high destiny. A certain

sense of greatness. A knowledge that somewhere off beyond the horizons lay adventure and things greater than adventure.

Those other five had felt it, too. Had felt the urge to go and see, the compelling sense that here lay a life of fullness and of knowledge.

That, he knew, was why they had not returned.

'I won't go back,' said Towser.

'We can't let them down,' said Fowler.

Fowler took a step or two, back towards the dome, then stopped.

Back to the dome. Back to that aching, poison-laden body he had left. It hadn't seemed aching before, but now he knew it was.

Back to the fuzzy brain. Back to muddled thinking. Back to the flapping mouths that formed signals others understood. Back to eyes that now would be worse than no sight at all. Back to squalor, back to crawling, back to ignorance.

'Perhaps some day,' he said, muttering to himself.

'We got a lot to do and a lot to see,' said Towser. 'We got a lot to learn. We'll find things——'

Yes, they could find things. Civilizations, perhaps. Civilizations that would make the civilization of Man seem puny by comparison. Beauty and, more important, an understanding of that beauty. And a comradeship no one had ever known before—that no man, no dog had ever known before.

And life. The quickness of life after what seemed a drugged existence.

'I can't go back,' said Towser.

'Nor I,' said Fowler.

'They would turn me back into a dog,' said Towser.

'And me,' said Fowler, 'back into a man.'

THE PIPER'S SON

LEWIS PADGETT

The Green Man was climbing the glass mountains, and hairy, gnomish faces peered at him from crevices. This was only another step in the Green Man's endless, exciting odyssey. He'd had a great many adventures already—in the Flame Country, among the Dimension Changers, with the City Apes who sneered endlessly while their blunt, clumsy fingers fumbled at deathrays. The trolls, however, were masters of magic, and were trying to stop the Green Man with spells. Little whirlwinds of force spun underfoot, trying to trip the Green Man, a figure of marvellous muscular development, handsome as a god, and hairless from head to foot, glistening pale green. The whirlwinds formed a fascinating pattern. If you could thread a precarious path among them—avoiding the pale yellow ones especially—you could get through.

And the hairy gnomes watched malignantly, jealously, from their crannies in the glass crags.

Al Burkhalter, having recently achieved the mature status of eight full years, lounged under a tree and masticated a grass blade. He was so immersed in his daydreams that his father had to nudge his side gently to bring comprehension into the half-closed eyes. It was a good day for dreaming, anyway—a hot sun and a cool wind blowing down from the white Sierra peaks to the east. Timothy grass sent its faintly musty fragrance along the channels of air, and Ed Burkhalter was glad that his son was second-generation since the Blowup. He himself had been born ten years after the last bomb had been dropped, but second-hand memories can be pretty bad too.

'Hello, Al,' he said, and the youth vouchsafed a half-lidded glance of tolerant acceptance.

'Hi, Dad.'

'Want to come downtown with me?'

'Nope,' Al said, relaxing instantly into his stupor.

kids had done—But he couldn't. The pattern was senseless. The random factor defeated him. He was conditioned to Euclid.

Even if he went insane, he still couldn't do it. It would be the wrong kind of lunacy.

His mind had stopped working now. But in a moment the stasis of incredulous horror would pass—Paradine crumpled the page in his fingers. "Emma, Scotty," he called in a dead voice, as though he could expect no response.

Sunlight slanted through the open windows, brightening the golden pelt of Mr. Bear. Downstairs the ringing of the telephone began again.

HUDDLING PLACE

by Clifford D. Simak

The drizzle sifted from the leaden skies, like smoke drifting through the bare-branched trees. It softened the hedges and hazed the outlines of the buildings and blotted out the distance. It glinted on the metallic skins of the silent robots and silvered the shoulders of the three humans listening to the intonations of the black-garbed man, who read from the book cupped between his hands.

"For I am the Resurrection and the Life—"

The moss-mellowed graven figure that reared above the door of the crypt seemed straining upward, every crystal of its yearning body reaching toward something that no one else could see. Straining as it had strained since that day of long ago when men had chipped it from the granite to adorn the family tomb with a symbolism that had pleased the first John J. Webster in the last years he held of life.

"And whosoever liveth and believeth in Me—"

Jerome A. Webster felt his son's fingers tighten on his arm, heard the muffled sobbing of his mother, saw the lines of robots standing rigid, heads bowed in respect to the master they had served. The master who now was going home—to the final home of all.

Numbly, Jerome A. Webster wondered if they understood—if they understood life and death—if they understood what it meant that Nelson F. Webster lay there in the casket, that a man with a book intoned words above him.

Nelson F. Webster, fourth of the line of Websters who had lived on these acres, had lived and died here, scarcely leaving, and now was going to his final rest in that place the first of them had prepared for

First published in 1944

the rest of them—for that long line of shadowy descendants who would live here and cherish the things and the ways and the life that the first John J. Webster had established.

Jerome A. Webster felt his jaw muscles tighten, felt a little tremor run across his body. For a moment his eyes burned and the casket blurred in his sight and the words the man in black was saying were one with the wind that whispered in the pines standing sentinel for the dead. Within his brain remembrance marched—remembrance of a gray-haired man stalking the hills and fields, sniffing the breeze of an early morning, standing, legs braced, before the flaring fireplace with a glass of brandy in his hand.

Pride—the pride of land and life, and the humility and greatness that quiet living breeds within a man. Contentment of casual leisure and surety of purpose. Independence of assured security, comfort of familiar surroundings, freedom of broad acres.

Thomas Webster was joggling his elbow. "Father," he was whispering. "Father."

The service was over. The black-garbed man had closed his book. Six robots stepped forward, lifted the casket.

Slowly the three followed the casket into the crypt, stood silently as the robots slid it into its receptacle, closed the tiny door and affixed the plate that read:

NELSON F. WEBSTER
2034–2117

That was all. Just the name and dates. And that, Jerome A. Webster found himself thinking, was enough. There was nothing else that needed to be there. That was all those others had. The ones that called the family roll—starting with William Stevens, 1920–1999. Gramp Stevens, they had called him, Webster remembered. Father of the wife of that first John J. Webster, who was here himself—1951–2020. And after him his son, Charles F. Webster, 1980–2060. And his son, John J. II, 2004–2086. Webster could remember John J. II—a grandfather who had slept beside the fire with his pipe hanging from his mouth, eternally threatening to set his whiskers aflame.

Webster's eyes strayed to another plate. Mary Webster, the mother of the boy here at his side. And yet not a boy. He kept forgetting that Thomas was twenty now, in a week or so would be leaving for Mars, even as in his younger days he, too, had gone to Mars.

All here together, he told himself. The Websters and their wives and children. Here in death together as they had lived together, sleeping in

the pride and security of bronze and marble with the pines outside and the symbolic figure above the age-greened door.

The robots were waiting, standing silently, their task fulfilled.

His mother looked at him.

"You're the head of the family now, my son," she told him.

He reached out and hugged her close against his side. Head of the family—what was left of it. Just the three of them now. His mother and his son. And his son would be leaving soon, going out to Mars. But he would come back. Come back with a wife, perhaps, and the family would go on. The family wouldn't stay at three. Most of the big house wouldn't stay closed off, as it now was closed off. There had been a time when it had rung with the life of a dozen units of the family, living in their separate apartments under one big roof. That time, he knew, would come again.

The three of them turned and left the crypt, took the path back to the house, looming like a huge gray shadow in the midst.

A fire blazed in the hearth and the book lay upon his desk. Jerome A. Webster reached out and picked it up, read the title once again:

"Martian Physiology, With Especial Reference to the Brain" by Jerome A. Webster, M.D.

Thick and authoritative—the work of a lifetime. Standing almost alone in its field. Based upon the data gathered during those five plague years on Mars—years when he had labored almost day and night with his fellow colleagues of the World Committee's medical commission, dispatched on an errand of mercy to the neighboring planet.

A tap sounded on the door.

"Come in," he called.

The door opened and a robot glided in.

"Your whiskey, sir."

"Thank you, Jenkins," Webster said.

"The minister, sir," said Jenkins, "has left."

"Oh, yes. I presume that you took care of him."

"I did, sir. Gave him the usual fee and offered him a drink. He refused the drink."

"That was a social error," Webster told him. "Ministers don't drink."

"I'm sorry, sir. I didn't know. He asked me to ask you to come to church sometime."

"Eh?"

"I told him, sir, that you never went anywhere."

"That was quite right, Jenkins," said Webster. "None of us ever go anywhere."

Jenkins headed for the door, stopped before he got there, turned around. "If I may say so, sir, that was a touching service at the crypt. Your father was a fine human, the finest ever was. The robots were saying the service was very fitting. Dignified like, sir. He would have liked it had he known."

"My father," said Webster, "would be even more pleased to hear you say that, Jenkins."

"Thank you, sir," said Jenkins, and went out.

Webster sat with the whiskey and the book and fire—felt the comfort of the well-known room close in about him, felt the refuge that was in it.

This was home. It had been home for the Websters since that day when the first John J. had come here and built the first unit of the sprawling house. John J. had chosen it because it had a trout stream, or so he always said. But it was something more than that. It must have been, Webster told himself, something more than that.

Or perhaps, at first, it had only been the trout stream. The trout stream and the trees and meadows, the rocky ridge where the mist drifted in each morning from the river. Maybe the rest of it had grown, grown gradually through the years, through years of family association until the very soil was soaked with something that approached, but wasn't quite, tradition. Something that made each tree, each rock, each foot of soil a Webster tree or rock or clod of soil. It all belonged.

John J., the first John J., had come after the breakup of the cities, after men had forsaken, once and for all, the twentieth century huddling places, had broken free of the tribal instinct to stick together in one cave or in one clearing against a common foe or a common fear. An instinct that had become outmoded, for there were no fears or foes. Man revolting against the herd instinct economic and social conditions had impressed upon him in ages past. A new security and a new sufficiency had made it possible to break away.

The trend had started back in the twentieth century, more than two hundred years before, when men moved to country homes to get fresh air and elbow room and a graciousness in life that communal existence, in its strictest sense, never had given them.

And here was the end result. A quiet living. A peace that could only come with good things. The sort of life that men had yearned for years to have. A manorial existence, based on old family homes and leisurely acres, with atomics supplying power and robots in place of serfs.

Webster smiled at the fireplace with its blazing wood. That was an

anachronism, but a good one—something that Man had brought forward from the caves. Useless, because atomic heating was better—but more pleasant. One couldn't sit and watch atomics and dream and build castles in the flames.

Even the crypt out there, where they had put his father that afternoon. That was family, too. All of a piece with the rest of it. The somber pride and leisured life and peace. In the old days the dead were buried in vast plots all together, stranger cheek by jowl with stranger—

He never goes anywhere.

That is what Jenkins had told the minister.

And that was right. For what need was there to go anywhere? It all was here. By simply twirling a dial one could talk face to face with anyone one wished, could go, by sense, if not in body, anywhere one wished. Could attend the theater or hear a concert or browse in a library halfway around the world. Could transact any business one might need to transact without rising from one's chair.

Webster drank the whiskey, then swung to the dialed machine beside his desk.

He spun dials from memory without resorting to the log. He knew where he was going.

His finger flipped a toggle and the room melted away—or seemed to melt. There was left the chair within which he sat, part of the desk, part of the machine itself and that was all.

The chair was on a hillside swept with golden grass and dotted with scraggly, wind-twisted trees, a hillside that straggled down to a lake nestling in the grip of purple mountain spurs. The spurs, darkened in long streaks with the bluish-green of distant pine, climbed in staggering stairs, melting into the blue-tinged snow-capped peaks that reared beyond and above them in jagged saw-toothed outline.

The wind talked harshly in the crouching trees and ripped the long grass in sudden gusts. The last rays of the sun struck fire from the distant peaks.

Solitude and grandeur, the long sweep of tumbled land, the cuddled lake, the knifelike shadows on the far-off ranges.

Webster sat easily in his chair, eyes squinting at the peaks.

A voice said almost at his shoulder: "May I come in?"

A soft, sibilant voice, wholly unhuman. But one that Webster knew.

He nodded his head. "By all means, Juwain."

He turned slightly and saw the elaborate crouching pedestal, the furry, soft-eyed figure of the Martian squatting on it. Other alien furniture loomed indistinctly beyond the pedestal, half guessed furniture from that dwelling out on Mars.

The Martian flipped a furry hand toward the mountain range.

"You love this," he said. "You can understand it. And I can understand how you understand it, but to me there is more terror than beauty in it. It is something we could never have on Mars."

Webster reached out a hand, but the Martian stopped him.

"Leave it on," he said. "I know why you came here. I would not have come at a time like this except I thought perhaps an old friend—"

"It is kind of you," said Webster. "I am glad that you have come."

"Your father," said Juwain, "was a great man. I remember how you used to talk to me of him, those years you spent on Mars. You said then you would come back sometime. Why is it you've never come?"

"Why," said Webster, "I just never—"

"Do not tell me," said the Martian. "I already know."

"My son," said Webster, "is going to Mars in a few days. I shall have him call on you."

"That would be a pleasure," said Juwain. "I shall be expecting him."

He stirred uneasily on the crouching pedestal. "Perhaps he carries on tradition."

"No," said Webster. "He is studying engineering. He never cared for surgery."

"He has a right," observed the Martian, "to follow the life that he has chosen. Still, one might be permitted to wish."

"One could," Webster agreed. "But that is over and done with. Perhaps he will be a great engineer. Space structure. Talks of ships out to the stars."

"Perhaps," suggested Juwain, "your family has done enough for medical science. You and your father—"

"And his father," said Webster, "before him."

"Your book," declared Juwain, "has put Mars in debt to you. It may focus more attention on Martian specialization. My people do not make good doctors. They have no background for it. Queer how the minds of races run. Queer that Mars never thought of medicine—literally never thought of it. Supplied the need with a cult of fatalism. While even in your early history, when men still lived in caves—"

"There are many things," said Webster, "that you thought of and we didn't. Things we wonder now how we ever missed. Abilities that you developed and we do not have. Take your own specialty, philosophy. But different than ours. A science, while ours never was more than ordered fumbling. Yours an orderly, logical development of philosophy, workable, practical, applicable, an actual tool."

Juwain started to speak, hesitated, then went ahead. "I am near to

something, something that may be new and startling. Something that will be a tool for you humans as well as for the Martians. I've worked on it for years, starting with certain mental concepts that first were suggested to me with arrival of the Earthmen. I have said nothing, for I could not be sure."

"And now," suggested Webster, "you are sure."

"Not quite," said Juwain. "Not positive. But almost."

They sat in silence, watching the mountains and the lake. A bird came and sat in one of the scraggly trees and sang. Dark clouds piled up behind the mountain ranges and the snow-tipped peaks stood out like graven stone. The sun sank in a lake of crimson, hushed finally to the glow of a fire burned low.

A tap sounded from a door and Webster stirred in his chair, suddenly brought back to the reality of the study, of the chair beneath him.

Juwain was gone. The old philosopher had come and sat an hour of contemplation with his friend and then had quietly slipped away.

The rap came again.

Webster leaned forward, snapped the toggle and the mountains vanished; the room became a room again. Dusk filtered through the high windows and the fire was a rosy flicker in the ashes.

"Come in," said Webster.

Jenkins opened the door. "Dinner is served, sir," he said.

"Thank you," said Webster. He rose slowly from the chair.

"Your place, sir," said Jenkins, "is laid at the head of the table."

"Ah, yes," said Webster. "Thank you, Jenkins. Thank you very much, for reminding me."

Webster stood on the broad ramp of the space field and watched the shape that dwindled in the sky with faint flickering points of red lancing through the wintry sunlight.

For long minutes after the shape was gone he stood there, hands gripping the railing in front of him, eyes still staring up into the sky.

His lips moved and they said: "Good-by son"; but there was no sound.

Slowly he came alive to his surroundings. Knew that people moved about the ramp, saw that the landing field seemed to stretch interminably to the far horizon, dotted here and there with hump-backed things that were waiting spaceships. Scooting tractors worked near one hangar, clearing away the last of the snowfall of the night before.

Webster shivered and thought that it was queer, for the noonday sun was warm. And shivered again.

Slowly he turned away from the railing and headed for the adminis-

tration building. And for one brain-wrenching moment he felt a sudden fear—an unreasonable and embarrassing fear of that stretch of concrete that formed the ramp. A fear that left him shaking mentally as he drove his feet toward the waiting door.

A man walked toward him, briefcase swinging in his hand and Webster, eyeing him, wished fervently that the man would not speak to him.

The man did not speak, passed him with scarcely a glance, and Webster felt relief.

If he were back home, Webster told himself, he would have finished lunch, would now be ready to lie down for his midday nap. The fire would be blazing on the hearth and the flicker of the flames would be reflected from the andirons. Jenkins would bring him a liqueur and would say a word or two—inconsequential conversation.

He hurried toward the door, quickening his step, anxious to get away from the bare-cold expanse of the massive ramp.

Funny how he had felt about Thomas. Natural, of course, that he should have hated to see him go. But entirely unnatural that he should, in those last few minutes, find such horror welling up within him. Horror of the trip through space, horror of the alien land of Mars—although Mars was scarcely alien any longer. For more than a century now Earthmen had known it, had fought it, lived with it; some of them had even grown to love it.

But it had only been utter will power that had prevented him, in those last few seconds before the ship had taken off, from running out into the field, shrieking for Thomas to come back, shrieking for him not to go.

And that, of course, never would have done. It would have been exhibitionism, disgraceful and humiliating—the sort of a thing a Webster could not do.

After all, he told himself, a trip to Mars was no great adventure, not any longer. There had been a day when it had been, but that day was gone forever. He, himself, in his earlier days had made a trip to Mars, had stayed there for five long years. That had been—he gasped when he thought of it—that had been almost thirty years ago.

The babble and hum of the lobby hit him in the face as the robot attendant opened the door for him, and in that babble ran a vein of something that was almost terror. For a moment he hesitated, then stepped inside. The door closed softly behind him.

He stayed close to the wall to keep out of people's way, headed for a chair in one corner. He sat down and huddled back, forcing his body deep into the cushions, watching the milling humanity that seethed out in the room.

Shrill people, hurrying people, people with strange, unneighborly faces. Strangers—every one of them. Not a face he knew. People going places. Heading out for the planets. Anxious to be off. Worried about last details. Rushing here and there.

Out of the crowd loomed a familiar face. Webster hunched forward.

"Jenkins!" he shouted, and then was sorry for the shout, although no one seemed to notice.

The robot moved toward him, stood before him.

"Tell Raymond," said Webster, "that I must return immediately. Tell him to bring the 'copter in front at once."

"I am sorry, sir," said Jenkins, "but we cannot leave at once. The mechanics found a flaw in the atomics chamber. They are installing a new one. It will take several hours."

"Surely," said Webster, impatiently, "that could wait until some other time."

"The mechanic said not, sir," Jenkins told him. "It might go at any minute. The entire charge of power—"

"Yes, yes," agreed Webster, "I suppose so."

He fidgeted with his hat. "I just remembered," he said, "something I must do. Something that must be done at once. I must get home. I can't wait several hours."

He hitched forward to the edge of the chair, eyes staring at the milling crowd.

Faces—faces—

"Perhaps you could televise," suggested Jenkins. "One of the robots might be able to do it. There is a booth—"

"Wait, Jenkins," said Webster. He hesitated a moment. "There is nothing to do back home. Nothing at all. But I must get there. I can't stay here. If I have to, I'll go crazy. I was frightened out there on the ramp. I'm bewildered and confused here. I have a feeling—a strange, terrible feeling. Jenkins, I—"

"I understand, sir," said Jenkins. "Your father had it, too."

Webster gasped. "My father?"

"Yes, sir, that is why he never went anywhere. He was about your age, sir, when he found it out. He tried to make a trip to Europe and he couldn't. He got halfway there and turned back. He had a name for it."

Webster sat in stricken silence.

"A name for it," he finally said. "Of course there's a name for it. My father had it. My grandfather—did he have it, too?"

"I wouldn't know that, sir," said Jenkins. "I wasn't created until

after your grandfather was an elderly man. But he may have. He never went anywhere, either."

"You understand, then," said Webster. "You know how it is. I feel like I'm going to be sick—physically ill. See if you can charter a 'copter—anything, just so we get home."

"Yes, sir," said Jenkins.

He started off and Webster called him back.

"Jenkins, does anyone else know about this? Anyone—"

"No, sir," said Jenkins. "Your father never mentioned it and I felt, somehow, that he wouldn't wish me to."

"Thank you, Jenkins," said Webster.

Webster huddled back into his chair again, feeling desolate and alone and misplaced. Alone in a humming lobby that pulsed with life—a loneliness that tore at him, that left him limp and weak.

Homesickness. Downright, shameful homesickness, he told himself. Something that boys are supposed to feel when they first leave home, when they first go out to meet the world.

There was a fancy word for it—agoraphobia, the morbid dread of being in the midst of open spaces—from the Greek root for the fear—literally, of the market place.

If he crossed the room to the television booth, he could put in a call, talk with his mother or one of the robots—or, better yet, just sit and look at the place until Jenkins came for him.

He started to rise, then sank back in the chair again. It was no dice. Just talking to someone or looking in on the place wasn't being there. He couldn't smell the pines in the wintry air, or hear familiar snow crunch on the walk beneath his feet or reach out a hand and touch one of the massive oaks that grew along the path. He couldn't feel the heat of the fire or sense the sure, deft touch of belonging, of being one with a tract of ground and the things upon it.

And yet—perhaps it would help. Not much, maybe, but some. He started to rise from the chair again and froze. The few short steps to the booth held terror, a terrible, overwhelming terror. If he crossed them, he would have to run. Run to escape the watching eyes, the unfamiliar sounds, the agonizing nearness of strange faces.

Abruptly he sat down.

A woman's shrill voice cut across the lobby and he shrank away from it. He felt terrible. He felt like hell. He wished Jenkins would get a hustle on.

The first breath of spring came through the window, filling the study with the promise of melting snows, of coming leaves and flowers, of

north-bound wedges of waterfowl streaming through the blue, of trout that lurked in pools waiting for the fly.

Webster lifted his eyes from the sheaf of papers on his desk, sniffed the breeze, felt the cool whisper of it on his cheek. His hand reached out for the brandy glass, found it empty, and put it back.

He bent back above the papers once again, picked up a pencil and crossed out a word.

Critically, he read the final paragraphs:

The fact that of the two hundred fifty men who were invited to visit me, presumably on missions of more than ordinary importance, only three were able to come, does not necessarily prove that all but those three are victims of agoraphobia. Some may have had legitimate reasons for being unable to accept my invitation. But it does indicate a growing unwillingness of men living under the mode of Earth existence set up following the breakup of the cities to move from familiar places, a deepening instinct to stay among the scenes and possessions which in their mind have become associated with contentment and graciousness of life.

What the result of such a trend will be, no one can clearly indicate since it applies to only a small portion of Earth's population. Among the larger families economic pressure forces some of the sons to seek their fortunes either in other parts of the Earth or on one of the other planets. Many others deliberately seek adventure and opportunity in space while still others become associated with professions or trades which make a sedentary existence impossible.

He flipped the page over, went on to the last one.

It was a good paper, he knew, but it could not be published, not just yet. Perhaps after he had died. No one, so far as he could determine, had ever so much as realized the trend, had taken as matter of course the fact that men seldom left their homes. Why, after all, should they leave their homes?

Certain dangers may be recognized in—

The televisor muttered at his elbow and he reached out to flip the toggle.

The room faded and he was face to face with a man who sat behind a desk, almost as if he sat on the opposite side of Webster's desk. A gray-haired man with sad eyes behind heavy lenses.

For a moment Webster stared, memory tugging at him.

"Could it be—" he asked and the man smiled gravely.

"I have changed," he said. "So have you. My name is Clayborne. Remember? The Martian medical commission—"

"Clayborne! I'd often thought of you. You stayed on Mars."

Clayborne nodded. "I've read your book, doctor. It is a real contribution. I've often thought one should be written, wanted to myself, but I didn't have the time. Just as well I didn't. You did a better job. Especially on the brain."

"The Martian brain," Webster told him, "always intrigued me. Certain peculiarities. I'm afraid I spent more of those five years taking notes on it than I should have. There was other work to do."

"A good thing you did," said Clayborne. "That's why I'm calling you now. I have a patient—a brain operation. Only you can handle it."

Webster gasped, his hands trembling. "You'll bring him here?"

Clayborne shook his head. "He cannot be moved. You know him, I believe. Juwain, the philosopher."

"Juwain!" said Webster. "He's one of my best friends. We talked together just a couple of days ago."

"The attack was sudden," said Clayborne. "He's been asking for you."

Webster was silent and cold—cold with a chill that crept upon him from some unguessed place. Cold that sent perspiration out upon his forehead, that knotted his fists.

"If you start immediately," said Clayborne, "you can be here on time. I've already arranged with the World Committee to have a ship at your disposal instantly. The utmost speed is necessary."

"But," said Webster, "but . . . I cannot come."

"You can't come!"

"It's impossible," said Webster. "I doubt in any case that I am needed. Surely, you yourself—"

"I can't," said Clayborne. "No one can but you. No one else has the knowledge. You hold Juwain's life in your hands. If you come, he lives. If you don't, he dies."

"I can't go into space," said Webster.

"Anyone can go into space," snapped Clayborne. "It's not like it used to be. Conditioning of any sort desired is available."

"But you don't understand," pleaded Webster. "You—"

"No, I don't," said Clayborne. "Frankly, I don't. That anyone should refuse to save the life of his friend—"

The two men stared at one another for a long moment, neither speaking.

"I shall tell the committee to send the ship straight to your home," said Clayborne finally. "I hope by that time you will see your way clear to come."

Clayborne faded and the wall came into view again—the wall and books, the fireplace and the paintings, the well-loved furniture, the promise of spring that came through the open window.

Webster sat frozen in his chair, staring at the wall in front of him.

Juwain, the furry, wrinkled face, the sibilant whisper, the friendliness and understanding that was his. Juwain, grasping the stuff that dreams are made of and shaping them into logic, into rules of life and conduct. Juwain, using philosophy as a tool, as a science, as a stepping stone to better living.

Webster dropped his face into his hands and fought the agony that welled up within him.

Clayborne had not understood. One could not expect him to understand since there was no way for him to know. And even knowing, would he understand? Even he, Webster, would not have understood it in someone else until he had discovered it in himself—the terrible fear of leaving his own fire, his own land, his own possessions, the little symbolisms that he had erected. And yet, not he, himself, alone, but those other Websters as well. Starting with the first John J. Men and women who had set up a cult of life, a tradition of behavior.

He, Jerome A. Webster, had gone to Mars when he was a young man, and had not felt or suspected the psychological poison that ran through his veins. Even as Thomas a few months ago had gone to Mars. But thirty years of quiet life here in the retreat that the Websters called a home had brought it forth, had developed it without his even knowing it. There had, in fact, been no opportunity to know it.

It was clear how it had developed—clear as crystal now. Habit and mental pattern and a happiness association with certain things—things that had no actual value in themselves, but had been assigned a value, a definite, concrete value by one family through five generations.

No wonder other places seemed alien, no wonder other horizons held a hint of horror in their sweep.

And there was nothing one could do about it—nothing, that is, unless one cut down every tree and burned the house and changed the course of waterways. Even that might not do it—even that—

The televisor purred and Webster lifted his head from his hands, reached out and thumbed the tumbler.

The room became a flare of white, but there was no image. A voice said: "Secret call. Secret call."

Webster slid back a panel in the machine, spun a pair of dials, heard the hum of power surge into a screen that blocked out the room.

"Secrecy established," he said.

The white flare snapped out and a man sat across the desk from him. A man he had seen many times before in televised addresses, in his daily paper.

Henderson, president of the World Committee.

"I have had a call from Clayborne," said Henderson.

Webster nodded without speaking.

"He tells me you refuse to go to Mars."

"I have not refused," said Webster. "When Clayborne cut off the question was left open. I had told him it was impossible for me to go, but he had rejected that, did not seem to understand."

"Webster, you must go," said Henderson. "You are the only man with the necessary knowledge of the Martian brain to perform this operation. If it were a simple operation, perhaps someone else could do it. But not one such as this."

"That may be true," said Webster, "but—"

"It's not just a question of saving a life," said Henderson. "Even the life of so distinguished a personage as Juwain. It involves even more than that. Juwain is a friend of yours. Perhaps he hinted of something he has found."

"Yes," said Webster. "Yes, he did. A new concept of philosophy."

"A concept," declared Henderson, "that we cannot do without. A concept that will remake the solar system, that will put mankind ahead a hundred thousand years in the space of two generations. A new direction of purpose that will aim toward a goal we heretofore had not suspected, had not even known existed. A brand new truth, you see. One that never before had occurred to anyone."

Webster's hands gripped the edge of the desk until his knuckles stood out white.

"If Juwain dies," said Henderson, "that concept dies with him. May be lost forever."

"I'll try," said Webster. "I'll try—"

Henderson's eyes were hard. "Is that the best you can do?"

"That is the best," said Webster.

"But, man, you must have a reason! Some explanation."

"None," said Webster, "that I would care to give."

Deliberately he reached out and flipped up the switch.

Webster sat at the desk and held his hands in front of him, staring at them. Hands that had skill, held knowledge. Hands that could save a life if he could get them to Mars. Hands that could save for the solar system, for mankind, for the Martians an idea—a new idea—that would advance them a hundred thousand years in the next two generations.

But hands chained by a phobia that grew out of this quiet life. Decadence—a strangely beautiful—and deadly—decadence.

Man had forsaken the teeming cities, the huddling places, two hundred years ago. He had done with the old foes and the ancient fears that kept him around the common campfire, had left behind the hobgoblins that had walked with him from the caves.

And yet—and yet.

Here was another huddling place. Not a huddling place for one's body, but one's mind. A psychological campfire that still held a man within the circle of its light.

Still, Webster knew, he must leave that fire. As the men had done with the cities two centuries before, he must walk off and leave it. And he must not look back.

He had to go to Mars—or at least start for Mars. There was no question there, at all. He had to go.

Whether he would survive the trip, whether he could perform the operation once he had arrived, he did not know. He wondered vaguely, whether agoraphobia could be fatal. In its most exaggerated form, he supposed it could.

He reached out a hand to ring, then hesitated. No use having Jenkins pack. He would do it himself—something to keep him busy until the ship arrived.

From the top shelf of the wardrobe in the bedroom, he took down a bag and saw that it was dusty. He blew on it, but the dust still clung. It had been there for too many years.

As he packed, the room argued with him, talked in that mute tongue with which inanimate but familiar things may converse with a man.

"You can't go," said the room. "You can't go off and leave me."

And Webster argued back, half pleading, half explanatory. "I have to go. Can't you understand? It's a friend, an old friend. I will be coming back."

Packing done, Webster returned to the study, slumped into his chair.

He must go and yet he couldn't go. But when the ship arrived, when the time had come, he knew that he would walk out of the house and toward the waiting ship.

He steeled his mind to that, tried to set it in a rigid pattern, tried to blank out everything but the thought that he was leaving.

Things in the room intruded on his brain, as if they were part of a conspiracy to keep him there. Things that he saw as if he were seeing

them for the first time. Old, remembered things that suddenly were new. The chronometer that showed both Earthian and Martian time, the days of the month, the phases of the moon. The picture of his dead wife on the desk. The trophy he had won at prep school. The framed short snorter bill that had cost him ten bucks on his trip to Mars.

He stared at them, half unwilling at first, then eagerly, storing up the memory of them in his brain. Seeing them as separate components of a room he had accepted all these years as a finished whole, never realizing what a multitude of things went to make it up.

Dusk was falling, the dusk of early spring, a dusk that smelled of early pussy willows.

The ship should have arrived long ago. He caught himself listening for it, even as he realized that he would not hear it. A ship, driven by atomic motors, was silent except when it gathered speed. Landing and taking off, it floated like thistledown, with not a murmur in it.

It would be here soon. It would have to be here soon or he could never go. Much longer to wait, he knew, and his high-keyed resolution would crumble like a mound of dust in beating rain. Not much longer could he hold his purpose against the pleading of the room, against the flicker of the fire, against the murmur of the land where five generations of Websters had lived their lives and died.

He shut his eyes and fought down the chill that crept across his body. He couldn't let it get him now, he told himself. He had to stick it out. When the ship arrived he still must be able to get up and walk out the door to the waiting port.

A tap came on the door.

"Come in," Webster called.

It was Jenkins, the light from the fireplace flickering on his shining metal hide.

"Had you called earlier, sir?" he asked.

Webster shook his head.

"I was afraid you might have," Jenkins explained, "and wondered why I didn't come. There was a most extraordinary occurrence, sir. Two men came with a ship and said they wanted you to go to Mars."

"They are here," said Webster. "Why didn't you call me?"

He struggled to his feet.

"I didn't think, sir," said Jenkins, "that you would want to be bothered. It was so preposterous. I finally made them understand you could not possibly want to go to Mars."

Webster stiffened, felt chill fear gripping at his heart. Hands groping for the edge of the desk, he sat down in the chair, sensed the walls of the room closing in about him, a trap that would never let him go.

ARENA

by Fredric Brown

Carson opened his eyes, and found himself looking upward into a flickering blue dimness.

It was hot, and he was lying on sand, and a sharp rock embedded in the sand was hurting his back. He rolled over to his side, off the rock, and them pushed himself up to a sitting position.

"I'm crazy," he thought. "Crazy—or dead—or something." The sand was blue, bright blue. And there wasn't any such thing as bright blue sand on Earth or any of the planets.

Blue sand.

Blue sand under a blue dome that wasn't the sky nor yet a room, but a circumscribed area—somehow he knew it was circumscribed and finite even though he couldn't see to the top of it.

He picked up some of the sand in his hand and let it run through his fingers. It trickled down onto his bare leg. *Bare?*

Naked. He was stark naked, and already his body was dripping perspiration from the enervating heat, coated blue with sand wherever sand had touched it.

But elsewhere his body was white.

He thought: Then this sand is really blue. If it seemed blue only because of the blue light, then I'd be blue also. But I'm white, so the sand *is* blue. *Blue sand.* There isn't any blue sand. There isn't any place like this place I'm in.

Sweat was running down in his eyes.

It was hot, hotter than hell. Only hell—the hell of the ancients—was supposed to be red and not blue.

First published in 1944

them for the first time. Old, remembered things that suddenly were new. The chronometer that showed both Earthian and Martian time, the days of the month, the phases of the moon. The picture of his dead wife on the desk. The trophy he had won at prep school. The framed short snorter bill that had cost him ten bucks on his trip to Mars.

He stared at them, half unwilling at first, then eagerly, storing up the memory of them in his brain. Seeing them as separate components of a room he had accepted all these years as a finished whole, never realizing what a multitude of things went to make it up.

Dusk was falling, the dusk of early spring, a dusk that smelled of early pussy willows.

The ship should have arrived long ago. He caught himself listening for it, even as he realized that he would not hear it. A ship, driven by atomic motors, was silent except when it gathered speed. Landing and taking off, it floated like thistledown, with not a murmur in it.

It would be here soon. It would have to be here soon or he could never go. Much longer to wait, he knew, and his high-keyed resolution would crumble like a mound of dust in beating rain. Not much longer could he hold his purpose against the pleading of the room, against the flicker of the fire, against the murmur of the land where five generations of Websters had lived their lives and died.

He shut his eyes and fought down the chill that crept across his body. He couldn't let it get him now, he told himself. He had to stick it out. When the ship arrived he still must be able to get up and walk out the door to the waiting port.

A tap came on the door.

"Come in," Webster called.

It was Jenkins, the light from the fireplace flickering on his shining metal hide.

"Had you called earlier, sir?" he asked.

Webster shook his head.

"I was afraid you might have," Jenkins explained, "and wondered why I didn't come. There was a most extraordinary occurrence, sir. Two men came with a ship and said they wanted you to go to Mars."

"They are here," said Webster. "Why didn't you call me?"

He struggled to his feet.

"I didn't think, sir," said Jenkins, "that you would want to be bothered. It was so preposterous. I finally made them understand you could not possibly want to go to Mars."

Webster stiffened, felt chill fear gripping at his heart. Hands groping for the edge of the desk, he sat down in the chair, sensed the walls of the room closing in about him, a trap that would never let him go.

ARENA

by Fredric Brown

Carson opened his eyes, and found himself looking upward into a flickering blue dimness.

It was hot, and he was lying on sand, and a sharp rock embedded in the sand was hurting his back. He rolled over to his side, off the rock, and them pushed himself up to a sitting position.

"I'm crazy," he thought. "Crazy—or dead—or something." The sand was blue, bright blue. And there wasn't any such thing as bright blue sand on Earth or any of the planets.

Blue sand.

Blue sand under a blue dome that wasn't the sky nor yet a room, but a circumscribed area—somehow he knew it was circumscribed and finite even though he couldn't see to the top of it.

He picked up some of the sand in his hand and let it run through his fingers. It trickled down onto his bare leg. *Bare?*

Naked. He was stark naked, and already his body was dripping perspiration from the enervating heat, coated blue with sand wherever sand had touched it.

But elsewhere his body was white.

He thought: Then this sand is really blue. If it seemed blue only because of the blue light, then I'd be blue also. But I'm white, so the sand *is* blue. *Blue sand.* There isn't any blue sand. There isn't any place like this place I'm in.

Sweat was running down in his eyes.

It was hot, hotter than hell. Only hell—the hell of the ancients—was supposed to be red and not blue.

First published in 1944

But if this place wasn't hell, what was it? Only Mercury, among the planets, had heat like this and this wasn't Mercury. And Mercury was some four billion miles from—

It came back to him then, where he'd been. In the little one-man scouter, outside the orbit of Pluto, scouting a scant million miles to one side of the Earth Armada drawn up in battle array there to intercept the Outsiders.

That sudden strident nerve-shattering ringing of the alarm bell when the rival scouter—the Outsider ship—had come within range of his detectors—

No one knew who the Outsiders were, what they looked like, from what far galaxy they came, other than that it was in the general direction of the Pleiades.

First, sporadic raids on Earth colonies and outposts. Isolated battles between Earth patrols and small groups of Outsider spaceships; battles sometimes won and sometimes lost, but never to date resulting in the capture of an alien vessel. Nor had any member of a raided colony ever survived to describe the Outsiders who had left the ships, if indeed they had left them.

Not a too-serious menace, at first, for the raids had not been too numerous or destructive. And individually, the ships had proved slightly inferior in armament to the best of Earth's fighters, although somewhat superior in speed and maneuverability. A sufficient edge in speed, in fact, to give the Outsiders their choice of running or fighting, unless surrounded.

Nevertheless, Earth had prepared for serious trouble, for a showdown, building the mightiest armada of all time. It had been waiting now, that armada, for a long time. But now the showdown was coming.

Scouts twenty billion miles out had detected the approach of a mighty fleet—a showdown fleet—of the Outsiders. Those scouts had never come back, but their radiotronic messages had. And now Earth's armada, all ten thousand ships and half-million fighting spacemen, was out there, outside Pluto's orbit, waiting to intercept and battle to the death.

And an even battle it was going to be, judging by the advance reports of the men of the far picket line who had given their lives to report—before they had died—on the size and strength of the alien fleet.

Anybody's battle, with the mastery of the solar system hanging in the balance, on an even chance. A last and *only* chance, for Earth and all her colonies lay at the utter mercy of the Outsiders if they ran that gauntlet—

Oh yes. Bob Carson remembered now.

Not that it explained blue sand and flickering blueness. But that strident alarming of the bell and his leap for the control panel. His frenzied fumbling as he strapped himself into the seat. The dot in the visiplate that grew larger.

The dryness of his mouth. The awful knowledge that this was *it*. For him, at least, although the main fleets were still out of range of one another.

This, his first taste of battle. Within three seconds or less he'd be victorious, or a charred cinder. Dead.

Three seconds—that's how long a space-battle lasted. Time enough to count to three, slowly, and then you'd won or you were dead. One hit completely took care of a lightly armed and armored little one-man craft like a scouter.

Frantically—as, unconsciously, his dry lips shaped the word "One"—he worked at the controls to keep that growing dot centered on the crossed spiderwebs of the visiplate. His hands doing that, while his right foot hovered over the pedal that would fire the bolt. The single bolt of concentrated hell that had to hit—or else. There wouldn't be time for any second shot.

"Two." He didn't know he'd said that, either. The dot in the visiplate wasn't a dot now. Only a few thousand miles away, it showed up in the magnification of the plate as though it were only a few hundred yards off. It was a sleek, fast little scouter, about the size of his.

And an alien ship, all right.

"Thr—" His foot touched the bolt-release pedal—

And then the Outsider had swerved suddenly and was off the cross-hairs. Carson punched keys frantically, to follow.

For a tenth of a second, it was out of the visiplate entirely, and then as the nose of his scouter swung after it, he saw it again, diving straight toward the ground.

The ground?

It was an optical illusion of some sort. It *had* to be, that planet—or whatever it was—that now covered the visiplate. Whatever it was, it couldn't be there. Couldn't possibly. There *wasn't* any planet nearer than Neptune three billion miles away—with Pluto around on the opposite side of the distant pinpoint sun.

His *detectors! They* hadn't shown any object of planetary dimensions, even of asteroid dimensions. They still didn't.

So it couldn't be there, that whatever-it-was he was diving into, only a few hundred miles below him.

And in his sudden anxiety to keep from crashing, he forgot even the

Outsider ship. He fired the front braking rockets, and even as the sudden change of speed slammed him forward against the seat straps, he fired full right for an emergency turn. Pushed them down and *held* them down, knowing that he needed everything the ship had to keep from crashing and that a turn that sudden would black him out for a moment.

It did black him out.

And that was all. Now he was sitting in hot blue sand, stark naked but otherwise unhurt. No sign of his spaceship and—for that matter—no sign of *space*. That curve overhead wasn't a sky, whatever else it was.

He scrambled to his feet.

Gravity seemed a little more than Earth-normal. Not much more.

Flat sand stretching away, a few scrawny bushes in clumps here and there. The bushes were blue, too, but in varying shades, some lighter than the blue of the sand, some darker.

Out from under the nearest bush ran a little thing that was like a lizard, except that it had more than four legs. It was blue, too. Bright blue. It saw him and ran back again under the bush.

He looked up again, trying to decide what was overhead. It wasn't exactly a roof, but it was dome-shaped. It flickered and was hard to look at. But definitely, it curved down to the ground, to the blue sand, all around him.

He wasn't far from being under the center of the dome. At a guess, it was a hundred yards to the nearest wall, if it was a wall. It was as though a blue hemisphere of *something*, about two hundred and fifty yards in circumference, was inverted over the flat expanse of the sand.

And everything blue, except one object. Over near a far curving wall there was a red object. Roughly spherical, it seemed to be about a yard in diameter. Too far for him to see clearly through the flickering blueness. But, unaccountably, he shuddered.

He wiped sweat from his forehead, or tried to, with the back of his hand.

Was this a dream, a nightmare? This heat, this sand, that vague feeling of horror he felt when he looked toward the red thing?

A dream? No, one didn't go to sleep and dream in the midst of a battle in space.

Death? No, never. If there were immortality, it wouldn't be a senseless thing like this, a thing of blue heat and blue sand and a red horror.

Then he heard the voice—

Inside his head he heard it, not with his ears. It came from nowhere or everywhere.

"Through spaces and dimensions wandering," rang the words in his

mind, *"and in this space and this time I find two people about to wage a war that would exterminate one and so weaken the other that it would retrogress and never fulfill its destiny, but decay and return to mindless dust whence it came. And I say this must not happen."*

"Who . . . what are you?" Carson didn't say it aloud, but the question formed itself in his brain.

"You would not understand completely. I am—" There was a pause as though the voice sought—in Carson's brain—for a word that wasn't there, a word he didn't know. *"I am the end of evolution of a race so old the time can not be expressed in words that have meaning to your mind. A race fused into a single entity, eternal—*

"An entity such as your primitive race might become"—again the groping for a word—*"time from now. So might the race you call, in your mind, the Outsiders. So I intervene in the battle to come, the battle between fleets so evenly matched that destruction of both races will result. One must survive. One must progress and evolve."*

"One?" thought Carson. "Mine, or—?"

"It is in my power to stop the war, to send the Outsiders back to their galaxy. But they would return, or your race would sooner or later follow them there. Only by remaining in this space and time to intervene constantly could I prevent them from destroying one another, and I cannot remain.

"So I shall intervene now. I shall destroy one fleet completely without loss to the other. One civilization shall thus survive."

Nightmare. This had to be nightmare, Carson thought. But he knew it wasn't.

It was too mad, too impossible, to be anything but real.

He didn't dare ask *the* question—*which?* But his thoughts asked it for him.

"The stronger shall survive," said the voice. *"That I can not—and would not—change. I merely intervene to make it a complete victory, not"*—groping again—*"not Pyrrhic victory to a broken race.*

"From the outskirts of the not-yet battle I plucked two individuals, you and an Outsider. I see from your mind that in your early history of nationalisms battles between champions, to decide issues between races, were not unknown.

"You and your opponent are here pitted against one another, naked and unarmed, under conditions equally unfamiliar to you both, equally unpleasant to you both. There is no time limit, for here there is no time. The survivor is the champion of his race. That race survives."

"But—" Carson's protest was too inarticulate for expression, but the voice answered it.

"It is fair. The conditions are such that the accident of physical strength will not completely decide the issue. There is a barrier. You will understand. Brain-power and courage will be more important than strength. Most especially courage, which is the will to survive."

"But while this goes on, the fleets will—"

"No, you are in another space, another time. For as long as you are here, time stands still in the universe you know. I see you wonder whether this place is real. It is, and it is not. As I—to your limited understanding—am and am not real. My existence is mental and not physical. You saw me as a planet; it could have been as a dustmote or a sun.

"But to you this place is now real. What you suffer here will be real. And if you die here, your death will be real. If you die, your failure will be the end of your race. That is enough for you to know."

And then the voice was gone.

And he was alone, but not alone. For as Carson looked up, he saw that the red thing, the red sphere of horror which he now knew was the Outsider, was rolling toward him.

Rolling.

It seemed to have no legs or arms that he could see, no features. It rolled across the blue sand with the fluid quickness of a drop of mercury. And before it, in some manner he could not understand, came a paralyzing wave of nauseating, retching, horrid hatred.

Carson looked about him frantically. A stone, lying in the sand a few feet away, was the nearest thing to a weapon. It wasn't large, but it had sharp edges, like a slab of flint. It looked a bit like blue flint.

He picked it up, and crouched to receive the attack. It was coming fast, faster than he could run.

No time to think out how he was going to fight it, and how anyway could he plan to battle a creature whose strength, whose characteristics, whose method of fighting he did not know? Rolling so fast, it looked more than ever like a perfect sphere.

Ten yards away. Five. And then it stopped.

Rather, it *was stopped*. Abruptly the near side of it flattened as though it had run up against an invisible wall. It bounced, actually bounced back.

Then it rolled forward again, but more slowly, more cautiously. It stopped again, at the same place. It tried again, a few yards to one side.

There was a barrier there of some sort. It clicked, then, in Carson's mind. That thought projected into his mind by the Entity who had brought them there: "—accident of physical strength will not completely decide the issue. There is a barrier."

A force-field, of course. Not the Netzian Field, known to Earth science, for that glowed and emitted a crackling sound. This one was invisible, silent.

It was a wall that ran from side to side of the inverted hemisphere; Carson didn't have to verify that himself. The Roller was doing that; rolling sideways along the barrier, seeking a break in it that wasn't there.

Carson took half a dozen steps forward, his left hand groping out before him, and then his hand touched the barrier. It felt smooth, yielding, like a sheet of rubber rather than like glass. Warm to his touch, but no warmer than the sand underfoot. And it was completely invisible, even at close range.

He dropped the stone and put both hands against it, pushing. It seemed to yield, just a trifle. But no farther than that trifle, even when he pushed with all his weight. It felt like a sheet of rubber backed up by steel. Limited resiliency, and then firm strength.

He stood on tiptoe and reached as high as he could and the barrier was still there.

He saw the Roller coming back, having reached one side of the arena. That feeling of nausea hit Carson again, and he stepped back from the barrier as it went by. It didn't stop.

But did the barrier stop at ground level? Carson knelt down and burrowed in the sand. It was soft, light, easy to dig in. At two feet down the barrier was still there.

The Roller was coming back again. Obviously, it couldn't find a way through at either side.

There must be a way through, Carson thought. *Some* way we can get at each other, else this duel is meaningless.

But no hurry now, in finding that out. There was something to try first. The Roller was back now, and it stopped just across the barrier, only six feet away. It seemed to be studying him, although for the life of him, Carson couldn't find external evidence of sense organs on the thing. Nothing that looked like eyes or ears, or even a mouth. There was though, he saw now, a series of grooves—perhaps a dozen of them altogether, and he saw two tentacles suddenly push out from two of the grooves and dip into the sand as though testing its consistency. Tentacles about an inch in diameter and perhaps a foot and a half long.

But the tentacles were retractable into the grooves and were kept there except when in use. They were retracted when the thing rolled and seemed to have nothing to do with its method of locomotion. That, as far as Carson could judge, seemed to be accomplished by some shifting—just *how* he couldn't even imagine—of its center of gravity.

He shuddered as he looked at the thing. It was alien, utterly alien,

horribly different from anything on Earth or any of the life forms found on the other solar planets. Instinctively, somehow, he knew its mind was as alien as its body.

But he had to try. If it had no telepathic powers at all, the attempt was foredoomed to failure, yet he thought it had such powers. There had, at any rate, been a projection of something that was not physical at the time a few minutes ago when it had first started for him. An almost tangible wave of hatred.

If it could project that, perhaps it could read his mind as well, sufficiently for his purpose.

Deliberately, Carson picked up the rock that had been his only weapon, then tossed it down again in a gesture of relinquishment and raised his empty hands, palms up, before him.

He spoke aloud, knowing that although the words would be meaningless to the creature before him, speaking them would focus his own thoughts more completely upon the message.

"Can we not have peace between us?" he said, his voice sounding strange in the utter stillness. "The Entity who brought us here has told us what must happen if our races fight—extinction of one and weakening and retrogression of the other. The battle between them, said the Entity, depends upon what we do here. Why can not we agree to an external peace—your race to its galaxy, we to ours?"

Carson blanked out his mind to receive a reply.

It came, and it staggered him back, physically. He actually recoiled several steps in sheer horror at the depth and intensity of the hatred and lust-to-kill of the red images that had been projected at him. Not as articulate words—as had come to him the thoughts of the Entity—but as wave upon wave of fierce emotion.

For a moment that seemed an eternity he had to struggle against the mental impact of that hatred, fight to clear his mind of it and drive out the alien thoughts to which he had given admittance by blanking out his own thoughts. He wanted to retch.

Slowly his mind cleared as, slowly, the mind of a man wakening from nightmare clears away the fear-fabric of which the dream was woven. He was breathing hard and he felt weaker, but he could think.

He stood studying the Roller. It had been motionless during the mental duel it had so nearly won. Now it rolled a few feet to one side, to the nearest of the blue bushes. Three tentacles whipped out of their grooves and began to investigate the bush.

"O.K.," Carson said, "so it's war then." He managed a wry grin. "If I got your answer straight, peace doesn't appeal to you." And, because he was, after all, a quiet young man and couldn't resist the impulse to be dramatic, he added, "To the death!"

But his voice, in that utter silence, sounded very silly, even to himself. It came to him, then, that this *was* to the death. Not only his own death or that of the red spherical thing which he now thought of as the Roller, but death to the entire race of one or the other of them. The end of the human race, if he failed.

It made him suddenly very humble and very afraid to think that. More than to think it, to *know* it. Somehow, with a knowledge that was above even faith, he knew that the Entity who had arranged this duel had told the truth about its intentions and its powers. It wasn't kidding.

The future of humanity depended upon *him*. It was an awful thing to realize, and he wrenched his mind away from it. He had to concentrate on the situation at hand.

There had to be some way of getting through the barrier, or of killing through the barrier.

Mentally? He hoped that wasn't all, for the Roller obviously had stronger telepathic powers than the primitive, undeveloped ones of the human race. Or did it?

He had been able to drive the thoughts of the Roller out of his own mind; could it drive out his? If its ability to project were stronger, might not its receptivity mechanism be more vulnerable?

He stared at it and endeavored to concentrate and focus all his thoughts upon it.

"*Die,*" he thought. "*You are going to die. You are dying. You are—*"

He tried variations on it, and mental pictures. Sweat stood out on his forehead and he found himself trembling with the intensity of the effort. But the Roller went ahead with its investigation of the bush, as utterly unaffected as though Carson had been reciting the multiplication table.

So *that* was no good.

He felt a bit weak and dizzy from the heat and his strenuous effort at concentration. He sat down on the blue sand to rest and gave his full attention to watching and studying the Roller. By close study, perhaps, he could judge its strength and detect its weaknesses, learn things that would be valuable to know when and if they should come to grips.

It was breaking off twigs. Carson watched carefully, trying to judge just how hard it worked to do that. Later, he thought, he could find a similar bush on his own side, break off twigs of equal thickness himself, and gain a comparison of physical strength between his own arms and hands and those tentacles.

The twigs broke off hard; the Roller was having to struggle with each one, he saw. Each tentacle, he saw, bifurcated at the tip into two fingers,

each tipped by a nail or claw. The claws didn't seem to be particularly long or dangerous. No more so than his own fingernails, if they were let to grow a bit.

No, on the whole, it didn't look too tough to handle physically. Unless, of course, that bush was made of pretty tough stuff. Carson looked around him and, yes, right within reach was another bush of identical type.

He reached over and snapped off a twig. It was brittle, easy to break. Of course, the Roller might have been faking deliberately but he didn't think so.

On the other hand, where was it vulnerable? Just how would he go about killing it, if he got the chance? He went back to studying it. The outer hide looked pretty tough. He'd need a sharp weapon of some sort. He picked up the piece of rock again. It was about twelve inches long, narrow, and fairly sharp on one end. If it chipped like flint, he could make a serviceable knife out of it.

The Roller was continuing its investigations of the bushes. It rolled again, to the nearest one of another type. A little blue lizard, many-legged like the one Carson had seen on his side of the barrier, darted out from under the bush.

A tentacle of the Roller lashed out and caught it, picked it up. Another tentacle whipped over and began to pull legs off the lizard, as coldly and calmly as it had pulled twigs off the bush. The creature struggled frantically and emitted a shrill squealing sound that was the first sound Carson had heard here other than the sound of his own voice.

Carson shuddered and wanted to turn his eyes away. But he made himself continue to watch; anything he could learn about his opponent might prove valuable. Even this knowledge of its unnecessary cruelty. Particularly, he thought with a sudden vicious surge of emotion, this knowledge of its unnecessary cruelty. It would make it a pleasure to kill the thing, if and when the chance came.

He steeled himself to watch the dismembering of the lizard, for that very reason.

But he felt glad when, with half its legs gone, the lizard quit squealing and struggling and lay limp and dead in the Roller's grasp.

It didn't continue with the rest of the legs. Contemptuously it tossed the dead lizard away from it, in Carson's direction. It arced through the air between them and landed at his feet.

It had come through the barrier! The barrier wasn't there any more!

Carson was on his feet in a flash, the knife gripped tightly in his hand, and leaped forward. He'd settle this thing here and now! With the barrier gone—

But it wasn't gone. He found that out the hard way, running head on into it and nearly knocking himself silly. He bounced back, and fell.

And as he sat up, shaking his head to clear it, he saw something coming through the air toward him, and to duck it, he threw himself flat again on the sand, and to one side. He got his body out of the way, but there was a sudden sharp pain in the calf of his left leg.

He rolled backward, ignoring the pain, and scrambled to his feet. It was a rock, he saw now, that had struck him. And the Roller was picking up another one now, swinging it back gripped between two tentacles, getting ready to throw again.

It sailed through the air toward him, but he was easily able to step out of its way. The Roller, apparently, could throw straight, but not hard nor far. The first rock had struck him only because he had been sitting down and had not seen it coming until it was almost upon him.

Even as he stepped aside from that weak second throw, Carson drew back his right arm and let fly with the rock that was still in his hand. If missiles, he thought with sudden elation, can cross the barrier, then two can play at the game of throwing them. And the good right arm of an Earthman—

He couldn't miss a three-foot sphere at only four-yard range, and he didn't miss. The rock whizzed straight, and with a speed several times that of the missiles the Roller had thrown. It hit dead center, but it hit flat, unfortunately, instead of point first.

But it hit with a resounding thump, and obviously it hurt. The Roller had been reaching for another rock, but it changed its mind and got out of there instead. By the time Carson could pick up and throw another rock, the Roller was forty yards back from the barrier and going strong.

His second throw missed by feet, and his third throw was short. The Roller was back out of range—at least out of range of a missile heavy enough to be damaging.

Carson grinned. That round had been his. Except—

He quit grinning as he bent over to examine the calf of his leg. A jagged edge of the stone had made a pretty deep cut, several inches long. It was bleeding pretty freely, but he didn't think it had gone deep enough to hit an artery. If it stopped bleeding of its own accord, well and good. If not, he was in for trouble.

Finding out one thing, though, took precedence over that cut. The nature of the barrier.

He went forward to it again, this time groping with his hands before him. He found it; then holding one hand against it, he tossed a handful of sand at it with the other hand. The sand went right through. His hand didn't.

Organic matter versus inorganic? No, because the dead lizard had gone through it, and a lizard, alive or dead, was certainly organic. Plant life? He broke off a twig and poked it at the barrier. The twig went through, with no resistance, but when his fingers gripping the twig came to the barrier, they were stopped.

He couldn't get through it, nor could the Roller. But rocks and sand and a dead lizard—

How about a live lizard? He went hunting, under bushes, until he found one, and caught it. He tossed it gently against the barrier and it bounced back and scurried away across the blue sand.

That gave him the answer, in so far as he could determine it now. The screen was a barrier to living things. Dead or inorganic matter could cross it.

That off his mind, Carson looked at his injured leg again. The bleeding was lessening, which meant he wouldn't need to worry about making a tourniquet. But he should find some water, if any was available, to clean the wound.

Water—the thought of it made him realize that he was getting awfully thirsty. He'd *have* to find water, in case this contest turned out to be a protracted one.

Limping slightly now, he started off to make a full circuit of his half of the arena. Guiding himself with one hand along the barrier, he walked to his right until he came to the curving sidewall. It was visible, a dull blue-gray at close range, and the surface of it felt just like the central barrier.

He experimented by tossing a handful of sand at it, and the sand reached the wall and disappeared as it went through. The hemispherical shell was a force-field, too. But an opaque one, instead of transparent like the barrier.

He followed it around until he came back to the barrier, and walked back along the barrier to the point from which he'd started.

No sign of water.

Worried now, he started a series of zigzags back and forth between the barrier and the wall, covering the intervening space thoroughly.

No water. Blue sand, blue bushes, and intolerable heat. Nothing else.

It must be his imagination, he told himself angrily, that he was suffering *that* much from thirst. How long had he been here? Of course, no time at all, according to his own spacetime frame. The Entity had told him time stood still out there, while he was here. But his body processes went on here, just the same. And according to his body's reckoning, how long had he been here? Three or four hours, perhaps. Certainly not long enough to be suffering seriously from thirst.

But he was suffering from it; his throat dry and parched. Probably the intense heat was the cause. It was *hot!* A hundred and thirty Fahrenheit, at a guess. A dry, still heat without the slightest movement of air.

He was limping rather badly, and utterly fagged out when he'd finished the futile exploration of his domain.

He stared across at the motionless Roller and hoped it was as miserable as he was. And quite possibly it wasn't enjoying this, either. The Entity had said the conditions here were equally unfamiliar and equally uncomfortable for both of them. Maybe the Roller came from a planet where two-hundred degree heat was the norm. Maybe it was freezing while he was roasting.

Maybe the air was as much too thick for it as it was too thin for him. For the exertion of his explorations had left him panting. The atmosphere here, he realized now, was not much thicker than that on Mars.

No water.

That meant a deadline, for him at any rate. Unless he could find a way to cross that barrier or to kill his enemy from this side of it, thirst would kill him, eventually.

It gave him a feeling of desperate urgency. He *must* hurry.

But he made himself sit down a moment to rest, to think.

What was there to do? Nothing, and yet so many things. The several varieties of bushes, for example. They didn't look promising, but he'd have to examine them for possibilities. And his leg—he'd have to do something about that, even without water to clean it. Gather ammunition in the form of rocks. Find a rock that would make a good knife.

His leg hurt rather badly now, and he decided that came first. One type of bush had leaves—or things rather similar to leaves. He pulled off a handful of them and decided, after examination, to take a chance on them. He used them to clean off the sand and dirt and caked blood, then made a pad of fresh leaves and tied it over the wound with tendrils from the same bush.

The tendrils proved unexpectedly tough and strong. They were slender, and soft and pliable, yet he couldn't break them at all. He had to saw them off the bush with the sharp edge of a piece of the blue flint. Some of the thicker ones were over a foot long, and he filed away in his memory, for future reference, the fact that a bunch of the thick ones, tied together, would make a pretty serviceable rope. Maybe he'd be able to think of a use for rope.

Next he made himself a knife. The blue flint *did* chip. From a foot-long splinter of it, he fashioned himself a crude but lethal weapon. And of tendrils from the bush, he made himself a rope-belt through which

he could thrust the flint knife, to keep it with him all the time and yet have his hands free.

He went back to studying the bushes. There were three other types. One was leafless, dry, brittle, rather like a dried tumbleweed. Another was of soft, crumbly wood, almost like punk. It looked and felt as though it would make excellent tinder for a fire. The third type was the most nearly woodlike. It had fragile leaves that wilted at a touch, but the stalks, although short, were straight and strong.

It was horribly, unbearable hot.

He limped up to the barrier, felt to make sure that it was still there. It was.

He stood watching the Roller for a while. It was keeping a safe distance back from the barrier, out of effective stone-throwing range. It was moving around back there, doing something. He couldn't tell what it was doing.

Once it stopped moving, came a little closer, and seemed to concentrate its attention on him. Again Carson had to fight off a wave of nausea. He threw a stone at it and the Roller retreated and went back to whatever it had been doing before.

At least he could make it keep its distance.

And, he thought bitterly, a devil of a lot of good *that* did him. Just the same, he spent the next hour or two gathering stones of suitable size for throwing, and making several neat piles of them, near his side of the barrier.

His throat burned now. It was difficult for him to think about anything except water.

But he *had* to think about other things. About getting through that barrier, under or over it, getting *at* that red sphere and killing it before this place of heat and thirst killed him first.

The barrier went to the wall upon either side, but how high and how far under the sand?

For just a moment, Carson's mind was too fuzzy to think out how he could find out either of those things. Idly, sitting there in the hot sand—and he didn't remember sitting down—he watched a blue lizard crawl from the shelter of one bush to the shelter of another.

From under the second bush, it looked out at him.

Carson grinned at it. Maybe he was getting a bit punch-drunk, because he remembered suddenly the old story of the desert-colonists on Mars, taken from an older desert story of Earth—"Pretty soon you get so lonesome you find yourself talking to the lizards, and then not so long after that you find the lizards talking back to you—"

He should have been concentrating, of course, on how to kill the Roller, but instead he grinned at the lizard and said, "Hello, there."

The lizard took a few steps toward him. "Hello," it said.

Carson was stunned for a moment, and then he put back his head and roared with laughter. It didn't hurt his throat to do so, either; he hadn't been *that* thirsty.

Why not? Why should the Entity who thought up this nightmare of a place not have a sense of humor, along with the other powers he had? Talking lizards, equipped to talk back in my own language, if I talk to them— It's a nice touch.

He grinned at the lizard and said, "Come on over." But the lizard turned and ran away, scurrying from bush to bush until it was out of sight.

He was thirsty again.

And he had to *do* something. He couldn't win this contest by sitting here sweating and feeling miserable. He had to *do* something. But what?

Get through the barrier. But he couldn't get through it, or over it. But was he certain he couldn't get under it? And come to think of it, didn't one sometimes find water by digging? Two birds with one stone—

Painfully now, Carson limped up to the barrier and started digging, scooping up sand a double handful at a time. It was slow, hard work because the sand ran in at the edges and the deeper he got the bigger in diameter the hole had to be. How many hours it took him, he didn't know, but he hit bedrock four feet down. Dry bedrock; no sign of water.

And the force-field of the barrier went down clear to the bedrock. No dice. No water. Nothing.

He crawled out of the hole and lay there panting, and then raised his head to look across and see what the Roller was doing. It must be doing something back there.

It was. It was making something out of wood from the bushes, tied together with tendrils. A queerly shaped framework about four feet high and roughly square. To see it better, Carson climbed up onto the mound of sand he had excavated from the hole, and stood there staring.

There were two long levers sticking out of the back of it, one with a cup-shaped affair on the end of it. Seemed to be some sort of a catapult, Carson thought.

Sure enough, the Roller was lifting a sizable rock into the cup-shaped outfit. One of his tentacles moved the other lever up and down for awhile, and then he turned the machine slightly as though aiming it and the lever with the stone flew up and forward.

The stone raced several yards over Carson's head, so far away that he didn't have to duck, but he judged the distance it had traveled, and

whistled softly. He couldn't throw a rock that weight more than half that distance. And even retreating to the rear of his domain wouldn't put him out of range of that machine, if the Roller shoved it forward almost to the barrier.

Another rock whizzed over. Not quite so far away this time.

That thing could be dangerous, he decided. Maybe he'd better do something about it.

Moving from side to side along the barrier, so the catapult couldn't bracket him, he whaled a dozen rocks at it. But that wasn't going to be any good, he saw. They had to be light rocks, or he couldn't throw them that far. If they hit the framework, they bounced off harmlessly. And the Roller had no difficulty, at that distance, in moving aside from those that came near it.

Besides, his arm was tiring badly. He ached all over from sheer weariness. If he could only rest awhile without having to duck rocks from that catapult at regular intervals of maybe thirty seconds each—

He stumbled back to the rear of the arena. Then he saw even that wasn't any good. The rocks reached back there, too, only there were longer intervals between them, as though it took longer to wind up the mechanism, whatever it was, of the catapult.

Wearily he dragged himself back to the barrier again. Several times he fell and could barely rise to his feet to go on. He was, he knew, near the limit of his endurance. Yet he didn't dare stop moving now, until and unless he could put that catapult out of action. If he fell asleep, he'd never wake up.

One of the stones from it gave him the first glimmer of an idea. It struck upon one of the piles of stones he'd gathered together near the barrier to use as ammunition, and it struck sparks.

Sparks. Fire. Primitive man had made fire by striking sparks, and with some of those dry crumbly bushes as tinder—

Luckily, a bush of that type was near him. He broke it off, took it over to a pile of stones, then patiently hit one stone against another until a spark touched the punklike wood of the bush. It went up in flames so fast that it singed his eyebrows and was burned to an ash within seconds.

But he had the idea now, and within minutes he had a little fire going in the lee of the mound of sand he'd made digging the hole an hour or two ago. Tinder bushes had started it, and other bushes which burned, but more slowly, kept it a steady flame.

The tough wirelike tendrils didn't burn readily; that made the firebombs easy to make and throw. A bundle of faggots tied about a small stone to give it weight and a loop of the tendril to swing it by.

He made half a dozen of them before he lighted and threw the first.

It went wide, and the Roller started a quick retreat, pulling the catapult after him. But Carson had the others ready and threw them in rapid succession. The fourth wedged in the catapult's framework, and did the trick. The Roller tried desperately to put out the spreading blaze by throwing sand, but its clawed tentacles would take only a spoonful at a time and his efforts were ineffectual. The catapult burned.

The Roller moved safely away from the fire and seemed to concentrate its attention on Carson and again he felt that wave of hatred and nausea. But more weakly; either the Roller itself was weakening or Carson had learned how to protect himself against the mental attack.

He thumbed his nose at it and then sent it scuttling back to safety by throwing a stone. The Roller went clear to the back of its half of the arena and started pulling up bushes again. Probably it was going to make another catapult.

Carson verified—for the hundredth time—that the barrier was still operating, and then found himself sitting in the sand beside it because he was suddenly too weak to stand up.

His leg throbbed steadily now and the pangs of thirst were severe. But those things paled beside the utter physical exhaustion that gripped his entire body.

And the heat.

Hell must be like this, he thought. The hell that the ancients had believed in. He fought to stay awake, and yet staying awake seemed futile, for there was nothing he could do. Nothing, while the barrier remained impregnable and the Roller stayed back out of range.

But there must be *something*. He tried to remember things he had read in books of archaeology about the methods of fighting used back in the days before metal and plastic. The stone missile, that had come first, he thought. Well, that he already had.

The only improvement on it would be a catapult, such as the Roller had made. But he'd never be able to make one, with the tiny bits of wood available from the bushes—no single piece longer than a foot or so. Certainly he could figure out a mechanism for one, but he didn't have the endurance left for a task that would take days.

Days? But the Roller had made one. Had they been here days already? Then he remembered that the Roller had many tentacles to work with and undoubtedly could do such work faster than he.

And besides, a catapult wouldn't decide the issue. He had to do better than that.

Bow and arrow? No; he had tried archery once and knew his own ineptness with a bow. Even with a modern sportsman's durasteel weapon, made for accuracy. With such a crude, pieced-together outfit

as he could make here, he doubted if he could shoot as far as he could throw a rock, and knew he couldn't shoot as straight.

Spear? Well, he *could* make that. It would be useless as a throwing weapon at any distance, but would be a handy thing at close range, if he ever got to close range.

And making one would give him something to do. Help keep his mind from wandering, as it was beginning to do. Sometimes now, he had to concentrate awhile before he could remember why he was here, why he had to kill the Roller.

Luckily he was still beside one of the piles of stones. He sorted through it until he found one shaped roughly like a spearhead. With a smaller stone he began to chip it into shape, fashioning sharp shoulders on the sides so that if it penetrated it would not pull out again.

Like a harpoon? There was something in that idea, he thought. A harpoon was better than a spear, maybe, for this crazy contest. If he could once get it into the Roller, and had a rope on it, he could pull the Roller up against the barrier and the stone blade of his knife would reach through that barrier, even if his hands wouldn't.

The shaft was harder to make than the head. But by splitting and joining the main stems of four of the bushes, and wrapping the joints with the tough but thin tendrils, he got a strong shaft about four feet long, and tied the stone head in a notch cut in the end.

It was crude, but strong.

And the rope. With the thin tough tendrils he made himself twenty feet of line. It was light and didn't look strong, but he knew it would hold his weight and to spare. He tied one end of it to the shaft of the harpoon and the other end about his right wrist. At least, if he threw his harpoon across the barrier, he'd be able to pull it back if he missed.

Then when he had tied the last knot and there was nothing more he could do, the heat and the weariness and the pain in his leg and the dreadful thirst were suddenly a thousand times worse than they had been before.

He tried to stand up, to see what the Roller was doing now, and found he couldn't get to his feet. On the third try, he got as far as his knees and then fell flat again.

"I've got to sleep," he thought. "If a showdown came now, I'd be helpless. He could come up here and kill me, if he knew. I've got to regain some strength."

Slowly, painfully, he crawled back away from the barrier. Ten yards, twenty—

The jar of something thudding against the sand near him waked him from a confused and horrible dream to a more confused and more horrible reality, and he opened his eyes again to blue radiance over blue sand.

How long had he slept? A minute? A day?

Another stone thudded nearer and threw sand on him. He got his arms under him and sat up. He turned around and saw the Roller twenty yards away, at the barrier.

It rolled away hastily as he sat up, not stopping until it was as far away as it could get.

He'd fallen asleep too soon, he realized, while he was still in range of the Roller's throwing ability. Seeing him lying motionless, it had dared come up to the barrier to throw at him. Luckily, it didn't realize how weak he was, or it could have stayed there and kept on throwing stones.

Had he slept long? He didn't think so, because he felt just as he had before. Not rested at all, no thirstier, no different. Probably he'd been there only a few minutes.

He started crawling again, this time forcing himself to keep going until he was as far as he could go, until the colorless, opaque wall of the arena's outer shell was only a yard away.

Then things slipped away again—

When he awoke, nothing about him was changed, but this time he knew that he had slept a long time.

The first thing he became aware of was the inside of his mouth; it was dry, caked. His tongue was swollen.

Something was wrong, he knew, as he returned slowly to full awareness. He felt less tired, the stage of utter exhaustion had passed. The sleep had taken care of that.

But there was pain, agonizing pain. It wasn't until he tried to move that he knew that it came from his leg.

He raised his head and looked down at it. It was swollen terribly below the knee and the swelling showed even halfway up his thigh. The plant tendrils he had used to tie on the protective pad of leaves now cut deeply into the swollen flesh.

To get his knife under that imbedded lashing would have been impossible. Fortunately, the final knot was over the shin bone, in front, where the vine cut in less deeply than elsewhere. He was able, after an agonizing effort, to untie the knot.

A look under the pad of leaves told him the worst. Infection and blood poisoning, both pretty bad and getting worse.

And without drugs, without cloth, without even *water*, there wasn't a thing he could do about it.

Not a thing, except *die*, when the poison had spread through his system.

He knew it was hopeless, then, and that he'd lost.

And with him, humanity. When he died here, out there in the universe he knew, all his friends, everybody, would die too. And Earth and the colonized planets would be the home of the red, rolling, alien Outsiders. Creatures out of nightmare, things without a human attribute, who picked lizards apart for the fun of it.

It was the thought of that which gave him courage to start crawling, almost blindly in pain, toward the barrier again. Not crawling on hands and knees this time, but pulling himself along only by his arms and hands.

A chance in a million, that maybe he'd have strength left, when he got there, to throw his harpoon-spear just *once*, and with deadly effect, if—on another chance in a million—the Roller would come up to the barrier. Or if the barrier was gone, now.

It took him years, it seemed, to get there.

The barrier wasn't gone. It was as impassable as when he'd first felt it.

And the Roller wasn't at the barrier. By raising up on his elbows, he could see it at the back of its part of the arena, working on a wooden framework that was a half-completed duplicate of the catapult he'd destroyed.

It was moving slowly now. Undoubtedly it had weakened, too.

But Carson doubted that it would ever need that second catapult. He'd be dead, he thought, before it was finished.

If he could attract it to the barrier, now, while he was still alive—

He waved an arm and tried to shout, but his parched throat would make no sound.

Or if he could get through the barrier—

His mind must have slipped for a moment, for he found himself beating his fists against the barrier in futile rage, and made himself stop.

He closed his eyes, tried to make himself calm.

"Hello," said the voice.

It was a small, thin voice. It sounded like—

He opened his eyes and turned his head. It *was* the lizard.

"Go away," Carson wanted to say. "Go away, you're not really there, or you're there but not really talking. I'm imagining things again."

But he couldn't talk; his throat and tongue were past all speech with the dryness. He closed his eyes again.

"Hurt," said the voice. "Kill. Hurt—kill. Come."

He opened his eyes again. The blue ten-legged lizard was still there.

It ran a little way along the barrier, came back, started off again, and came back.

"Hurt," it said. "Kill. Come."

Again it started off, and came back. Obviously it wanted Carson to follow it along the barrier.

He closed his eyes again. The voice kept on. The same three meaningless words. Each time he opened his eyes, it ran off and came back.

"Hurt. Kill. Come."

Carson groaned. There would be no peace unless he followed the blasted thing. Like it wanted him to.

He followed it, crawling. Another sound, a high-pitched squealing, came to his ears and grew louder.

There was something lying in the sand, writhing, squealing. Something small, blue, that looked like a lizard and yet didn't—

Then he saw what it was—the lizard whose legs the Roller had pulled off, so long ago. But it wasn't dead; it had come back to life and was wriggling and screaming in agony.

"Hurt," said the other lizard. "Hurt. Kill. Kill."

Carson understood. He took the flint knife from his belt and killed the tortured creature. The live lizard scurried off quickly.

Carson turned back to the barrier. He leaned his hands and head against it and watched the Roller, far back, working on the new catapult.

"I could get that far," he thought, "if I could get through. If I could get through, I might win yet. It looks weak, too. I might—"

And then there was another reaction of black hopelessness, when pain snapped his will and he wished that he were dead. He envied the lizard he'd just killed. It didn't have to live on and suffer. And he did. It would be hours, it might be days, before the blood poisoning killed him.

If only he could use that knife on himself—

But he knew he wouldn't. As long as he was alive, there was the millionth chance—

He was straining, pushing on the barrier with the flat of his hands, and he noticed his arms, how thin and scrawny they were now. He must really have been here a long time, for days, to get as thin as that.

How much longer now, before he died? How much more heat and thirst and pain could flesh stand?

For a little while he was almost hysterical again, and then came a time of deep calm, and a thought that was startling.

The lizard he had just killed. *It had crossed the barrier, still alive.* It had come from the Roller's side; the Roller had pulled off its legs and then tossed it contemptuously at him and it had come through the barrier. He'd thought, because the lizard was dead.

But it hadn't been dead; it had been unconscious.

A live lizard couldn't go through the barrier, but an unconscious one could. The barrier was not a barrier, then, to living flesh, but to conscious flesh. It was a *mental* projection, a *mental* hazard.

And with that thought, Carson started crawling along the barrier to make his last desperate gamble. A hope so forlorn that only a dying man would have dared try it.

No use weighing the odds of success. Not when, if he didn't try it, those odds were infinitely to zero.

He crawled along the barrier to the dune of sand, about four feet high, which he'd scooped out in trying—how many days ago?—to dig under the barrier or to reach water.

That mound was right at the barrier, its farther slope half on one side of the barrier, half on the other.

Taking with him a rock from the pile nearby, he climbed up to the top of the dune and over the top, and lay there against the barrier, his weight leaning against it so that if the barrier were taken away he'd roll on down the short slope, into the enemy territory.

He checked to be sure that the knife was safely in his rope belt, that the harpoon was in the crook of his left arm and that the twenty-foot rope was fastened to it and to his wrist.

Then with his right hand he raised the rock with which he would hit himself on the head. Luck would have to be with him on that blow; it would have to be hard enough to knock him out, but not hard enough to knock him out for long.

He had a hunch that the Roller was watching him, and would see him roll down through the barrier, and come to investigate. It would think he was dead, he hoped—he thought it had probably drawn the same deduction about the nature of the barrier that he had drawn. But it would come cautiously. He would have a little time—

He struck.

Pain brought him back to consciousness. A sudden, sharp pain in his hip that was different from the throbbing pain in his head and the throbbing pain in his leg.

But he had, thinking things out before he had struck himself, anticipated that very pain, even hoped for it, and had steeled himself against awakening with a sudden movement.

He lay still, but opened his eyes just a slit, and saw that he had guessed rightly. The Roller was coming closer. It was twenty feet away and the pain that had awakened him was the stone it had tossed to see whether he was alive or dead.

He lay still. It came closer, fifteen feet away, and stopped again. Carson scarcely breathed.

As nearly as possible, he was keeping his mind a blank, lest its telepathic ability detect consciousness in him. And with his mind blanked out that way, the impact of its thoughts upon his mind was nearly soul-shattering.

He felt sheer horror at the utter *alienness*, the *differentness* of those thoughts. Things that he felt but could not understand and could never express, because no terrestrial language had words, no terrestrial mind had images to fit them. The mind of a spider, he thought, or the mind of a praying mantis or a Martian sand-serpent, raised to intelligence and put in telepathic rapport with human minds, would be a homely familiar thing, compared to this.

He understood now that the Entity had been right: Man or Roller, and the universe was not a place that could hold them both. Farther apart than god and devil, there could never be even a balance between them.

Closer. Carson waited until it was only feet away, until its clawed tentacles reached out—

Oblivious to agony now, he sat up, raised and flung the harpoon with all the strength that remained to him. Or he thought it was all; sudden final strength flooded through him, along with a sudden forgetfulness of pain as definite as a nerve block.

As the Roller, deeply stabbed by the harpoon, rolled away, Carson tried to get to his feet to run after it. He couldn't do that; he fell, but kept crawling.

It reached the end of the rope, and he was jerked forward by the pull of his wrist. It dragged him a few feet and then stopped. Carson kept on going, pulling himself toward it hand over hand along the rope.

It stopped there, writhing tentacles trying in vain to pull out the harpoon. It seemed to shudder and quiver, and then it must have realized that it couldn't get away, for it rolled back toward him, clawed tentacles reaching out.

Stone knife in hand, he met it. He stabbed, again and again, while those horrid claws ripped skin and flesh and muscle from his body.

He stabbed and slashed, and at last it was still.

A bell was ringing, and it took him a while after he'd opened his eyes to tell where he was and what it was. He was strapped into the seat of his scouter, and the visiplate before him showed only empty space. No Outsider ship and no impossible planet.

The bell was the communications plate signal; someone wanted him

to switch power into the receiver. Purely reflex action enabled him to reach forward and throw the lever.

The face of Brander, captain of the *Magellan*, mother-ship of his group of scouters, flashed into the screen. His face was pale and his black eyes glowed with excitement.

"*Magellan* to Carson," he snapped. "Come on in. The fight's over. We've won!"

The screen went blank; Brander would be signaling the other scouters of his command.

Slowly, Carson set the controls for the return. Slowly, unbelievingly, he unstrapped himself from the seat and went back to get a drink at the cold-water tank. For some reason, he was unbelievably thirsty. He drank six glasses.

He leaned there against the wall, trying to think.

Had it happened? He was in good health, sound, uninjured. His thirst had been mental rather than physical; his throat hadn't been dry. His leg—

He pulled up his trouser leg and looked at the calf. There was a long white scar there, but a perfectly healed scar. It hadn't been there before. He zipped open the front of his shirt and saw that his chest and abdomen was criss-crossed with tiny, almost unnoticeable, perfectly healed scars.

It *had* happened.

The scouter, under automatic control, was already entering the hatch of the mother-ship. The grapples pulled it into its individual lock, and a moment later a buzzer indicated that the lock was air-filled. Carson opened the hatch and stepped outside, went through the double door of the lock.

He went right to Brander's office, went in, and saluted.

Brander still looked dizzily dazed. "Hi, Carson," he said. "What you missed! What a show!"

"What happened, sir?"

"Don't know, exactly. We fired one salvo, and their whole fleet went up in dust! Whatever it was jumped from ship to ship in a flash, even the ones we hadn't aimed at and that were out of range! The whole fleet disintegrated before our eyes, and we didn't get the paint of a single ship scratched!

"We can't even claim credit for it. Must have been some unstable component in the metal they used, and our sighting shot just set it off. Man, oh man, too bad you missed all the excitement."

Carson managed to grin. It was a sickly ghost of a grin, for it would

be days before he'd be over the mental impact of his experience, but the captain wasn't watching, and didn't notice.

"Yes, sir," he said. Common sense, more than modesty, told him he'd be branded forever as the worst liar in space if he ever said any more than that. "Yes, sir, too bad I missed all the excitement."

FIRST CONTACT

by Murray Leinster

Tommy Dort went into the captain's room with his last pair of stereo-photos and said:

"I'm through, sir. These are the last two pictures I can take."

He handed over the photographs and looked with professional interest at the visiplates which showed all space outside the ship. Subdued, deep-red lighting indicated the controls and such instruments as the quarter-master on duty needed for navigation of the spaceship *Llanvabon*. There was a deeply cushioned control chair. There was the little gadget of oddly angled mirrors—remote descendant of the back-view mirrors of twentieth-century motorists—which allowed a view of all the visiplates without turning the head. And there were the huge plates which were so much more satisfactory for a direct view of space.

The *Llanvabon* was a long way from home. The plates, which showed every star of visual magnitude and could be stepped up to any desired magnification, portrayed stars of every imaginable degree of brilliance, in the startlingly different colors they show outside of atmosphere. But every one was unfamiliar. Only two constellations could be recognized as seen from Earth, and they were shrunken and distorted. The Milky Way seemed vaguely out of place. But even such oddities were minor compared to a sight in the forward plates.

There was a vast, vast mistiness ahead. A luminous mist. It seemed motionless. It took a long time for any appreciable nearing to appear in the vision plates, though the spaceship's velocity indicator showed an incredible speed. The mist was the Crab Nebula, six light-years long,

First published in 1945 ("Murray Leinster" is a pseudonym employed by Will F. Jenkins)

three and a half light-years thick, and outward-reaching members that in the telescopes of Earth gave it some resemblance to the creature for which it was named. It was a cloud of gas, infinitely tenuous, reaching half again as far as from Sol to its nearest neighbor-sun. Deep within it burned two stars; a double star; one component the familiar yellow of the sun of Earth, the other an unholy white.

Tommy Dort said meditatively:

"We're heading into a deep, sir?"

The skipper studied the last two plates of Tommy's taking, and put them aside. He went back to his uneasy contemplation of the vision plates ahead. The *Llanvabon* was decelerating at full force. She was a bare half light-year from the nebula. Tommy's work was guiding the ship's course, now, but the work was done. During all the stay of the exploring ship in the nebula, Tommy Dort would loaf. But he'd more than paid his way so far.

He had just completed a quite unique first—a complete photographic record of the movement of a nebula during a period of four thousand years, taken by one individual with the same apparatus and with control exposures to detect and record any systematic errors. It was an achievement in itself worth the journey from Earth. But in addition, he had also recorded four thousand years of the history of a double star, and four thousand years of the history of a star in the act of degenerating into a white dwarf.

It was not that Tommy Dort was four thousand years old. He was, actually, in his twenties. But the Crab Nebula is four thousand light-years from Earth, and the last two pictures had been taken by light which would not reach Earth until the sixth millennium A.D. On the way here—at speeds incredible multiples of the speed of light—Tommy Dort had recorded each aspect of the nebula by the light which had left it from forty centuries since to a bare six months ago.

The *Llanvabon* bored on through space. Slowly, slowly, slowly, the incredible luminosity crept across the vision plates. It blotted out half the universe from view. Before was glowing mist, and behind was a star-studded emptiness. The mist shut off three-fourths of all the stars. Some few of the brightest shone dimly through it near its edge, but only a few. Then there was only an irregularly shaped patch of darkness astern against which stars shone unwinking. The *Llanvabon* dived into the nebula, and it seemed as if it bored into a tunnel of Darkness with walls of shining fog.

Which was exactly what the spaceship was doing. The most distant photographs of all had disclosed structural features in the nebula. It was

not amorphous. It had form. As the *Llanvabon* drew nearer, indications of structure grew more distinct, and Tommy Dort had argued for a curved approach for photographic reasons. So the spaceship had come up to the nebula on a vast logarithmic curve, and Tommy had been able to take successive photographs from slightly different angles and get stereo-pairs which showed the nebula in three dimensions; which disclosed billowings and hollows and an actually complicated shape. In places, the nebula displayed convolutions like those of a human brain. It was into one of those hollows that the spaceship now plunged. They had been called "deeps" by analogy with crevasses in the ocean floor. And they promised to be useful.

The skipper relaxed. One of a skipper's functions, nowadays, is to think of things to worry about, and then worry about them. The skipper of the *Llanvabon* was conscientious. Only after a certain instrument remained definitely nonregistering did he ease himself back in his seat.

"It was just barely possible," he said heavily, "that those deeps might be nonluminous gas. But they're empty. So we'll be able to use overdrive as long as we're in them."

It was a light-year-and-a-half from the edge of the nebula to the neighborhood of the double star which was its heart. That was the problem. A nebula is a gas. It is so thin that a comet's tail is solid by comparison, but a ship traveling on overdrive—above the speed of light—does not want to hit even a merely hard vacuum. It needs pure emptiness, such as exists between the stars. But the *Llanvabon* could not do much in this expanse of mist if it was limited to speeds a merely hard vacuum will permit.

The luminosity seemed to close in behind the spaceship, which slowed and slowed and slowed. The overdrive went off with the sudden *pinging* sensation which goes all over a person when the overdrive field is released.

Then, almost instantly, bells burst into clanging, strident uproar all through the ship. Tommy was almost deafened by the alarm bell which rang in the captain's room before the quartermaster shut it off with a flip of his hand. But other bells could be heard ringing throughout the rest of the ship, to be cut off as automatic doors closed one by one.

Tommy Dort stared at the skipper. The skipper's hands clenched. He was up and staring over the quartermaster's shoulder. One indicator was apparently having convulsions. Others strained to record their findings. A spot on the diffusedly bright mistiness of a bow-quartering visiplate grew brighter as the automatic scanner focused on it. That was the direction of the object which had sounded collision-alarm. But the object locator itself—. According to its reading, there was one solid object

some eighty thousand miles away—an object of no great size. But there was another object whose distance varied from extreme range to zero, and whose size shared its impossible advance and retreat.

"Step up the scanner," snapped the skipper.

The extra-bright spot on the scanner rolled outward, obliterating the undifferentiated image behind it. Magnification increased. But nothing appeared. Absolutely nothing. Yet the radio locator insisted that something monstrous and invisible made lunatic dashes toward the *Llanvabon*, at speeds which inevitably implied collision, and then fled coyly away at the same rate.

The visiplate went up to maximum magnification. Still nothing. The skipper ground his teeth. Tommy Dort said meditatively:

"D'you know, sir, I saw something like this on a liner on the Earth-Mars run once, when we were being located by another ship. Their locator beam was the same frequency as ours, and every time it hit, it registered like something monstrous, and solid."

"That," said the skipper savagely, "is just what's happening now. There's something like a locator beam on us. We're getting that beam and our own echo besides. But the other ship's invisible! Who is out here in an invisible ship with locator devices? Not men, certainly!"

He pressed the button in his sleeve communicator and snapped:

"Action stations! Man all weapons! Condition of extreme alert in all departments immediately!"

His hands closed and unclosed. He stared again at the visiplate which showed nothing but a formless brightness.

"Not men?" Tommy Dort straightened sharply. "You mean—"

"How many solar systems in our galaxy?" demanded the skipper bitterly. "How many planets fit for life? And how many kinds of life could there be? If this ship isn't from Earth—and it isn't—it has a crew that isn't human. And things that aren't human but are up to the level of deep-space travel in their civilization could mean anything!"

The skipper's hands were actually shaking. He would not have talked so freely before a member of his own crew, but Tommy Dort was of the observation staff. And even a skipper whose duties include worrying may sometimes need desperately to unload his worries. Sometimes, too, it helps to think aloud.

"Something like this has been talked about and speculated about for years," he said softly. "Mathematically, it's been an odds-on bet that somewhere in our galaxy there'd be another race with a civilization equal to or further advanced than ours. Nobody could ever guess where or when we'd meet them. But it looks like we've done it now!"

Tommy's eyes were very bright.

"D'you suppose they'll be friendly, sir?"

The skipper glanced at the distance indicator. The phantom object still made its insane, nonexistent swoops toward and away from the *Llanvabon*. The secondary indication of an object at eighty thousand miles stirred ever so slightly.

"It's moving," he said curtly. "Heading for us. Just what we'd do if a strange spaceship appeared in our hunting grounds! Friendly? Maybe! We're going to try to contact them. We have to. But I suspect this is the end of this expedition. Thank God for the blasters!"

The blasters are those beams of ravening destruction which take care of recalcitrant meteorites in a spaceship's course when the deflectors can't handle them. They are not designed as weapons, but they can serve as pretty good ones. They can go into action at five thousand miles, and draw on the entire power output of a whole ship. With automatic aim and a traverse of five degrees, a ship like the *Llanvabon* can come very close to blasting a hole through a small-sized asteroid which gets in its way. But not on overdrive, of course.

Tommy Dort had approached the bow-quartering visiplate. Now he jerked his head around.

"Blasters, sir? What for?"

The skipper grimaced at the empty visiplate.

"Because we don't know what they're like and can't take a chance! I know!" he added bitterly. "We're going to make contacts and try to find out all we can about them—especially where they come from. I suppose we'll try to make friends—but we haven't much chance. We can't trust them the fraction of an inch. We daren't! They've locators. Maybe they've tracers better than any we have. Maybe they could trace us all the way home without our knowing it! We can't risk a nonhuman race knowing where Earth is unless we're sure of them! And how can we be sure? They could come to trade, of course—or they could swoop down on overdrive with a battle fleet that could wipe us out before we knew what happened. We wouldn't know which to expect, or when!"

Tommy's face was startled.

"It's all been thrashed out over and over, in theory," said the skipper. "Nobody's ever been able to find a sound answer, even on paper. But you know, in all their theorizing, no one considered the crazy, rank impossibility of a deep-space contact, with neither side knowing the other's home world! But we've got to find an answer in fact! What are we going to do about them? Maybe these creatures will be aesthetic marvels, nice and friendly and polite—and underneath with the sneaking brutal ferocity of a Japanese. Or maybe they'll be crude and gruff as a

Swedish farmer—and just as decent underneath. Maybe they're something in between. But am I going to risk the possible future of the human race on a guess that it's safe to trust them? God knows it would be worth while to make friends with a new civilization! It would be bound to stimulate our own, and maybe we'd gain enormously. But I can't take chances. The one thing I won't risk is having them know how to find Earth! Either I know they can't follow me, or I don't go home! And they'll probably feel the same way!"

He pressed the sleeve-communicator button again.

"Navigation officers, attention! Every star map on this ship is to be prepared for instant destruction. This includes photographs and diagrams from which our course or starting point could be deduced. I want all astronomical data gathered and arranged to be destroyed in a split second, on order. Make it fast and report when ready!"

He released the button. He looked suddenly old. The first contact of humanity with an alien race was a situation which had been foreseen in many fashions, but never one quite so hopeless of solution as this. A solitary Earth-ship and a solitary alien, meeting in a nebula which must be remote from the home planet of each. They might wish peace, but the line of conduct which best prepared a treacherous attack was just the seeming of friendliness. Failure to be suspicious might doom the human race,—and a peaceful exchange of the fruits of civilization would be the greatest benefit imaginable. Any mistake would be irreparable, but a failure to be on guard would be fatal.

The captain's room was very, very quiet. The bow-quartering visiplate was filled with the image of a very small section of the nebula. A very small section indeed. It was all diffused, featureless, luminous mist. But suddenly Tommy Dort pointed.

"There, sir!"

There was a small shape in the mist. It was far away. It was a black shape, not polished to mirror-reflection like the hull of the *Llanvabon*. It was bulbous—roughly pear-shaped. There was much thin luminosity between, and no details could be observed, but it was surely no natural object. Then Tommy looked at the distance indicator and said quietly:

"It's headed for us at very high acceleration, sir. The odds are that they're thinking the same thing, sir, that neither of us will dare let the other go home. Do you think they'll try a contact with us, or let loose with their weapons as soon as they're in range?"

The *Llanvabon* was no longer in a crevasse of emptiness in the nebula's thin substance. She swam in luminescence. There were no stars save the two fierce glows in the nebula's heart. There was nothing but

an all-enveloping light, curiously like one's imagining of underwater in the tropic of Earth.

The alien ship had made one sign of less than lethal intention. As it drew near the *Llanvabon*, it decelerated. The *Llanvabon* itself had advanced for a meeting and then come to a dead stop. Its movement had been a recognition of the nearness of the other ship. Its pausing was both a friendly sign and a precaution against attack. Relatively still, it could swivel on its own axis to present the least target to a slashing assault, and it would have a longer firing-time than if the two ships flashed past each other at their combined speeds.

The moment of actual approach, however, was tenseness itself. The *Llanvabon*'s needle-pointed bow aimed unwaveringly at the alien bulk. A relay to the captain's room put a key under his hand which would fire the blasters with maximum power. Tommy Dort watched, his brow wrinkled. The aliens must be of a high degree of civilization if they had spaceships, and civilization does not develop without the development of foresight. These aliens must recognize all the implications of this first contact of two civilized races as fully as did the humans on the *Llanvabon*.

The possibility of an enormous spurt in the development of both, by peaceful contact and exchange of their separate technologies, would probably appeal to them as to the man. But when dissimilar human cultures are in contact, one must usually be subordinate or there is war. But subordination between races arising on separate planets could not be peacefully arranged. Men, at least, would never consent to subordination, nor was it likely that any highly developed race would agree. The benefits to be derived from commerce could never make up for a condition of inferiority. Some races—men, perhaps—would prefer commerce to conquest. Perhaps—perhaps!—these aliens would also. But some types even of human beings would have craved red war. If the alien ship now approaching the *Llanvabon* returned to its home base with news of humanity's existence and of ships like the *Llanvabon*, it would give its race the choice of trade or battle. They might want trade, or they might want war. But it takes two to make trade, and only one to make war. They could not be sure of men's peacefulness, nor could men be sure of theirs. The only safety for either civilization would lie in the destruction of one or both of the two ships here and now.

But even victory would not be really enough. Men would need to know where this alien race was to be found, for avoidance if not for battle. They would need to know its weapons, and its resources, and if it could be a menace and how it could be eliminated in case of need. The aliens would feel the same necessities concerning humanity.

So the skipper of the *Llanvabon* did not press the key which might possibly have blasted the other ship to nothingness. He dared not. But he dared not fire either. Sweat came out on his face.

A speaker muttered. Someone from the range room.

"The other ship's stopped, sir. Quite stationary. Blasters are centered on it, sir."

It was an urging to fire. But the skipper shook his head, to himself. The alien ship was no more than twenty miles away. It was dead-black. Every bit of its exterior was an abysmal, nonreflecting sable. No details could be seen except by minor variations in its outline against the misty nebula.

"It's stopped dead, sir," said another voice. "They've sent a modulated short wave at us, sir. Frequency modulated. Apparently a signal. Not enough power to do any harm."

The skipper said through tight-locked teeth:

"They're doing something now. There's movement on the outside of their hull. Watch what comes out. Put the auxiliary blasters on it."

Something small and round came smoothly out of the oval outline of the black ship. The bulbous hulk moved.

"Moving away, sir," said the speaker. "The object they let out is stationary in the place they've left."

Another voice cut in:

"More frequency modulated stuff, sir. Unintelligible."

Tommy Dort's eyes brightened. The skipper watched the visiplate, with sweat-droplets on his forehead.

"Rather pretty, sir," said Tommy, meditatively. "If they sent anything toward us, it might seem a projectile or a bomb. So they came close, let out a lifeboat, and went away again. They figure we can send a boat or a man to make contact without risking our ship. They must think pretty much as we do."

The skipper said, without moving his eyes from the plate:

"Mr. Dort, would you care to go out and look the thing over? I can't order you, but I need all my operating crew for emergencies. The observation staff—"

"Is expendable. Very well, sir," said Tommy briskly. "I won't take a lifeboat, sir. Just a suit with a drive in it. It's smaller and the arms and legs will look unsuitable for a bomb. I think I should carry a scanner, sir."

The alien ship continued to retreat. Forty, eighty, four hundred miles. It came to a stop and hung there, waiting. Climbing into his atomic-driven spacesuit just within the *Llanvabon*'s air lock, Tommy heard the

reports as they went over the speakers throughout the ship. That the other ship had stopped its retreat at four hundred miles was encouraging. It might not have weapons effective at a greater distance than that, and so felt safe. But just as the thought formed itself in his mind, the alien retreated precipitately still farther. Which, as Tommy reflected as he emerged from the lock, might be because the aliens had realized they were giving themselves away, or might be because they wanted to give the impression that they had done so.

He swooped away from the silvery-mirror *Llanvabon*, through a brightly glowing emptiness which was past any previous experience of the human race. Behind him, the *Llanvabon* swung about and darted away. The skipper's voice came in Tommy's helmet phones.

"We're pulling back, too, Mr. Dort. There is a bare possibility that they've some explosive atomic reaction they can't use from their own ship, but which might be destructive even as far as this. We'll draw back. Keep your scanner on the object."

The reasoning was sound, if not very comforting. An explosive which would destroy anything within twenty miles was theoretically possible, but humans didn't have it yet. It was decidedly safest for the *Llanvabon* to draw back.

But Tommy Dort felt very lonely. He sped through emptiness toward the tiny black speck which hung in incredible brightness. The *Llanvabon* vanished. Its polished hull would merge with the glowing mist at a relatively short distance, anyhow. The alien ship was not visible to the naked eye, either. Tommy swam in nothingness, four thousand light-years from home, toward a tiny black spot which was the only solid object to be seen in all of space.

It was a slightly distorted sphere, not much over six feet in diameter. It bounced away when Tommy landed on it, feet-first. There were small tentacles, or horns, which projected in every direction. They looked rather like the detonating horns of a submarine mine, but there was a glint of crystal at the tip-end of each.

"I'm here," said Tommy into his helmet phone.

He caught hold of a horn and drew himself to the object. It was all metal, dead-black. He could feel no texture through his space gloves, of course, but he went over and over it, trying to discover its purpose.

"Deadlock, sir," he said presently. "Nothing to report that the scanner hasn't shown you."

Then, through his suit, he felt vibrations. They translated themselves as clankings. A section of the rounded hull of the object opened out. Two sections. He worked his way around to look in and see the first nonhuman civilized beings that any man had ever looked upon.

But what he saw was simply a flat plate on which dim-red glows crawled here and there in seeming aimlessness. His helmet phones emitted a startled exclamation. The skipper's voice:

"Very good, Mr. Dort. Fix your scanner to look into that plate. They dumped out a robot with an infrared visiplate for communication. Not risking any personnel. Whatever we might do would damage only machinery. Maybe they expect us to bring it on board—and it may have a bomb charge that can be detonated when they're ready to start for home. I'll send a plate to face one of its scanners. You return to the ship."

"Yes, sir," said Tommy. "But which way is the ship, sir?"

There were no stars. The nebula obscured them with its light. The only thing visible from the robot was the double star at the nebula's center. Tommy was no longer oriented. He had but one reference point.

"Head straight away from the double star," came the order in his helmet phone. "We'll pick you up."

He passed another lonely figure, a little later, headed for the alien sphere with a vision plate to set up. The two spaceships, each knowing that it dared not risk its own race by the slightest lack of caution, would communicate with each other through this small round robot. Their separate vision systems would enable them to exchange all the information they dared give, while they debated the most practical way of making sure that their own civilization would not be endangered by this first contact with another. The truly most practical method would be the destruction of the other ship in a swift and deadly attack—in self defense.

II

The *Llanvabon* thereafter, was a ship in which there were two separate enterprises on hand at the same time. She had come out from Earth to make close-range observations on the smaller component of the double star at the nebula's center. The nebula itself was the result of the most titanic explosion of which men have any knowledge. The explosion took place sometime in the year 2946 B.C., before the first of the seven cities of long-dead Ilium was even thought of. The light of that explosion reached Earth in the year 1054 A.D., and was duly recorded in ecclesiastic annals and somewhat more reliably by Chinese court astronomers. It was bright enough to be seen in daylight for twenty-three successive days. Its light—and it was four thousand light-years away—was brighter than that of Venus.

From these facts, astronomers could calculate nine hundred years later

the violence of the detonation. Matter blown away from the center of the explosion would have traveled outward at the rate of two million three hundred thousand miles an hour; more than thirty-eight thousand miles a minute; something over six hundred thirty-eight miles per second. When twentieth-century telescopes were turned upon the scene of this vast explosion, only a double star remained—and the nebula. The brighter star of the doublet was almost unique in having so high a surface temperature that it showed no spectrum lines at all. It had a continuous spectrum. Sol's surface temperature is about 7,000° Absolute. That of the hot white star is 500,000 degrees. It has nearly the mass of the sun, but only one fifth its diameter, so that its density is one hundred seventy-three times that of water, sixteen times that of lead, and eight times that of iridium—the heaviest substance known on Earth. But even this density is not that of a dwarf white star like the companion of Sirius. The white star in the Crab Nebula is an incomplete dwarf; it is a star still in the act of collapsing. Examination—including the survey of a four-thousand-year column of its light—was worth while. The *Llanvabon* had come to make that examination. But the finding of an alien spaceship upon a similar errand had implications which overshadowed the original purpose of the expedition.

A tiny bulbous robot floated in the tenuous nebular gas. The normal operating crew of the *Llanvabon* stood at their posts with a sharp alertness which was productive of tense nerves. The observation staff divided itself, and a part went half-heartedly about the making of the observations for which the *Llanvabon* had come. The other half applied itself to the problem the spaceship offered.

It represented a culture which was up to space travel on an interstellar scale. The explosion of a mere five thousand years since must have blasted every trace of life out of existence in the area now filled by the nebula. So the aliens of the black spaceship came from another solar system. Their trip must have been, like that of the Earth ship, for purely scientific purposes. There was nothing to be extracted from the nebula.

They were, then, at least near the level of human civilization, which meant that they had or could develop arts and articles of commerce which men would want to trade for, in friendship. But they would necessarily realize that the existence and civilization of humanity was a potential menace to their own race. The two races could be friends, but also they could be deadly enemies. Each, even if unwillingly, was a monstrous menace to the other. And the only safe thing to do with a menace is to destroy it.

In the Crab Nebula the problem was acute and immediate. The future relationship of the two races would be settled here and now. If a process

for friendship could be established, one race, otherwise doomed, would survive and both would benefit immensely. But that process had to be established, and confidence built up, without the most minute risk of danger from treachery. Confidence would need to be established upon a foundation of necessarily complete distrust. Neither dared return to its own base if the other could do harm to its race. Neither dared risk any of the necessities to trust. The only safe thing for either to do was destroy the other or be destroyed.

But even for war, more was needed than mere destruction of the other. With interstellar traffic, the aliens must have atomic power and some form of overdrive for travel above the speed of light. With radio location and visiplates and short-wave communication they had, of course, many other devices. What weapons did they have? How widely extended was their culture? What were their resources? Could there be a development of trade and friendship, or were the two races so unlike that only war could exist between them? If peace was possible, how could it be begun?

The men on the *Llanvabon* needed facts—and so did the crew of the other ship. They must take back every morsel of information they could. The most important information of all would be of the location of the other civilization, just in case of war. That one bit of information might be the decisive factor in an interstellar war. But other facts would be enormously valuable.

The tragic thing was that there could be no possible information which could lead to peace. Neither ship could stake its own race's existence upon any conviction of the good will or the honor of the other.

So there was a strange truce between the two ships. The alien went about its work of making observations, as did the *Llanvabon*. The tiny robot floated in bright emptiness. A scanner from the *Llanvabon* was focused upon a vision plate from the alien. A scanner from the alien regarded a vision plate from the *Llanvabon*. Communication began.

It progressed rapidly. Tommy Dort was one of those who made the first progress report. His special task on the expedition was over. He had now been assigned to work on the problem of communication with the alien entities. He went with the ship's solitary psychologist to the captain's room to convey the news of success. The captain's room, as usual, was a place of silence and dull-red indicator lights and the great bright visiplates on every wall and on the ceiling.

"We've established fairly satisfactory communication, sir," said the psychologist. He looked tired. His work on the trip was supposed to be that of measuring personal factors of error in the observation staff, for

the reduction of all observations to the nearest possible decimal to the absolute. He had been pressed into service for which he was not especially fitted, and it told upon him. "That is, we can say almost anything we wish, to them, and can understand what they say in return. But of course we don't know how much of what they say is the truth."

The skipper's eyes turned to Tommy Dort.

"We've hooked up some machinery," said Tommy, "that amounts to a mechanical translator. We have vision plates, of course, and then short-wave beams direct. They use frequency-modulation plus what is probably variation in wave forms—like our vowel and consonant sounds in speech. We've never had any use for anything like that before, so our coils won't handle it, but we've developed a sort of code which isn't the language of either set of us. They shoot over short-wave stuff with frequency-modulation, and we record it as sound. When we shoot it back, it's reconverted into frequency-modulation."

The skipper said, frowning:

"Why wave-form changes in short waves? How do you know?"

"We showed them our recorder in the vision plates, and they showed us theirs. They record the frequency-modulation direct. I think," said Tommy carefully, "they don't use sound at all, even in speech. They've set up a communications room, and we've watched them in the act of communicating with us. They make no perceptible movement of anything that corresponds to a speech organ. Instead of a microphone, they simply stand near something that would work as a pick-up antenna. My guess, sir, is that they use microwaves for what you might call person-to-person conversation. I think they make short-wave trains as we make sounds."

The skipper stared at him:

"That means they have telepathy?"

"M-m-m. Yes, sir," said Tommy. "Also it means that we have telepathy too, as far as they are concerned. They're probably deaf. They've certainly no idea of using sound waves in air for communication. They simply don't use noises for any purpose."

The skipper stored the information away.

"What else?"

"Well, sir," said Tommy doubtfully, "I think we're all set. We agreed on arbitrary symbols for objects, sir, by way of the visiplates, and worked out relationships and verbs and so on with diagrams and pictures. We've a couple of thousand words that have mutual meanings. We set up an analyzer to sort out their short-wave groups, which we feed into a decoding machine. And then the coding end of the machine picks out recordings to make the wave groups we want to send back. When you're ready to talk to the skipper of the other ship, sir, I think we're ready."

"H-m-m. What's your impression of their psychology?" The skipper asked the question of the psychologist.

"I don't know, sir," said the psychologist harassedly. "They seem to be completely direct. But they haven't let slip even a hint of the tenseness we know exists. They act as if they were simply setting up a means of communication for friendly conversation. But there is . . . well . . . an overtone—"

The psychologist was a good man at psychological mensuration, which is a good and useful field. But he was not equipped to analyze a completely alien thought-pattern.

"If I may say so, sir—" said Tommy uncomfortably.

"What?"

"They're oxygen breathers," said Tommy, "and they're not too dissimilar to us in other ways. It seems to me, sir, that parallel evolution has been at work. Perhaps intelligence evolves in parallel lines, just as . . . well . . . basic bodily functions. I mean," he added conscientiously, "any living being of any sort must ingest, metabolize, and excrete. Perhaps any intelligent brain must perceive, apperceive, and find a personal reaction. I'm sure I've detected irony. That implies humor, too. In short, sir, I think they could be likable."

The skipper heaved himself to his feet.

"H-m-m." He said profoundly, "We'll see what they have to say."

He walked to the communications room. The scanner for the vision plate in the robot was in readiness. The skipper walked in front of it. Tommy Dort sat down at the coding machine and tapped at the keys. Highly improbable noises came from it, went into a microphone, and governed the frequency-modulation of a signal sent through space to the other spaceship. Almost instantly the vision screen which with one relay—in the robot—showed the interior of the other ship lighted up. An alien came before the scanner and seemed to look inquisitively out of the plate. He was extraordinarily manlike, but he was not human. The impression he gave was of extreme baldness and a somehow humorous frankness.

"I'd like to say," said the skipper heavily, "the appropriate things about this first contact of two dissimilar civilized races, and of my hopes that a friendly intercourse between the two peoples will result."

Tommy Dort hesitated. Then he shrugged and tapped expertly upon the coder. More improbable noises.

The alien skipper seemed to receive the message. He made a gesture

which was wryly assenting. The decoder on the *Llanvabon* hummed to itself and word-cards dropped into the message frame. Tommy said dispassionately:

"He says, sir, 'That is all very well, but is there any way for us to let each other go home alive? I would be happy to hear of such a way if you can contrive one. At the moment it seems to me that one of us must be killed.' "

III

The atmosphere was of confusion. There were too many questions to be answered all at once. Nobody could answer any of them. And all of them had to be answered.

The *Llanvabon* could start for home. The alien ship might or might not be able to multiply the speed of light by one more unit than the Earth vessel. If it could, the *Llanvabon* would get close enough to Earth to reveal its destination—and then have to fight. It might or might not win. Even if it did win, the aliens might have a communication system by which the *Llanvabon*'s destination might have been reported to the aliens' home planet before battle was joined. But the *Llanvabon* might lose in such a fight. If she was to be destroyed, it would be better to be destroyed here, without giving any clue to where human beings might be found by a forewarned, forearmed alien battle fleet.

The black ship was in exactly the same predicament. It, too, could start for home. But the *Llanvabon* might be faster, and an overdrive field can be trailed, if you set to work on it soon enough. The aliens, also, would not know whether the *Llanvabon* could report to its home base without returning. If the alien was to be destroyed, it also would prefer to fight it out here, so that it could not lead a probable enemy to its own civilization.

Neither ship, then, could think of flight. The course of the *Llanvabon* into the nebula might be known to the black ship, but it had been the end of a logarithmic curve, and the aliens could not know its properties. They could not tell from that from what direction the Earth ship had started. As of the moment, then, the two ships were even. But the question was and remained, "What now?"

There was no specific answer. The aliens traded information for information—and did not always realize what information they gave. The humans traded information for information—and Tommy Dort sweated blood in his anxiety not to give any clue to the whereabout of Earth.

The aliens saw by infrared light, and the vision plates and scanners in the robot communication-exchange had to adapt their respective images up and down an optical octave each, for them to have any meaning at all. It did not occur to the aliens that their eyesight told that their sun was a red dwarf, yielding light of greatest energy just below the part of the spectrum visible to human eyes. But after that fact was realized on the *Llanvabon*, it was realized that the aliens, also, should be able to deduce the Sun's spectral type by the light to which men's eyes were best adapted.

There was a gadget for the recording of short-wave trains which was as casually in use among the aliens as a sound-recorder is among men. The humans wanted that, badly. And the aliens were fascinated by the mystery of sound. They were able to perceive noise, of course, just as a man's palm will perceive infrared light by the sensation of heat it produces, but they could no more differentiate pitch or tone-quality than a man is able to distinguish between two frequencies of heat-radiation even half an octave apart. To them, the human science of sound was a remarkable discovery. They would find uses for noises which humans had never imagined—if they lived.

But that was another question. Neither ship could leave without first destroying the other. But while the flood of information was in passage, neither ship could afford to destroy the other. There was the matter of the outer coloring of the two ships. The *Llanvabon* was mirror-bright exteriorly. The alien ship was dead-black by visible light. It absorbed heat to perfection, and should radiate it away again as readily. But it did not. The black coating was not a "black body" color or lack of color. It was a perfect reflector of certain infrared wave lengths while simultaneously it fluoresced in just those wave bands. In practice, it absorbed the higher frequencies of heat, converted them to lower frequencies it did not radiate—and stayed at the desired temperature even in empty space.

Tommy Dort labored over his task of communications. He found the alien thought-processes not so alien that he could not follow them. The discussion of technics reached the matter of interstellar navigation. A star map was needed to illustrate the process. It would have been logical to use a star map from the chart room—but from a star map one could guess the point from which the map was projected. Tommy had a map made specially, with imaginary but convincing star images upon it. He translated directions for its use by the coder and decoder. In return, the aliens presented a star map of their own before the visiplate. Copied instantly by photograph, the Nav officers labored over it, trying to figure out from what spot in the galaxy the stars and Milky Way would show at such an angle. It baffled them.

It was Tommy who realized finally that the aliens had made a special star map for their demonstration too, and that it was a mirror-image of the faked map Tommy had shown them previously.

Tommy could grin, at that. He began to like these aliens. They were not human, but they had a very human sense of the ridiculous. In course of time Tommy essayed a mild joke. It had to be translated into code numerals, these into quite cryptic groups of short-wave, frequency-modulated impulses, and these went to the other ship and into heaven knew what to become intelligible. A joke which went through such formalities would not seem likely to be funny. But the aliens did see the point.

There was one of the aliens to whom communication became as normal a function as Tommy's own code-handlings. The two of them developed a quite insane friendship, conversing by coder, decoder and short-wave trains. When technicalities in the official messages grew too involved, that alien sometimes threw in strictly nontechnical interpolations akin to slang. Often, they cleared up the confusion. Tommy, for no reason whatever, had filed a code-name of "Buck" which the decoder picked out regularly when this particular operator signed his own symbol to a message.

In the third week of communication, the decoder suddenly presented Tommy with a message in the message frame.

You are a good guy. It is too bad we have to kill each other.—Buck.

Tommy had been thinking much the same thing. He tapped off the rueful reply:

We can't see any way out of it. Can you?

There was a pause, and the message frame filled up again.

If we could believe each other, yes, Our skipper would like it. But we can't believe you, and you can't believe us. We'd trail you home if we got a chance, and you'd trail us. But we feel sorry about it.—Buck.

Tommy Dort took the messages to the skipper.

"Look here, sir!" he said urgently. "These people are almost human, and they're likable cusses."

The skipper was busy about his important task of thinking things to worry about, and worrying about them. He said tiredly:

"They're oxygen breathers. Their air is twenty-eight per cent oxygen instead of twenty, but they could do very well on Earth. It would be a highly desirable conquest for them. And we still don't know what weapons they've got or what they can develop. Would you tell them how to find Earth?"

"No-no," said Tommy, unhappily.

"They probably feel the same way," said the skipper dryly. "And if we did manage to make a friendly contact, how long would it stay friendly? If their weapons were inferior to ours, they'd feel that for their own safety they had to improve them. And we, knowing they were planning to revolt, would crush them while we could—for our own safety! If it happened to be the other way about, they'd have to smash us before we could catch up to them."

Tommy was silent, but he moved restlessly.

"If we smash this black ship and get home," said the skipper, "Earth Government will be annoyed if we don't tell them where it came from. But what can we do? We'll be lucky enough to get back alive with our warning. It isn't possible to get out of those creatures any more information than we give them, and we surely won't give them our address! We've run into them by accident. Maybe—if we smash this ship—there won't be another contact for thousands of years. And it's a pity, because trade could mean so much! But it takes two to make a peace, and we can't risk trusting them. The only answer is to kill them if we can, and if we can't, to make sure that when they kill us they'll find out nothing that will lead them to Earth. I don't like it," added the skipper tiredly, "but there simply isn't anything else to do!"

IV

On the *Llanvabon*, the technicians worked frantically in two divisions. One prepared for victory, and the other for defeat. The ones working for victory could do little. The main blasters were the only weapons with any promise. Their mountings were cautiously altered so that they were no longer fixed nearly dead ahead, with only a 5° traverse. Electronic controls which followed a radio-locator master-finder would keep them trained with absolute precision upon a given target regardless of its maneuverings. More; a hitherto unsung genius in the engine room devised a capacity-storage system by which the normal full-output of the ship's engines could be momentarily accumulated and released in surges of stored power far above normal. In theory, the range of the

blasters should be multiplied and their destructive power considerably stepped up. But there was not much more that could be done.

The defeat crew had more leeway. Star charts, navigational instruments carrying telltale notations, the photographic record Tommy Dort had made on the six months' journey from Earth, and every other memorandum offering clues to Earth's position, were prepared for destruction. They were put in sealed files, and if any one of them was opened by one who did not know the exact, complicated process, the contents of all the files would flash into ashes and the ashes be churned past any hope of restoration. Of course, if the *Llanvabon* should be victorious, a carefully not-indicated method of reopening them in safety would remain.

There were atomic bombs placed all over the hull of the ship. If its human crew should be killed without complete destruction of the ship, the atomic-power bombs should detonate if the *Llanvabon* were brought alongside the alien vessel. There were no ready-made atomic bombs on board, but there were small spare atomic-power units on board. It was not hard to trick them so that when they were turned on, instead of yielding a smooth flow of power they would explode. And four men of the earth ship's crew remained always in spacesuits with closed helmets, to fight the ship should it be punctured in many compartments by an unwarned attack.

Such an attack, however, would not be treacherous. The alien skipper had spoken frankly. His manner was that of one who wryly admits the uselessness of lies. The skipper and the *Llanvabon*, in turn, heavily admitted the virtue of frankness. Each insisted—perhaps truthfully—that he wished for friendship between the two races. But neither could trust the other not to make every conceivable effort to find out the one thing he needed most desperately to conceal—the location of his home planet. And neither dared believe that the other was unable to trail him and find out. Because each felt it his own duty to accomplish that unbearable—to the other—act, neither could risk the possible extinction of his race by trusting the other. They must fight because they could not do anything else.

They could raise the stakes of the battle by an exchange of information beforehand. But there was a limit to the stake either would put up. No information on weapons, population, or resources would be given by either. Not even the distance of their home bases from the Crab Nebula would be told. They exchanged information, to be sure, but they knew a battle to the death must follow, and each strove to represent his own civilization as powerful enough to give pause to the

other's ideas of possible conquest—and thereby increased its appearance of menace to the other, and made battle more unavoidable.

It was curious how completely such alien brains could mesh, however. Tommy Dort, sweating over the coding and decoding machines, found a personal equation emerging from the at first stilted arrays of word-cards which arranged themselves. He had seen the aliens only in the vision screen, and then only in light at least one octave removed from the light they saw by. They, in turn, saw him very strangely, by transposed illumination from what to them would be the far ultraviolet. But their brains worked alike. Amazingly alike. Tommy Dort felt an actual sympathy and even something close to friendship for the gill-breathing, bald, and dryly ironic creatures of the black space vessel.

Because of that mental kinship he set up—though hopelessly—a sort of table of the aspects of the problem before them. He did not believe that the aliens had any instinctive desire to destroy man. In fact, the study of communications from the aliens had produced on the *Llanvabon* a feeling of tolerance not unlike that between enemy soldiers during a truce on Earth. The men felt no enmity, and probably neither did the aliens. But they had to kill or be killed for strictly logical reasons.

Tommy's table was specific. He made a list of objectives the men must try to achieve, in the order of their importance. The first was the carrying back of news of the existence of the alien culture. The second was the location of that alien culture in the galaxy. The third was the carrying back of as much information as possible about that culture. The third was being worked on but the second was probably impossible. The first—and all—would depend on the result of the fight which must take place.

The aliens' objectives would be exactly similar, so that the men must prevent, first, news of the existence of Earth's culture from being taken back by the aliens, second, alien discovery of the location of Earth, and third, the acquiring by the aliens of information which would help them or encourage them to attack humanity. And again the third was in train, and the second was probably taken care of, and the first must await the battle.

There was no possible way to avoid the grim necessity of the destruction of the black ship. The aliens would see no solution to their problems but the destruction of the *Llanvabon*. But Tommy Dort, regarding his tabulation ruefully, realized that even complete victory would not be a perfect solution. The ideal would be for the *Llanvabon* to take back the alien ship for study. Nothing less would be a complete attainment of the third objective. But Tommy realized that he hated the idea of so

complete a victory, even if it could be accomplished. He would hate the idea of killing even nonhuman creatures who understood a human joke. And beyond that, he would hate the idea of Earth fitting out a fleet of fighting ships to destroy an alien culture because its existence was dangerous. The pure accident of this encounter, between peoples who could like each other, had created a situation which could only result in wholesale destruction.

Tommy Dort soured on his own brain which could find no answer which would work. But there had to be an answer! The gamble was too big! It was too absurd that two spaceships should fight—neither one primarily designed for fighting—so that the survivor could carry back news which would set one side to frenzied preparation for war against the unwarned other.

If both races could be warned, though, and each knew that the other did not want to fight, and if they could communicate with each other but not locate each other until some grounds for mutual trust could be reached—

It was impossible. It was chimerical. It was a daydream. It was nonsense. But it was such luring nonsense that Tommy Dort ruefully put it into the coder to his gill-breathing friend Buck, then some hundred thousand miles off in the misty brightness of the nebula.

"Sure," said Buck, in the decoder's word-cards flicking into place in the message frame. "That is a good dream. But I like you and still won't believe you. If I said that first, you would like me but not believe me either. I tell you the truth more than you believe, and maybe you tell me the truth more than I believe. But there is no way to know. I am sorry."

Tommy Dort stared gloomily at the message. He felt a very horrible sense of responsibility. Everyone did, on the *Llanvabon*. If they failed in this encounter, the human race would run a very good chance of being exterminated in time to come. If they succeeded, the race of the aliens would be the one to face destruction, most likely. Millions or billions of lives hung upon the actions of a few men.

Then Tommy Dort saw the answer.

It would be amazing simple, if it worked. At worst it might give a partial victory to humanity and the *Llanvabon*. He sat quite still, not daring to move lest he break the chain of thought that followed the first tenuous idea. He went over and over it, excitedly finding objections here and meeting them, and overcoming impossibilities there. It was the answer! He felt sure of it.

He felt almost dizzy with relief when he found his way to the captain's room and asked leave to speak.

* * *

It is the function of a skipper, among others, to find things to worry about. But the *Llanvabon*'s skipper did not have to look. In the three weeks and four days since the first contact with the alien black ship, the skipper's face had grown lined and old. He had not only the *Llanvabon* to worry about. He had all of humanity.

"Sir," said Tommy Dort, his mouth rather dry because of his enormous earnestness, "may I offer a method of attack on the black ship? I'll undertake it myself, sir, and if it doesn't work our ship won't be weakened."

The skipper looked at him unseeingly.

"The tactics are all worked out, Mr. Dort," he said heavily. "They're being cut on tape now, for the ship's handling. It's a terrible gamble, but it has to be done."

"I think," said Tommy carefully, "I've worked out a way to take the gamble out. Suppose, sir, we send a message to the other ship, offering—"

His voice went on in the utterly quiet captain's room, with the visiplates showing only a vast mistiness outside and the two fiercely burning stars in the nebula's heart.

V

The skipper himself went through the air lock with Tommy. For one reason, the action Tommy had suggested would need his authority behind it. For another, the skipper had worried more intensively than anybody else on the *Llanvabon*, and he was tired of it. If he went with Tommy, he would do the thing himself, and if he failed he would be the first one killed—and the tapes for the Earth ship's maneuvering were already fed into the control board and correlated with the master-timer. If Tommy and the skipper were killed, a single control pushed home would throw the *Llanvabon* into the most furious possible all-out attack, which would end in the complete destruction of one ship or the other—or both. So the skipper was not deserting his post.

The outer air lock door swung wide. It opened upon that shining emptiness which was the nebula. Twenty miles away, the little round robot hung in space, drifting in an incredible orbit about the twin central suns, and floating ever nearer and nearer. It would never reach either of them, of course. The white star alone was so much hotter than Earth's sun that its heat-effect would produce Earth's temperature on an object five times as far from it as Neptune is from Sol. Even removed to the distance of Pluto, the little robot would be raised to cherry-red heat by

the blazing white dwarf. And it could not possibly approach to the ninety-odd million miles which is the Earth's distance from the sun. So near, its metal would melt and boil away as vapor. But, half a light-year out, the bulbous object bobbed in emptiness.

The two spacesuited figures soared away from the *Llanvabon*. The small atomic drives which made them minute spaceships on their own had been subtly altered, but the change did not interfere with their functioning. They headed for the communication robot. The skipper, out in space, said gruffly:

"Mr. Dort, all my life I have longed for adventure. This is the first time I could ever justify it to myself."

His voice came through Tommy's space-phone receivers. Tommy wetted his lips and said:

"It doesn't seem like adventure to me, sir. I want terribly for the plan to go through. I thought adventure was when you didn't care."

"Oh, no," said the skipper. "Adventure is when you toss your life on the scales of chance and wait for the pointer to stop."

They reached the round object. They clung to its short, scanner-tipped horns.

"Intelligent, those creatures," said the skipper heavily. "They must want desperately to see more of our ship than the communications room, to agree to this exchange of visits before the fight."

"Yes, sir," said Tommy. But privately, he suspected that Buck—his gill-breathing friend—would like to see him in the flesh before one or both of them died. And it seemed to him that between the two ships had grown up an odd tradition of courtesy, like that between two ancient knights before a tourney, when they admired each other wholeheartedly before hacking at each other with all the contents of their respective armories.

They waited.

Then, out of the mist, came two other figures. The alien spacesuits were also power-driven. The aliens themselves were shorter than men, and their helmet openings were coated with a filtering material to cut off visible and ultraviolet rays which to them would be lethal. It was not possible to see more than the outline of the heads within.

Tommy's helmet phone said, from the communications room on the *Llanvabon*:

"They say that their ship is waiting for you, sir. The air lock door will be open."

The skipper's voice said heavily:

"Mr. Dort, have you seen their spacesuits before? If so, are you sure they're not carrying anything extra, such as bombs?"

"Yes, sir," said Tommy. "We've showed each other our space equipment. They've nothing but regular stuff in view, sir."

The skipper made a gesture to the two aliens. He and Tommy Dort plunged on for the black vessel. They could not make out the ship very clearly with the naked eye, but directions for change of course came from the communication room.

The black ship loomed up. It was huge; as long as the *Llanvabon* and vastly thicker. The air lock did stand open. The two spacesuited men moved in and anchored themselves with magnetic-soled boots. The outer door closed. There was a rush of air and simultaneously the sharp quick tug of artificial gravity. Then the inner door opened.

All was darkness. Tommy switched on his helmet light at the same instant as the skipper. Since the aliens saw by infrared, a white light would have been intolerable to them. The men's helmet lights were, therefore, of the deep-red tint used to illuminate instrument panels so there would be no dazzling of eyes that must be able to detect the minutest specks of white light on a navigating vision plate. There were aliens waiting to receive them. They blinked at the brightness of the helmet lights. The space-phone receivers said in Tommy's ear:

"They say, sir, their skipper is waiting for you."

Tommy and the skipper were in a long corridor with a soft flooring underfoot. Their lights showed details of which every one was exotic.

"I think I'll crack my helmet, sir," said Tommy.

He did. The air was good. By analysis it was thirty percent oxygen instead of twenty for normal air on Earth, but the pressure was less. It felt just right. The artificial gravity, too, was less than that maintained on the *Llanvabon*. The home planet of the aliens would be smaller than Earth, and—by the infrared data—circling close to a nearly dead, dull-red sun. The air had smells in it. They were utterly strange, but not unpleasant.

An arched opening. A ramp with the same soft stuff underfoot. Lights which actually shed a dim, dull-red glow about. The aliens had stepped up some of their illuminating equipment as an act of courtesy. The light might hurt their eyes, but it was a gesture of consideration which made Tommy even more anxious for his plan to go through.

The alien skipper faced them, with what seemed to Tommy a gesture of wryly humorous deprecation. The helmet phones said:

"He says, sir, that he greets you with pleasure, but he has been able to think of only one way in which the problem created by the meeting of these two ships can be solved."

"He means a fight," said the skipper. "Tell him I'm here to offer another choice."

The *Llanvabon*'s skipper and the skipper of the alien ship were face to face, but their communication was weirdly indirect. The aliens used no sound in communication. Their talk, in fact, took place on microwaves and approximated telepathy. But they could not hear, in any ordinary sense of the word, so the skipper's and Tommy's speech approached telepathy, too, as far as they were concerned. When the skipper spoke, his space phone sent his words back to the *Llanvabon*, where the words were fed into the coder and short-wave equivalents sent back to the black ship. The alien skipper's reply went to the *Llanvabon* and through the decoder, and was retransmitted by space phone in words read from the message frame. It was awkward, but it worked.

The short and stocky alien skipper paused. The helmet phones relayed his translated, soundless reply.

"He is anxious to hear, sir."

The skipper took off his helmet. He put his hands at his belt in a belligerent pose.

"Look here!" he said truculently to the bald, strange creature in the unearthly red glow before him. "It looks like we have to fight and one batch of us get killed. We're ready to do it if we have to. But if you win, we've got it fixed so you'll never find out where Earth is, and there's a good chance we'll get you anyhow! If we win, we'll be in the same fix. And if we win and go back home, our government will fit out a fleet and start hunting your planet. And if we find it we'll be ready to blast it to hell! If you win, the same thing will happen to us! And it's all foolishness! We've stayed here a month, and we've swapped information, and we don't hate each other. There's no reason for us to fight except for the rest of our respective races!"

The skipper stopped for breath, scowling. Tommy Dort inconspicuously put his own hands on the belt of his spacesuit. He waited, hoping desperately that the trick would work.

"He says, sir," reported the helmet phones, "that all you say is true. But that his race has to be protected, just as you feel that yours must be."

"Naturally!" said the skipper angrily, "but the sensible thing to do is to figure out how to protect it! Putting its future up as a gamble in a fight is not sensible. Our races have to be warned of each other's existence. That's true. But each should have proof that the other doesn't want to fight, but wants to be friendly. And we shouldn't be able to find each other, but we should be able to communicate with each other to work out grounds for a common trust. If our governments want to

be fools, let them! But we should give them the chance to make friends, instead of starting a space war out of mutual funk!"

Briefly, the space phone said:

"He says that the difficulty is that of trusting each other now. With the possible existence of his race at stake, he cannot take any chance, and neither can you, of yielding an advantage."

"But my race," boomed the skipper, glaring at the alien captain, "my race has an advantage now. We came here to your ship in atom-powered spacesuits! Before we left, we altered the drives! We can set off ten pounds of sensitized fuel apiece, right here in this ship, or it can be set off by remote control from our ship! It will be rather remarkable if your fuel store doesn't blow up with us! In other words, if you don't accept my proposal for a common-sense approach to this predicament, Dort and I blow up in an atomic explosion, and your ship will be wrecked if not destroyed—and the *Llanvabon* will be attacking with everything it's got within seconds after the blast goes off!"

The captain's room of the alien ship was a strange scene, with its dull-red illumination and the strange, bald, gill-breathing aliens watching the skipper and waiting for the inaudible translation of the harangue they could not hear. But a sudden tensity appeared in the air. A sharp, savage feeling of strain. The alien skipper made a gesture. The helmet phones hummed.

"He says, sir, what is your proposal?"

"Swap ships!" roared the skipper. "Swap ships and go on home! We can fix our instruments so they'll do no trailing, he can do the same with his. We'll each remove our star maps and records. We'll each dismantle our weapons. The air will serve, and we'll take their ship and they'll take ours, and neither one can harm or trail the other, and each will carry home more information than can be taken otherwise! We can agree on this same Crab Nebula as a rendezvous when the double-star has made another circuit, and if our people want to meet them they can do it, and if they are scared they can duck it! That's my proposal! And he'll take it, or Dort and I blow up their ship and the *Llanvabon* blasts what's left!"

He glared about him while he waited for the translation to reach the tense small stocky figures about him. He could tell when it came because the tenseness changed. The figures stirred. They made gestures. One of them made convulsive movements. It lay down on the soft floor and kicked. Others leaned against its walls and shook.

The voice in Tommy Dort's helmet phones had been strictly crisp and professional, before, but now it sounded blankly amazed.

"He says, sir, that it is a good joke. Because the two crew members

he sent to our ship, and that you passed on the way, have their spacesuits stuffed with atomic explosive too, sir, and he intended to make the very same offer and threat! Of course he accepts, sir. Your ship is worth more to him than his own, and his is worth more to you than the *Llanvabon*. It appears, sir, to be a deal."

Then Tommy Dort realized what the convulsive movements of the aliens were. They were laughter.

It wasn't quite as simple as the skipper had outlined it. The actual working-out of the proposal was complicated. For three days the crews of the two ships were intermingled, the aliens learning the workings of the *Llanvabon*'s engines, and the men learning the controls of the black spaceship. It was a good joke—but it wasn't all a joke. There were men on the black ship, and aliens on the *Llanvabon*, ready at an instant's notice to blow up the vessels in question. And they would have done it in case of need, for which reason the need did not appear. But it was, actually, a better arrangement to have two expeditions return to two civilizations, under the current arrangement, than for either to return alone.

There were differences, though. There was some dispute about the removal of records. In most cases the dispute was settled by the destruction of the records. There was more trouble caused by the *Llanvabon*'s books, and the alien equivalent of a ship's library, containing works which approximated the novels of Earth. But those items were valuable to possible friendship, because they would show the two cultures, each to the other, from the viewpoint of normal citizens and without propaganda.

But nerves were tense during those three days. Aliens unloaded and inspected the foodstuffs intended for the men on the black ship. Men transshipped the foodstuffs the aliens would need to return to their home. There were endless details, from the exchange of lighting equipment to suit the eyesight of the exchanging crews, to a final check-up of apparatus. A joint inspection party of both races verified that all detector devices had been smashed but not removed, so that they could not be used for trailing and had not been smuggled away. And of course, the aliens were anxious not to leave any useful weapon on the black ship, nor the men upon the *Llanvabon*. It was a curious fact that each crew was best qualified to take exactly the measures which made an evasion of the agreement impossible.

There was a final conference before the two ships parted, back in the communication room of the *Llanvabon*.

"Tell the little runt," rumbled the *Llanvabon*'s former skipper, "that he's got a good ship and he'd better treat her right."

The message frame flicked word-cards into position.

"I believe," it said on the alien skipper's behalf, "that your ship is just as good. I will hope to meet you here when the double star has turned one turn."

The last man left the *Llanvabon*. It moved away into the misty nebula before they had returned to the black ship. The vision plates in that vessel had been altered for human eyes, and human crewmen watched jealously for any trace of their former ship as their new craft took a crazy, evading course to a remote part of the nebula. It came to a crevasse of nothingness, leading to the stars. It rose swiftly to clear space. There was the instant of breathlessness which the overdrive field produces as it goes on, and then the black ship whipped away into the void at many times the speed of light.

Many days later, the skipper saw Tommy Dort poring over one of the strange objects which were the equivalent of books. It was fascinating to puzzle over. The skipper was pleased with himself. The technicians of the *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.

"Hm-m-m, Mr. Dort," said the skipper profoundly. "You've no equipment to make another photographic record on the way back. It was left on the *Llanvabon*. But fortunately, we have your record taken on the way out, and I shall report most favorably on your suggestion and your assistance in carrying it out. I think very well of you, sir."

"Thank you, sir," said Tommy Dort.

He waited. The skipper cleared his throat.

"You . . . ah . . . first realized the close similarity of mental processes between the aliens and ourselves," he observed. "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 reason why we shouldn't get along. We're almost alike in psychology."

"Hm-m-m. Now just what do you mean by that?" demanded the skipper.

"Why, they're just like us, sir!" said Tommy. "Of course they

breathe through gills and they see by heat waves, and their blood has a copper base instead of iron and a few little details like that. But otherwise we're just alike! There were only men in their crew, sir, but they have two sexes as we have, and they have families, and . . . er . . . their sense of humor— In fact—''

Tommy hesitated.

''Go on, sir,'' said the skipper.

''Well— There was the one I called Buck, sir, because he hasn't any name that goes into sound waves,'' said Tommy. ''We got along very well. I'd really call him my friend, sir. And we were together for a couple of hours just before the two ships separated and we'd nothing in particular to do. So I became convinced that humans and aliens are bound to be good friends if they have only half a chance. You see, sir, we spent those two hours telling dirty jokes.''

THAT ONLY A MOTHER

by Judith Merril

Margaret reached over to the other side of the bed where Hank should have been. Her hand patted the empty pillow, and then she came altogether awake, wondering that the old habit should remain after so many months. She tried to curl up, cat-style, to hoard her own warmth, found she couldn't do it any more, and climbed out of bed with a pleased awareness of her increasingly clumsy bulkiness.

Morning motions were automatic. On the way through the kitchenette, she pressed the button that would start breakfast cooking—the doctor had said to eat as much breakfast as she could—and tore the paper out of the facsimile machine. She folded the long sheet carefully to the ''National News'' section, and propped it on the bathroom shelf to scan while she brushed her teeth.

No accidents. No direct hits. At least none that had been officially released for publication. *Now, Maggie, don't get started on that. No accidents. No hits. Take the nice newspaper's word for it.*

The three clear chimes from the kitchen announced that breakfast was ready. She set a bright napkin and cheerful colored dishes on the table in a futile attempt to appeal to a faulty morning appetite. Then, when there was nothing more to prepare, she went for the mail, allowing herself the full pleasure of prolonged anticipation, because today there would *surely* be a letter.

There was. There were. Two bills and a worried note from her mother: ''Darling, why didn't you write and tell me sooner? I'm thrilled, of course, but, well one hates to mention these things, but are you *certain* the doctor was right? Hank's been around all that uranium or

First published in 1948

THE MONSTER

A. E. van VOGT

The great ship poised a quarter of a mile above one of the cities. Below was a cosmic desolation. As he floated down in his energy bubble, Enash saw that the buildings were crumbling with age.

'No sign of war damage!' The bodiless voice touched his ears momentarily. Enash tuned it out.

On the ground he collapsed his bubble. He found himself in a walled enclosure overgrown with weeds. Several skeletons lay in the tall grass beside the rakish building. They were of long, two-legged, two-armed beings with the skulls in each case mounted at the end of a thin spine. The skeletons, all of adults, seemed in excellent preservation, but when he bent down and touched one, a whole section of it crumbled into a fine powder. As he straightened, he saw that Yoal was floating down nearby. Enash waited until the historian had stepped out of his bubble, then said: 'Do you think we ought to use our method of reviving the long dead?'

Yoal was thoughtful. 'I have been asking questions of the various people who have landed, and there is something wrong here. This planet has no surviving life, not even insect life. We'll have to find out what happened before we risk any colonization.'

Enash said nothing. A soft wind was blowing. It rustled through a clump of trees nearby. He motioned towards the trees. Yoal nodded and said, 'Yes, the plant life has not been harmed, but plants after all are not affected in the same way as the active life forms.'

There was an interruption. A voice spoke from Yoal's receiver: 'A museum has been found at approximately the centre of the city. A red light has been fixed on the roof.'

Enash said, 'I'll go with you, Yoal. There might be skeletons of animals and of the intelligent being in various stages of his evolution. You didn't answer my question. Are you going to revive these beings?'

Yoal said slowly, 'I intend to discuss the matter with the council, but I think there is no doubt. We must know the cause of this

disaster.' He waved one sucker vaguely to take in half the compass. He added as an afterthought, 'We shall proceed cautiously, of course, beginning with an obviously early development. The absence of the skeletons of children indicates that the race had developed personal immortality.'

The council came to look at the exhibits. It was, Enash knew, a formal preliminary only. The decision was made. There would be revivals. It was more than that. They were curious. Space was vast, the journeys through it long and lonely, landing always a stimulating experience, with its prospect of new life forms to be seen and studied.

The museum looked ordinary. High-domed ceilings, vast rooms. Plastic models of strange beasts, many artefacts—too many to see and comprehend in so short a time. The life span of a race was imprisoned here in a progressive array of relics. Enash looked with the others, and was glad when they came to the line of skeletons and preserved bodies. He seated himself behind the energy screen, and watched the biological experts take a preserved body out of a stone sarcophagus. It was wrapped in windings of cloth, many of them. The experts did not bother to unravel the rotted material. Their forceps reached through, pinched a piece of skull—that was the accepted procedure. Any part of the skeleton could be used, but the most perfect revivals, the most complete reconstructions resulted when a certain section of the skull was used.

Hamar, the chief biologist, explained the choice of body. 'The chemicals used to preserve this mummy show a sketchy knowledge of chemistry. The carvings on the sarcophagus indicate a crude and unmechanical culture. In such a civilization there would not be much development of the potentialities of the nervous system. Our speech experts have been analysing the recorded voice mechanism which is a part of each exhibit, and though many languages are involved—evidence that the ancient language spoken at the time the body was alive has been reproduced—they found no difficulty in translating the meanings. They have now adapted our universal speech machine, so that anyone who wishes to need only speak into his communicator, and so will have his words translated into the language of the revived person. The reverse, naturally, is also true. Ah, I see we are ready for the first body.'

Enash watched intently with the others as the lid was clamped down on the plastic reconstructor, and the growth processes were

started. He could feel himself becoming tense. For there was nothing haphazard about what was happening. In a few minutes a full-grown ancient inhabitant of this planet would sit up and stare at them. The science involved was simple and always fully effective.

...Out of the shadows of smallness, life grows. The level of beginning and ending, of life and—not life; in that dim region matter oscillates easily between old and new habits. The habit of organic, or the habit of inorganic. Electrons do not have life and un-life values. Atoms know nothing of inanimateness. But when atoms form into molecules, there is a step in the process, one tiny step, that is of life—if life begins at all. One step, and then darkness. Or aliveness.

A stone or a living cell. A grain of gold or a blade of grass, the sands of the sea or the equally numerous animalcules inhabiting the endless fishy waters—the difference is there in the twilight zone of matter. Each living cell has in it the whole form. The crab grows a new leg when the old one is torn from its flesh. Both ends of the planarian worm elongate, and soon there are two worms, two identities, two digestive systems each as greedy as the original, each a whole, unwounded, unharmed by its experience. Each cell can be the whole. Each cell remembers in a detail so intricate that no totality of words could ever describe the completeness achieved.

But—paradox—memory is not organic. An ordinary wax record remembers sounds. A wire recorder easily gives up a duplicate of the voice that spoke into it years before. Memory is a physiological impression, so that when a reaction is desired the *shape* emits the same rhythm of response.

Out of the mummy's skull had come the multi-quadrillion memory shapes from which a response was now being evoked. As ever, the memory held true.

A man blinked, and opened his eyes.

'It's is true, then,' he said aloud, and the words were translated into the Ganae tongue as he spoke them. 'Death is merely an opening into another life—but where are my attendants?' At the end, his voice took on a complaining tone.

He sat up, and climbed out of the case, which had automatically opened as he came to life. He saw his captors. He froze, but only for a moment. He had a pride and a very special arrogant courage, which served him now. Reluctantly, he sank to his knees and made obeisance, but doubt must have been strong in him. 'Am I in the

presence of the gods of Egyptus?' He climbed to his feet. 'What nonsense is this? I do not bow to nameless demons.'

Captain Gorsid said, 'Kill him!'

The two-legged monster dissolved, writhing, in the beam of a ray gun.

The second revived man stood up, pale, and trembled with fear. 'My God, I swear I won't touch the stuff again. Talk about pink elephants—'

Yoal was curious. 'To what *stuff* do you refer, revived one?'

'The old hooch, the poison in the hip pocket flask, the juice they gave me at that speak... my lordie!' Captain Gorsid looked questioningly at Yoal, 'Need we linger?'

Yoal hesitated. 'I am curious.' He addressed the man. 'If I were to tell you that we were visitors from another star, what would be your reaction?'

The man stared at him. He was obviously puzzled, but the fear was stronger. 'Now, look,' he said, 'I was driving along, minding my own business. I admit I'd had a shot or two too many, but it's the liquor they serve these days. I swear I didn't see the other car—and if this is some new idea of punishing people who drink and drive, well, you've won. I won't touch another drop as long as I live, so help me.'

Yoal said, 'He drives a "car" and thinks nothing of it. Yet we saw no cars. They didn't even bother to preserve them in the museums.'

Enash noticed that everyone waited for everyone else to comment. He stirred as he realized the circle of silence would be complete unless he spoke. He said, 'Ask him to describe the car. How does it work.'

'Now, you're talking,' said the man. 'Bring on your line of chalk, and I'll walk it, and ask any questions you please. I may be so tight that I can't see straight, but I can always drive. How does it work? You just put her in gear, and step on the gas.'

'Gas,' said engineering officer Veed. 'The internal combustion engine. That places him.'

Captain Gorsid motioned to the guard with the ray gun.

The third man sat up, and looked at them thoughtfully. 'From the stars?' he said finally. 'Have you a system, or was it blind chance?'

The Ganae councillors in that doomed room stirred uneasily in their curved chairs. Enash caught Yoal's eye on him. The shock

in the historian's eyes alarmed the meterologist. He thought: 'The two-legged one's adjustment to a new situation, his grasp of realities, was unnormally rapid. No Ganae could have equalled the swiftness of the reaction.'

Hamar, the chief biologist, said, 'Speed of thought is not necessarily a sign of superiority. The slow, careful thinker has his place in the hierarchy of intellect.'

But Enash found himself thinking, it was not the speed; it was the accuracy of the response. He tried to imagine himself being revived from the dead, and understanding instantly the meaning of the presence of aliens from the stars. He couldn't have done it.

He forgot his thought, for the man was out of the case. As Enash watched with the others, he walked briskly over to the window and looked out. One glance, and then he turned back.

'Is it all like this?' he asked.

Once again, the speed of his understanding caused a sensation. It was Yoal who finally replied.

'Yes. Desolation. Death. Ruin. Have you any idea as to what happened?'

The man came back and stood in front of the energy screen that guarded the Ganae. 'May I look over the museum? I have to estimate what age I am in. We had certain possibilities of destruction when I was last alive, but which one was realized depends on the time elapsed.'

The councillors looked at Captain Gorsid, who hesitated; then, 'Watch him,' he said to the guard with the ray gun. He faced the man. 'We understand your aspirations fully. You would like to seize control of this situation and ensure your own safety. Let me reassure you. Make no false moves, and all will be well.'

Whether or not the man believed the lie, he gave no sign. Nor did he show by a glance or a movement that he had seen the scarred floor where the ray gun had burned his two predecessors into nothingness. He walked curiously to the nearest doorway, studied the other guard who waited there for him, and then, gingerly, stepped through. The first guard followed him, then came the mobile energy screen, and finally, trailing one another, the councillors.

Enash was the third to pass through the doorway. The room contained skeletons and plastic models of animals. The room beyond that was what, for want of a better term, Enash called a

culture room. It contained the artefacts from a single period of civilization. It looked very advanced. He had examined some of the machines when they first passed through it, and had thought: Atomic energy. He was not alone in his recognition. From behind him, Captain Gorsid said to the man:

'You are forbidden to touch anything. A false move will be the signal for the guards to fire.'

The man stood at ease in the centre of the room. In spite of a curious anxiety, Enash had to admire his calmness. He must have known what his fate would be, but he stood there thoughtfully, and said finally, deliberately, 'I do not need to go any further. Perhaps you will be able to judge better than I of the time that has elapsed since I was born and these machines were built. I see over there an instrument which, according to the sign above it, counts atoms when they explode. As soon as the proper number have exploded it shuts off the power automatically, and for just the right length of time to prevent a chain explosion. In my time we had a thousand crude devices for limiting the size of an atomic reaction, but it required two thousand years to develop those devices from the early beginnings of atomic energy. Can you make a comparison?'

The councillors glanced at Veed. The engineering officer hesitated. At last, reluctantly, he said, 'Nine thousand years ago we had a thousand methods of limiting atomic explosions.' He paused, then even more slowly, 'I have never heard of an instrument that counts out atoms for such a purpose.'

'And yet,' murmured Shuri, the astronomer, breathlessly, 'the race was destroyed.'

There was silence. It ended as Gorsid said to the nearest guard, 'Kill the monster!'

But it was the guard who went down, bursting into flame. Not just one guard, but the guards! Simultaneously down, burning with a blue flame. The flame licked at the screen, recoiled, and licked more furiously, recoiled and burned brighter. Through a haze of fire, Enash saw that the man had retreated to the far door, and that the machine that counted atoms was glowing with a blue intensity.

Captain Gorsid shouted into his communicator, 'Guard all exits with ray guns. Spaceships stand by to kill alien with heavy guns.'

Somebody said, 'Mental control. Some kind of mental control. What have we run into?'

They were retreating. The blue flame was at the ceiling, struggling to break through the screen. Enash had a last glimpse of the machine. It must still be counting atoms, for it was a hellish blue. Enash raced with the others to the room where the man had been resurrected. There, another energy screen crashed to their rescue. Safe now, they retreated into their separate bubbles and whisked through outer doors and up to the ship. As the great ship soared, an atomic bomb hurtled down from it. The mushroom of flame blotted out the museum and the city below.

'But we still don't know why the race died,' Yoal whispered into Enash's ear, after the thunder had died from the heavens behind them.

The pale yellow sun crept over the horizon on the third morning after the bomb was dropped, the eighth day since the landing. Enash floated with the others down on a new city. He had come to argue against any further revival.

'As a meterologist,' he said, 'I pronounce this planet safe for Ganae colonization. I cannot see the need for taking any risks. This race has discovered the secrets of its nervous system, and we cannot afford—'

He was interrupted. Hamar, the biologist, said dryly. 'If they knew so much why didn't they migrate to other star systems and save themselves?'

'I will concede,' said Enash, 'that very possibly they had not discovered our system of locating stars with planetary families.' He looked earnestly around the circle of his friends. 'We have agreed that was a unique accidental discovery. We were lucky, not clever.'

He saw by the expressions on their faces that they were mentally refuting his arguments. He felt a helpless sense of imminent catastrophe. For he could see that picture of a great race facing death. It must have come swiftly, but not so swiftly that they didn't know about it. There were too many skeletons in the open, lying in the gardens of magnificent homes, as if each man and his wife had come out to wait for the doom of his kind. He tried to picture it for the council, that last day long, long ago, when a race had calmly met its ending. But his visualization failed somehow, for the others shifted impatiently in the seats that had been set up behind the series of energy screens, and Captain Gorsid said, 'Exactly what aroused this intense emotional reaction in you, Enash?'

The question gave Enash pause. He hadn't thought of it as

emotional. He hadn't realized the nature of his obsession, so subtly had it stolen upon him. Abruptly now, he realized.

'It was the third one,' he said, slowly. 'I saw him through the haze of energy fire, and he was standing there in the distant doorway watching us curiously, just before we turned to run. His bravery, his calm, the skilful way he had duped us—it all added up.'

'Added up to his death!' said Hamar. And everybody laughed.

'Come now, Enash,' said Vice-captain Mayard good-humouredly, 'you're not going to pretend that this race is braver than our own, or that, with all the precautions we have now taken, we need fear one man?'

Enash was silent, feeling foolish. The discovery that he had had an emotional obsession abashed him. He did not want to appear unreasonable. He made a final protest, 'I merely wish to point out,' he said doggedly, 'that this desire to discover what happened to a dead race does not seem absolutely essential to me.'

Captain Gorsid waved at the biologist, 'Proceed,' he said, 'with the revival.'

To Enash, he said, 'Do we dare return to Gana, and recommend mass migrations—and then admit that we did not actually complete our investigations here? It's impossible, my friend.'

It was the old argument, but reluctantly now Enash admitted there was something to be said for that point of view. He forgot that, for the fourth man was stirring.

The man sat up and vanished.

There was a blank, startled, horrified silence. Then Captain Gorsid said harshly. 'He can't get out of there. We know that. He's in there somewhere.'

All around Enash, the Ganae were out of their chairs, peering into the energy shell. The guards stood with ray guns held limply in their suckers. Out of the corner of his eye, he saw one of the protective screen technicians beckon to Veed, who went over. He came back grim. He said, 'I'm told the needles jumped ten points when he first disappeared. That's on the nucleonic level.'

'By ancient Ganae!' Shuri whispered. 'We've run into what we've always feared.'

Gorsid was shouting into the communicator. 'Destroy all the locators on the ship. Destroy them, do you hear!'

He turned with glaring eyes. 'Shuri,' he bellowed, 'They don't

seem to understand. Tell those subordinates of yours to act. All locators and reconstructors must be destroyed.'

'Hurry, hurry!' said Shuri weakly.

When that was done they breathed more easily. There were grim smiles and a tensed satisfaction. 'At least,' said Vice-captain Mayad, 'he cannot now ever discover Gana. Our great system of locating suns with planets remains our secret. There can be no retaliation for—' He stopped, said slowly, 'What am I talking about? We haven't done anything. We're not responsible for the disaster that has befallen the inhabitants of this planet.'

But Enash knew what he had meant. The guilt feelings came to the surface at such moments as this—the ghosts of all the races destroyed by the Ganae, the remorseless will that had been in them, when they first landed, and annihilated whatever was here. The dark abyss of voiceless hate and terror that lay behind them; the days on end when they had mercilessly poured poisonous radiation down upon the unsuspecting inhabitants of peaceful planets—all that had been in Mayad's words.

'I still refuse to believe he has escaped.' That was Captain Gorsid. 'He's in there. He's waiting for us to take down our screens, so he can escape. Well, we won't do it.'

There was silence again as they stared expectantly into the emptiness of the energy shell. The reconstructor rested on its metal supports, a glittering affair. But there was nothing else. Not a flicker of unnatural light or shade. The yellow rays of the sun bathed the open spaces with a brilliance that left no room for concealment.

'Guards,' said Gorsid, 'destroy the reconstructor. I thought he might come back to examine it, but we can't take a chance on that.'

It burned with a white fury. And Enash, who had hoped somehow that the deadly energy would force the two-legged thing into the open, felt his hopes sag within him.

'But where can he have gone?' Yoal whispered.

Enash turned to discuss the matter. In the act of swinging around, he saw that the monster was standing under a tree a score of feet to one side, watching them. He must have arrived at *that* moment, for there was a collective gasp from the councillors. Everybody drew back. One of the screen technicians, using great presence of mind, jerked up an energy screen between the Ganae and the monster. The creature came forward slowly. He was slim of build, he held his head well back. His eyes shone as from an inner fire.

He stopped as he came to the screen, reached out and touched it with his fingers. It flared, blurred with changing colours. The colours grew brighter, and extended in an intricate pattern all the way from his head to the ground. The blur cleared. The pattern faded into invisibility. The man was through the screen.

He laughed, a soft curious sound; then sobered. 'When I first awakened,' he said, 'I was curious about the situation. The question was, what should I do with you?'

The words had a fateful ring to Enash on the still morning air of that planet of the dead. A voice broke the silence, a voice so strained and unnatural that a moment passed before he recognized it as belonging to Captain Gorsid.

'Kill him!'

When the blasters ceased their effort, the unkillable thing remained standing. He walked slowly forward until he was only a half a dozen feet from the nearest Ganae. Enash had a position well to the rear. The man said slowly: 'Two courses suggest themselves, one based on gratitude for reviving me, the other based on reality. I know you for what you are. Yes, *know* you—and that is unfortunate. It is hard to feel merciful. To begin with,' he went on, 'let us suppose you surrender the secret of the locator. Naturally, now that a system exists, we shall never again be caught as we were.'

Enash had been intent, his mind so alive with the potentialities of the disaster that was here that it seemed impossible that he could think of anything else. And yet, a part of his attention was stirred now. 'What did happen?' He asked.

The man changed colour. The emotions of that far day thickened his voice. 'A nucleonic storm. It swept in from outer space. It brushed this edge of our galaxy. It was about ninety light-years in diameter, beyond the furthest limit of our power. There was no escape from it. We had dispensed with spaceships, and had no time to construct any. Castor, the only star with planets ever discovered by us, was also in the path of the storm.' He stopped. 'The secret?' he said.

Around Enash, the councillors were breathing easier. The fear of race destruction that had come to them was lifting. Enash saw with pride that the first shock was over, and they were not even afraid for themselves.

'Ah,' said Yoal softly, 'you don't know the secret. In spite of all your great development, we alone can conquer the galaxy.' He looked at the others, smiling confidently. 'Gentlemen,' he said, 'our

pride in a great Ganae achievement is justified. I suggest we return to our ship. We have no further business on this planet.'

There was a confused moment while their bubbles formed, when Enash wondered if the two-legged one would try to stop their departure. But when he looked back, he saw that the man was walking in a leisurely fashion along a street.

That was the memory Enash carried with him, as the ship began to move. That and the fact that the three atomic bombs they dropped, one after the other, failed to explode.

'We will not,' said Captain Gorsid, 'give up a planet as easily as that. I propose another interview with the creature.'

They were floating down again into the city, Enash and Yoal and Veed and the commander. Captain Gorsid's voice tuned in once more: '... As I visualize it'—through the mist Enash could see the transparent glint of the other three bubbles around him—'we jumped to conclusions about this creature, not justified by the evidence. For instance, when he awakened, he vanished. Why? Because he was afraid, of course. He wanted to size up the situation. He didn't believe he was omnipotent.'

It was sound logic. Enash found himself taking heart from it. Suddenly, he was astonished that he had become panicky so easily. He began to see the danger in a new light. Only one man alive on a new planet. If they were determined enough, colonists could be moved in as if he did not exist. It had been done before, he recalled. On several planets, small groups of the original populations had survived the destroying radiation, and taken refuge in remote areas. In almost every case, the new colonists gradually hunted them down. In two instances, however, that Enash remembered, native races were still holding small sections of their planets. In each case, it had been found impractical to destroy them because it would have endangered the Ganae on the planet. So the survivors were tolerated. One man would not take up very much room.

When they found him, he was busily sweeping out the lower floor of a small bungalow. He put the broom aside and stepped on to the terrace outside. He had put on sandals, and he wore a loose-fitting robe made of very shiny material. He eyed them indolently but he said nothing.

It was Captain Gorsid who made the proposition. Enash had to admire the story he told into the language machine. The commander was very frank. That approach had been decided on. He

pointed out that the Ganae could not be expected to revive the dead of this planet. Such altruism would be unnatural considering that the ever-growing Ganae hordes had a continual need for new worlds. Each vast new population increment was a problem that could be solved by one method only. In this instance, the colonists would gladly respect the rights of the sole survivor of this world.

It was at that point that the man interrupted. 'But what is the purpose of this endless expansion?' He seemed genuinely curious. 'What will happen when you finally occupy every planet in this galaxy?'

Captain Gorsid's puzzled eyes met Yoal's, then flashed to Veed, then Enash. Enash shrugged his torso negatively, and felt pity for the creature. The man didn't understand, possibly never could understand. It was the old story of two different viewpoints, the virile and the decadent, the race that aspired to the stars and the race that declined the call of destiny.

'Why not,' urged the man, 'control the breeding chambers?'

'And have the government overthrown!' said Yoal.

He spoke tolerantly, and Enash saw that the others were smiling at the man's naïvety. He felt the intellectual gulf between them widening. The creature had no comprehension of the natural life forces that were at work. The man spoke again: 'Well, if you don't control them, we will control them for you.'

There was silence.

They began to stiffen. Enash felt it in himself, saw the signs of it in the others. His gaze flicked from face to face, then back to the creature in the doorway. Not for the first time, Enash had the thought that their enemy seemed helpless. 'Why,' he decided, 'I could put my suckers around him and crush him.'

He wondered if mental control of nucleonic, nuclear, and gravitonic energies included the ability to defend oneself from a macrocosmic attack. He had an idea it did. The exhibition of power two hours before might have had limitations, but if so, it was not apparent. Strength or weakness could make no difference. The threat of threats had been made: 'If you don't control—we will.'

The words echoed in Enash's brain, and, as the meaning penetrated deeper, his aloofness faded. He had always regarded himself as a spectator. Even when, earlier, he had argued against the revival, he had been aware of a detached part of himself watching the scene rather than being a part of it. He saw with a sharp clarity

that that was why he had finally yielded to the conviction of the others. Going back beyond that to remoter days, he saw that he had never quite considered himself a participant in the seizure of the planets of other races. He was the one who looked on, and thought of reality, and speculated on a life that seemed to have no meaning. It was meaningless no longer. He was caught by a tide of irresistible emotion, and swept along. He felt himself sinking, merging with the Ganae mass being. All the strength and all the will of the race surged up in his veins.

He snarled, 'Creature, if you have any hopes of reviving your dead race, abandon them now.'

The man looked at him, but said nothing. Enash rushed on, 'If you could destroy us, you would have done so already. But the truth is that you operate within limitations. Our ship is so built that no conceivable chain reaction could be started in it. For every plate of potential unstable material in it there is a counteracting plate, which prevents the development of a critical pile. You might be able to set off explosions in our engines, but they, too, would be limited, and would merely start the process for which they are intended—confined in their proper space.'

He was aware of Yoal touching his arm. 'Careful,' warned the historian. 'Do not in your just anger give away vital information.'

Enash shook off the restraining sucker. 'Let us not be unrealistic,' he said harshly. 'This thing has divined most of our racial secrets, apparently merely by looking at our bodies. We would be acting childishly if we assumed that he has not already realized the possibilities of the situation.'

'*Enash!*' Captain Gorsid's voice was imperative.

As swiftly as it had come, Enash's rage subsided. He stepped back. 'Yes, commander.'

'I think I know what you intended to say,' said Captain Gorsid. 'I assure you I am in full accord, but I believe also that I, as the top Ganae official, should deliver the ultimatum.'

He turned. His horny body towered above the man. 'You have made the unforgivable threat. You have told us, in effect, that you will attempt to restrict the vaulting Ganae spirit.'

'Not the spirit,' said the man. He laughed softly. 'No, not the spirit.'

The commander ignored the interruption. 'Accordingly, we have no alternative. We are assuming that, given time to locate the

materials and develop the tools, you might be able to build a reconstructor. In our opinion it will be at least two years before you can complete it, *even if you know how.* It is an immensely intricate machine, not easily assembled by the lone survivor of a race that gave up its machines millennia before disaster struck.

'You did not have time to build a spaceship. We won't give you time to build a reconstructor.

'Within a few minutes our ship will start dropping bombs. It is possible you will be able to prevent explosions in your vicinity. We will start, accordingly, on the other side of the planet. If you stop us there, then we will assume we need help. In six months of travelling at top acceleration, we can reach a point where the nearest Ganae planet would hear our messages. They will send a fleet so vast that all your powers of resistance will be overcome. By dropping a hundred or a thousand bombs every minute, we will succeed in devastating every city so that not a grain of dust will remain of the skeletons of your people.

'That is our plan. So it shall be. Now, do your worst to us who are at your mercy.'

The man shook his head. 'I shall do nothing—now!' he said. He paused, then said thoughtfully, 'Your reasoning is fairly accurate. Fairly. Naturally, I am not all powerful, but it seems to me you have forgotten one little point. I won't tell you what it is. And now,' he said, 'good day to you. Get back to your ship, and be on your way. I have much to do.'

Enash had been standing quietly, aware of the fury building up in him again. Now, with a hiss, he sprang forward, suckers outstretched. They were almost touching the smooth flesh—when something snatched at him.

He was back on the ship.

He had no memory of movement, no sense of being dazed or harmed. He was aware of Veed and Yoal and Captain Gorsid standing near him as astonished as he himself. Enash remained very still, thinking of what the man had said '... *Forgotten one little point.*' Forgotten? That meant they knew. What could it be? He was still pondering about it when Yoal said: 'We can be reasonably certain our bombs alone will not work.'

They didn't.

Forty light-years out from Earth, Enash was summoned to the

council chambers. Yoal greeted him wanly. 'The monster is aboard.'

The thunder of that poured through Enash, and with it came a sudden comprehension. 'That was what he meant we had forgotten,' he said finally, aloud and wonderingly. 'That he can travel through space at will within a limit—what was the figure he once used—of ninety light years.'

He sighed. He was not surprised that the Ganae, who had to use ships, would not have thought immediately of such a possibility. Slowly, he began to retreat from the reality. Now that the shock had come, he felt old and weary, a sense of his mind withdrawing again to its earlier state of aloofness. It required a few minutes to get the story. A physicist's assistant, on his way to the storeroom, had caught a glimpse of a man in a lower corridor. In such a heavily manned ship, the wonder was that the intruder had escaped earlier observation. Enash had a thought.

'But after all we are not going all the way to one of our planets. How does he expect to make use of us to locate it if we only use the video—' he stopped. That was it, of course. Directional video beams would have to be used and the man would travel in the right direction the instant contact was made.

Enash saw the decision in the eyes of his companions, the only possible decision under the circumstances. And yet, it seemed to him they were missing some vital point. He walked slowly to the great video plate at one end of the chamber. There was a picture on it, so sharp, so vivid, so majestic that the unaccustomed mind would have reeled as from a stunning blow. Even to him, who knew the scene, there came a constriction, a sense of unthinkable vastness. It was a video view of a section of the milky way. Four hundred *million* stars as seen through telescopes that could pick up the light of a red dwarf at thirty thousand light-years.

The video plate was twenty-five yards in diameter—a scene that had no parallel elsewhere in the plenum. Other galaxies simply did not have that many stars.

Only one in two hundred thousand of those glowing suns had planets.

That was the colossal fact that compelled them now to an irrevocable act. Wearily, Enash looked around him.

'The monster has been very clever,' he said quietly. 'If we go ahead, he goes with us, obtains a reconstructor, and returns by his

method to his planet. If we use the directional beam, he flashes along it, obtains a reconstructor, and again reaches his planet first. In either event, by the time our fleets arrived back here, he would have revived enough of his kind to thwart any attack we could mount.'

He shook his torso. The picture was accurate, he felt sure, but it still seemed incomplete. He said slowly, 'We have one advantage now. Whatever decision we make, there is no language machine to enable him to learn what it is. We can carry out our plans without his knowing what they will be. He knows that neither he nor we can blow up the ship. That leaves us one real alternative.'

It was Captain Gorsid who broke the silence that followed. 'Well, gentlemen, I see we know our minds. We will set the engines, blow up the controls, and take him with us.'

They looked at each other, race pride in the eyes. Enash touched suckers with each in turn.

An hour later, when the heat was already considerable. Enash had the thought that sent him staggering to the communicator, to call Shuri, the astronomer. 'Shuri,' he yelled, 'when the monster first awakened—remember Captain Gorsid had difficulty getting your subordinates to destroy the locators. We never thought to ask them what the delay was. Ask them . . . ask them—'

There was a pause, then Shuri's voice came weakly over the roar of the static, 'They . . . couldn't . . . get . . . into the . . . room. The door was locked.'

Enash sagged to the floor. They had missed more than one point, he realized. The man had awakened, realized the situation; and, when he vanished, he had gone to the ship, and there discovered the secret of the locator and possibly the secret of the reconstructor—if he didn't know it previously. By the time he reappeared, he already had from them what he wanted. All the rest must have been designed to lead them to this act of desperation.

In a few moments, now, *he* would be leaving the ship, secure in the knowledge that shortly no alien mind would know his planet existed. Knowing, too, that his race would live again, and this time never die.

Enash staggered to his feet, clawed at the roaring communicator, and shouted his new understanding into it. There was no answer. It clattered with the static of uncontrollable and inconceivable energy.

The heat was peeling his armoured hide as he struggled to the matter transmitter. It flashed at him with purple flame. Back to the communicator he ran shouting and screaming.

He was still whimpering into it a few minutes later when the mighty ship plunged into the heart of a blue-white sun.

THE SECOND NIGHT OF SUMMER

JAMES H. SCHMITZ

On the night after the day that brought summer officially to the land of Wend, on the planet of Noorhut, the shining lights were seen again in the big hollow at the east end of Grimp's father's farm.

Grimp watched them for more than an hour from his upstairs room. The house was dark, but an occasional murmur of voices floated up to him through the windows below. Everyone in the farmhouse was looking at the lights.

On the other farms around and in the village, which was over a hill and another two miles up the valley, every living soul who could get within view of the hollow was probably doing the same. For a time, the agitated yelling of the Village Guardian's big pank-hound had sounded clearly over the hill, but he had quieted down then very suddenly—or had *been* quieted down, more likely, Grimp suspected. The Guardian was dead-set against anyone making a fuss about the lights—and that included the pank-hound, too.

There was some excuse for the pank-hound's excitement, though. From the window, Grimp could see there were a lot more lights tonight than had turned up in previous years—big, brilliant-blue bubbles, drifting and rising and falling silently all about the hollow. Sometimes one would lift straight up for several hundred feet, or move off over the edge of the hollow for about the same distance, and hang there suspended for a few minutes, before floating back to the others. That was as far as they ever went away from the hollow.

There was, in fact, no need for the Halpa detector-globes to go any further than that to get the information wanted by those who had sent them out, and who were listening now to the steady flow of brief reports, in some Halpa equivalent of human speech-thought, coming back to them through the globes:

breathe through gills and they see by heat waves, and their blood has a copper base instead of iron and a few little details like that. But otherwise we're just alike! There were only men in their crew, sir, but they have two sexes as we have, and they have families, and . . . er . . . their sense of humor— In fact—''

Tommy hesitated.

''Go on, sir,'' said the skipper.

''Well— There was the one I called Buck, sir, because he hasn't any name that goes into sound waves,'' said Tommy. ''We got along very well. I'd really call him my friend, sir. And we were together for a couple of hours just before the two ships separated and we'd nothing in particular to do. So I became convinced that humans and aliens are bound to be good friends if they have only half a chance. You see, sir, we spent those two hours telling dirty jokes.''

THAT ONLY A MOTHER

by Judith Merril

Margaret reached over to the other side of the bed where Hank should have been. Her hand patted the empty pillow, and then she came altogether awake, wondering that the old habit should remain after so many months. She tried to curl up, cat-style, to hoard her own warmth, found she couldn't do it any more, and climbed out of bed with a pleased awareness of her increasingly clumsy bulkiness.

Morning motions were automatic. On the way through the kitchenette, she pressed the button that would start breakfast cooking—the doctor had said to eat as much breakfast as she could—and tore the paper out of the facsimile machine. She folded the long sheet carefully to the ''National News'' section, and propped it on the bathroom shelf to scan while she brushed her teeth.

No accidents. No direct hits. At least none that had been officially released for publication. *Now, Maggie, don't get started on that. No accidents. No hits. Take the nice newspaper's word for it.*

The three clear chimes from the kitchen announced that breakfast was ready. She set a bright napkin and cheerful colored dishes on the table in a futile attempt to appeal to a faulty morning appetite. Then, when there was nothing more to prepare, she went for the mail, allowing herself the full pleasure of prolonged anticipation, because today there would *surely* be a letter.

There was. There were. Two bills and a worried note from her mother: ''Darling, why didn't you write and tell me sooner? I'm thrilled, of course, but, well one hates to mention these things, but are you *certain* the doctor was right? Hank's been around all that uranium or

First published in 1948

thorium or whatever it is all these years, and I know you say he's a designer, not a technician, and he doesn't get near anything that might be dangerous, but you know he used to, back at Oak Ridge. Don't you think . . . well, of course, I'm just being a foolish old woman, and I don't want you to get upset. You know much more about it than I do, and I'm sure your doctor was right. He *should* know . . ."

Margaret made a face over the excellent coffee, and caught herself refolding the paper to the medical news.

Stop it, Maggie, stop it! The radiologist said Hank's job couldn't have exposed him. And the bombed area we drove past . . . No, no. Stop it, now! Read the social notes or the recipes, Maggie girl.

A well-known geneticist, in the medical news, said that it was possible to tell with absolute certainty, at five months, whether the child would be normal, or at least whether the mutation was likely to produce anything freakish. The worst cases, at any rate, could be prevented. Minor mutations, of course, displacements in facial features, or changes in brain structure could not be detected. And there had been some cases recently, of normal embryos with atrophied limbs that did not develop beyond the seventh or eighth month. But, the doctor concluded cheerfully, the *worst* cases could now be predicted and prevented.

"Predicted and prevented." We predicted it, didn't we? Hank and the others, they predicted it. But we didn't prevent it. We could have stopped it in '46 and '47. Now . . .

Margaret decided against the breakfast. Coffee had been enough for her in the morning for ten years; it would have to do for today. She buttoned herself into interminable folds of material that, the salesgirl had assured her, was the *only* comfortable thing to wear during the last few months. With a surge of pure pleasure, the letter and newspaper forgotten, she realized she was on the next to the last button. It wouldn't be long now.

The city in the early morning had always been a special kind of excitement for her. Last night it had rained, and the sidewalks were still damp-gray instead of dusty. The air smelled the fresher, to a city-bred woman, for the occasional pungency of acrid factory smoke. She walked the six blocks to work, watching the lights go out in the all-night hamburger joints, where the plate-glass walls were already catching the sun, and the lights go on in the dim interiors of cigar stores and dry-cleaning establishments.

The office was in a new Government building. In the rolovator, on the way up, she felt, as always, like a frankfurter roll in the ascending half of an old-style rotary toasting machine. She abandoned the air-foam cushioning gratefully at the fourteenth floor, and settled down behind her desk, at the rear of a long row of identical desks.

Each morning the pile of papers that greeted her was a little higher. These were, as everyone knew, the decisive months. The war might be won or lost on these calculations as well as any others. The manpower office had switched her here when her old expediter's job got to be too strenuous. The computer was easy to operate, and the work was absorbing, if not as exciting as the old job. But you didn't just stop working these days. Everyone who could do anything at all was needed.

And—she remembered the interview with the psychologist—*I'm probably the unstable type. Wonder what sort of neurosis I'd get sitting home reading that sensational paper . . .*

She plunged into the work without pursuing the thought.

February 18.

Hank darling,

Just a note—from the hospital, no less. I had a dizzy spell at work, and the doctor took it to heart. Blessed if I know what I'll do with myself lying in bed for weeks, just waiting—but Dr. Boyer seems to think it may not be so long.

There are too many newspapers around here. More infanticides all the time, and they can't seem to get a jury to convict any of them. It's the fathers who do it. Lucky thing you're not around, in case—

Oh, darling, that wasn't a very *funny* joke, was it? Write as often as you can, will you? I have too much time to think. But there really isn't anything wrong, and nothing to worry about.

Write often, and remember I love you.

Maggie.

SPECIAL SERVICE TELEGRAM

February 21, 1953
22:04 LK37G

From: Tech. Lieut. H. Marvell
X47-016 GCNY

To: Mrs. H. Marvell
Women's Hospital
New York City

HAD DOCTOR'S GRAM STOP WILL ARRIVE FOUR OH TEN STOP SHORT LEAVE STOP YOU DID IT MAGGIE STOP LOVE HANK

February 25.

Hank dear,

So you didn't see the baby either? You'd think a place this size would at least have visiplates on the incubators, so the fathers could get a look, even if the poor benighted mommas can't. They tell me I won't see her for another week, or maybe more—but of course, mother always warned me if I didn't slow my pace, I'd probably even have my babies too fast. Why must she *always* be right?

Did you meet that battle-ax of a nurse they put on here? I imagine they save her for people who've already had theirs, and don't let her get too near the prospectives—but a woman like that simply shouldn't be allowed in a maternity ward. She's obsessed with mutations, can't seem to talk about anything else. Oh, well, *ours* is all right, even if it was in an unholy hurry.

I'm tired. They warned me not to sit up so soon, but I *had* to write you. All my love, darling,

Maggie.

February 29.

Darling,

I finally got to see her! It's all true, what they say about new babies and the face that only a mother could love—but it's all there, darling, eyes, ears, and noses—no, only one!—all in the right places. We're so *lucky*, Hank.

I'm afraid I've been a rambunctious patient. I kept telling that hatchet-faced female with the mutation mania that I wanted to *see* the baby. Finally the doctor came in to "explain" everything to me, and talked a lot of nonsense, most of which I'm sure no one could have understood, any more than I did. The only thing I got out of it was that she didn't actually *have* to stay in the incubator; they just thought it was "wiser."

I think I got a little hysterical at that point. Guess I was more worried than I was willing to admit, but I threw a small fit about it. The whole business wound up with one of those hushed medical conferences outside the door, and finally the Woman in White said: "Well, we might as well. Maybe it'll work out better that way."

I'd heard about the way doctors and nurses in these places develop a God complex, and believe me it is as true figuratively as it is literally that a mother hasn't got a leg to stand on around here.

I *am* awfully weak, still. I'll write again soon. Love,

Maggie.

March 8.

Dearest Hank,

Well the nurse was wrong if she told you that. She's an idiot anyhow. It's a girl. It's easier to tell with babies than with cats, and *I know*. How about Henrietta?

I'm home again, and busier than a betatron. They got *everything* mixed up at the hospital, and I had to teach myself how to bathe her and do just about everything else. She's getting prettier, too. When can you get a leave, a *real* leave?

Love,
Maggie.

May 26.

Hank dear,

You should see her now—and you shall. I'm sending along a reel of color movie. My mother sent her those nighties with drawstrings all over. I put one on, and right now she looks like a snow-white potato sack with that beautiful, beautiful flower-face blooming on top. Is that ***me*** talking? Am I a doting mother? But wait till you *see* her!

July 10.

. . . Believe it or not, as you like, but your daughter can talk, and I don't mean baby talk. Alice discovered it—she's a dental assistant in the WACs, you know—and when she heard the baby giving out what I thought was a string of gibberish, she said the kid knew words and sentences, but couldn't say them clearly because she has no teeth yet. I'm taking her to a speech specialist.

September 13.

. . . We have a prodigy for real! Now that all her front teeth are in, her speech is perfectly clear and—a new talent now—she can sing! I mean really carry a tune! At seven months! Darling my world would be perfect if you could only get home.

November 19.

. . . at last. The little goon was so busy being clever, it took her all this time to learn to crawl. The doctor says development in these cases is always erratic . . .

SPECIAL SERVICE TELEGRAM
December 1, 1953
08:47 LK59F

From: Tech. Lieut. H. Marvell
X47-016 GCNY
To: Mrs. H. Marvell
Apt. K-17
504 E. 19 St.
N.Y. N.Y.
WEEK'S LEAVE STARTS TOMORROW STOP WILL ARRIVE AIRPORT TEN OH FIVE STOP DON'T MEET ME STOP LOVE LOVE LOVE HANK

Margaret let the water run out of the bathinette until only a few inches were left, and then loosed her hold on the wriggling baby.

"I think it was better when you were retarded, young woman," she informed her daughter happily. "You *can't* crawl in a bathinette, you know."

"Then why can't I go in the bathtub?" Margaret was used to her child's volubility by now, but every now and then it caught her unawares. She swooped the resistant mass of pink flesh into a towel, and began to rub.

"Because you're too little, and your head is very soft, and bathtubs are very hard."

"Oh. Then when can I go in the bathtub?"

"When the outside of your head is as hard as the inside, brainchild." She reached toward a pile of fresh clothing. "I cannot understand," she added, pinning a square of cloth through the nightgown, "why a child of your intelligence can't learn to keep a diaper on the way other babies do. They've been used for centuries, you know, with perfectly satisfactory results."

The child disdained to reply; she had heard it too often. She waited patiently until she had been tucked, clean and sweet-smelling, into a white-painted crib. Then she favored her mother with a smile that inevitably made Margaret think of the first golden edge of the sun bursting into a rosy pre-dawn. She remembered Hank's reaction to the color pictures of his beautiful daughter, and with the thought, realized how late it was.

"Go to sleep, puss. When you wake up, you know, your *Daddy* will be here."

"Why?" asked the four-year-old mind, waging a losing battle to keep the ten-month-old body awake.

Margaret went into the kitchenette and set the timer for the roast. She examined the table, and got her clothes from the closet, new dress, new shoes, new slip, new everything, bought weeks before and saved for the

day Hank's telegram came. She stopped to pull a paper from the facsimile, and, with clothes and news, went into the bathroom, and lowered herself gingerly into the steaming luxury of a scented tub.

She glanced through the paper with indifferent interest. Today at least there was no need to read the national news. There was an article by a geneticist. The same geneticist. Mutations, he said, were increasing disproportionately. It was too soon for recessives; even the first mutants, born near Hiroshima and Nagasaki in 1946 and 1947 were not old enough yet to breed. *But my baby's all right.* Apparently, there was some degree of free radiation from atomic explosions causing the trouble. *My baby's fine. Precocious, but normal.* If more attention had been paid to the first Japanese mutations, he said . . .

There was that little notice in the paper in the spring of '47. That was when Hank quit at Oak Ridge. "Only two or three percent of those guilty of infanticide are being caught and punished in Japan today . . ." *But* MY BABY'S *all right.*

She was dressed, combed, and ready to the last light brush-on of lip paste, when the door chime sounded. She dashed for the door, and heard, for the first time in eighteen months the almost-forgotten sound of a key turning in the lock before the chime had quite died away.

"Hank!"

"Maggie!"

And then there was nothing to say. So many days, so many months, of small news piling up, so many things to tell him, and now she just stood there, staring at a khaki uniform and a stranger's pale face. She traced the features with the finger of memory. The same high-bridged nose, wide-set eyes, fine feathery brows; the same long jaw, the hair a little farther back now on the high forehead, the same tilted curve to his mouth. Pale . . . Of course, he'd been underground all this time. And strange, stranger because of lost familiarity than any newcomer's face could be.

She had time to think all that before his hand reached out to touch her, and spanned the gap of eighteen months. Now, again, there was nothing to say, because there was no need. They were together, and for the moment that was enough.

"Where's the baby?"

"Sleeping. She'll be up any minute."

No urgency. Their voices were as casual as though it were a daily exchange, as though war and separation did not exist. Margaret picked up the coat he'd thrown on the chair near the door, and hung it carefully in the hall closet. She went to check the roast, leaving him to wander

through the rooms by himself, remembering and coming back. She found him, finally, standing over the baby's crib.

She couldn't see his face, but she had no need to.

"I think we can wake her just this once." Margaret pulled the covers down, and lifted the white bundle from the bed. Sleepy lids pulled back heavily from smoky brown eyes.

"Hello." Hank's voice was tentative.

"Hello." The baby's assurance was more pronounced.

He had heard about it, of course, but that wasn't the same as hearing it. He turned eagerly to Margaret. "She really can—?"

"Of course she can, darling. But what's more important, she can even do nice normal things like other babies do, even stupid ones. Watch her crawl!" Margaret set the baby on the big bed.

For a moment young Henrietta lay and eyed her parents dubiously.

"Crawl?" she asked.

"That's the idea. Your Daddy is new around here, you know. He wants to see you show off."

"Then put me on my tummy."

"Oh, of course." Margaret obligingly rolled the baby over.

"What's the matter?" Hank's voice was still casual, but an undercurrent in it began to charge the air of the room. "I thought they turned over first."

"This baby," Margaret would not notice the tension, "*This* baby does things when she wants to."

This baby's father watched with softening eyes while the head advanced and the body hunched up propelling itself across the bed.

"Why the little rascal," he burst into relieved laughter. "She looks like one of those potato-sack racers they used to have on picnics. Got her arms pulled out of the sleeves already." He reached over and grabbed the knot at the bottom of the long nightie.

"I'll do it, darling." Margaret tried to get there first.

"Don't be silly, Maggie. This may be *your* first baby, but *I* had five kid brothers." He laughed her away, and reached with his other hand for the string that closed one sleeve. He opened the sleeve bow, and groped for an arm.

"The way you wriggle," he addressed his child sternly, as his hand touched a moving knob of flesh at the shoulder, "anyone might think you are a worm, using your tummy to crawl on, instead of your hands and feet."

Margaret stood and watched, smiling. "Wait till you hear her sing, darling—"

His right hand traveled down from the shoulder to where he thought

an arm would be, traveled down, and straight down, over firm small muscles that writhed in an attempt to move against the pressure of his hand. He let his fingers drift up again to the shoulder. With infinite care, he opened the knot at the bottom of the nightgown. His wife was standing by the bed, saying: "She can do 'Jingle Bells,' and—"

His left hand felt along the soft knitted fabric of the gown, up towards the diaper that folded, flat and smooth, across the bottom end of his child. No wrinkles. No kicking. *No* . . .

"Maggie." He tried to pull his hands from the neat fold in the diaper, from the wriggling body. "Maggie." His throat was dry; words came hard, low and grating. He spoke very slowly, thinking the sound of each word to make himself say it. His head was spinning, but he had to *know* before he let it go. "Maggie, why . . . didn't you . . . tell me?"

"Tell you what, darling?" Margaret's poise was the immemorial patience of woman confronted with man's childish impetuosity. Her sudden laugh sounded fantastically easy and natural in that room; it was all clear to her now. "Is she wet? I didn't know."

She didn't know. His hands, beyond control, ran up and down the soft-skinned baby body, the sinuous, limbless body. *Oh God, dear God*—his head shook and his muscles contracted, in a bitter spasm of hysteria. His fingers tightened on his child—*Oh God, she didn't know* . . .

MARS IS HEAVEN!

by Ray Bradbury

The ship came down from space. It came from the stars and the black velocities, and the shining movements, and the silent gulfs of space. It was a new ship; it had fire in its body and men in its metal cells, and it moved with a clean silence, fiery and warm. In it were seventeen men, including a captain. The crowd at the Ohio field had shouted and waved their hands up into the sunlight, and the rocket had bloomed out great flowers of heat and color and run away into space on the *third* voyage to Mars!

Now it was decelerating with metal efficiency in the upper Martian atmospheres. It was still a thing of beauty and strength. It had moved in the midnight waters of space like a pale sea leviathan; it had passed the ancient moon and thrown itself onward into one nothingness following another. The men within it had been battered, thrown about, sickened, made well again, each in his turn. One man had died, but now the remaining sixteen, with their eyes clear in their heads and their faces pressed to the thick glass ports, watched Mars swing up under them.

"Mars! Mars! Good old Mars, here we are!" cried Navigator Lustig.

"Good old Mars!" said Samuel Hinkston, archaeologist.

"Well," said Captain John Black.

The ship landed softly on a lawn of green grass. Outside, upon the lawn, stood an iron deer. Further up the lawn, a tall brown Victorian house sat in the quiet sunlight, all covered with scrolls and rococo, its windows made of blue and pink and yellow and green colored glass. Upon the porch were hairy geraniums and an old swing which was hooked into the porch ceiling and which now swung back and forth,

First published in 1948

back and forth, in a little breeze. At the top of the house was a cupola with diamond, leaded-glass windows, and a dunce-cap roof! Through the front window you could see an ancient piano with yellow keys and a piece of music titled *Beautiful Ohio* sitting on the music rest.

Around the rocket in four directions spread the little town, green and motionless in the Martian spring. There were white houses and red brick ones, and tall elm trees blowing in the wind, and tall maples and horse chestnuts. And church steeples with golden bells silent in them.

The men in the rocket looked out and saw this. Then they looked at one another and then they looked out again. They held on to each other's elbows, suddenly unable to breathe, it seemed. Their faces grew pale and they blinked constantly, running from glass port to glass port of the ship.

"I'll be damned," whispered Lustig, rubbing his face with his numb fingers, his eyes wet. "I'll be damned, damned, damned."

"It can't be, it just can't be," said Samuel Hinkston.

"Lord," said Captain John Black.

There was a call from the chemist. "Sir, the atmosphere is fine for breathing, sir."

Black turned slowly. "Are you sure?"

"No doubt of it, sir."

"Then we'll go out," said Lustig.

"Lord, yes," said Samuel Hinkston.

"Hold on," said Captain John Black. "Just a moment. Nobody gave any orders."

"But, sir—"

"Sir, nothing. How do we know what this is?"

"We know what it is, sir," said the chemist. "It's a small town with good air in it, sir."

"And it's a small town the like of Earth towns," said Samuel Hinkston, the archaeologist. "Incredible. It can't be, but it is."

Captain John Black looked at him, idly. "Do you think that the civilizations of two planets can progress at the same rate and evolve in the same way, Hinkston?"

"I wouldn't have thought so, sir."

Captain Black stood by the port. "Look out there. The geraniums. A specialized plant. That specific variety has only been known on Earth for fifty years. Think of the thousands of years of time it takes to evolve plants. Then tell me if it is logical that the Martians should have: one, leaded glass windows; two, cupolas; three, porch swings; four, an instrument that looks like a piano and probably is a piano; and, five, if you look closely, if a Martian composer would have published a piece

of music titled, strangely enough, *Beautiful Ohio*. All of which means that we have an Ohio River here on Mars!"

"It is quite strange, sir."

"Strange, hell, it's absolutely impossible, and I suspect the whole bloody shooting setup. Something's wrong here, and I'm not leaving the ship until I know what it is."

"Oh, sir," said Lustig.

"Darn it," said Samuel Hinkston. "Sir, I want to investigate this at first hand. It may be that there are similar patterns of thought, movement, civilization on *every* planet in our system. We may be on the threshold of the great psychological and metaphysical discovery in our time, sir, don't you think?"

"I'm willing to wait a moment," said Captain John Black.

"It may be, sir, that we are looking upon a phenomenon that, for the first time, would absolutely prove the existence of a God, sir."

"There are many people who are of good faith without such proof, Mr. Hinkston."

"I'm one myself, sir. But certainly a thing like this, out there," said Hinkston, "could not occur without divine intervention, sir. It fills me with such terror and elation I don't know whether to laugh or cry, sir."

"Do neither, then, until we know what we're up against."

"Up against, sir?" inquired Lustig. "I see that we're up against nothing. It's a good quiet, green town, much like the one I was born in, and I like the looks of it."

"When were you born, Lustig?"

"In 1910, sir."

"That makes you fifty years old, now, doesn't it?"

"This being 1960, yes, sir."

"And you, Hinkston?"

"1920, sir. In Illinois. And this looks swell to me, sir."

"This couldn't be Heaven," said the captain, ironically. "Though, I must admit, it looks peaceful and cool, and pretty much like Green Bluff, where I was born, in 1915." He looked at the chemist. "The air's all right, is it?"

"Yes, sir."

"Well, then, tell you what we'll do. Lustig, you and Hinkston and I will fetch ourselves out to look this town over. The other 14 men will stay aboard ship. If anything untoward happens, lift the ship and get the hell out, do you hear what I say, Craner?"

"Yes, sir. The hell out we'll go, sir. Leaving *you?*"

"A loss of three men's better than a whole ship. If something bad happens get back to Earth and warn the next Rocket, that's Lingle's

Rocket, I think, which will be completed and ready to take off some time around next Christmas, what he has to meet up with. If there's something hostile about Mars we certainly want the next expedition to be well armed."

"So are we, sir. We've got a regular arsenal with us."

"Tell the men to stand by the guns, then, as Lustig and Hinkston and I go out."

"Right, sir."

"Come along, Lustig, Hinkston."

The three men walked together, down through the levels of the ship.

It was a beautiful spring day. A robin sat on a blossoming apple tree and sang continuously. Showers of petal snow sifted down when the wind touched the apple tree, and the blossom smell drifted upon the air. Somewhere in the town, somebody was playing the piano and the music came and went, came and went, softly, drowsily. The song was *Beautiful Dreamer*. Somewhere else, a phonograph, scratchy and faded, was hissing out a record of *Roamin' In The Gloamin'*, sung by Harry Lauder.

The three men stood outside the ship. The port closed behind them. At every window, a face pressed, looking out. The large metal guns pointed this way and that, ready.

Now the phonograph record being played was:

"Oh give me a June night
The moonlight and you—"

Lustig began to tremble. Samuel Hinkston did likewise.

Hinkston's voice was so feeble and uneven that the captain had to ask him to repeat what he had said. "I said, sir, that I think I have solved this, all of this, sir!"

"And what is the solution, Hinkston?"

The soft wind blew. The sky was serene and quiet and somewhere a stream of water ran through the cool caverns and tree-shadings of a ravine. Somewhere a horse and wagon trotted and rolled by, bumping.

"Sir, it must be, it has to be, this is the *only* solution! Rocket travel began to Mars in the years before the first World War, sir!"

The captain stared at his archaeologist. "No!"

"But, yes, sir! You must admit, look at all of this! How else explain it, the houses, the lawns, the iron deer, the flowers, the pianos, the music!"

"Hinkston, Hinkston, oh," and the captain put his hand to his face, shaking his head, his hand shaking now, his lips blue.

"Sir, listen to me." Hinkston took his elbow persuasively and looked up into the captain's face, pleading. "Say that there were some people in the year 1905, perhaps, who hated wars and wanted to get away from Earth and they got together, some scientists, in secret, and built a rocket and came out here to Mars."

"No, no, Hinkston."

"Why not? The world was a different place in 1905, they could have kept it a secret much more easily."

"But the work, Hinkston, the work of building a complex thing like a rocket, oh, no, no." The captain looked at his shoes, looked at his hands, looked at the houses, and then at Hinkston.

"And they came up here, and naturally the houses they built were similar to Earth houses because they brought the cultural architecture with them, and here it is!"

"And they've lived here all these years?" said the captain.

"In peace and quiet, sir, yes. Maybe they made a few trips, to bring enough people here for one small town, and then stopped, for fear of being discovered. That's why the town seems so old-fashioned. I don't see a thing, myself, that is older than the year 1927, do you?"

"No, frankly, I don't, Hinkston."

"These are *our* people, sir. This is an American city; it's definitely not European!"

"That—that's right, too, Hinkston."

"Or maybe, just maybe, sir, rocket travel is older than we think. Perhaps it started in some part of the world hundreds of years ago, was discovered and kept secret by a small number of men, and they came to Mars, with only occasional visits to Earth over the centuries."

"You make it sound almost reasonable."

"It is, sir. It has to be. We have the proof here before us, all we have to do now, is find some people and verify it!"

"You're right there, of course. We can't just stand here and talk. Did you bring your gun?"

"Yes, but we won't need it."

"We'll see about it. Come along, we'll ring that doorbell and see if anyone is home."

Their boots were deadened of all sound in the thick green grass. It smelled from a fresh mowing. In spite of himself, Captain John Black felt a great peace come over him. It had been thirty years since he had been in a small town, and the buzzing of spring bees on the air lulled and quieted him, and the fresh look of things was a balm to the soul.

* * *

Hollow echoes sounded from under the boards as they walked across the porch and stood before the screen door. Inside, they could see a bead curtain hung across the hall entry, and a crystal chandelier and a Maxfield Parrish painting framed on one wall over a comfortable Morris Chair. The house smelled old, and of the attic, and infinitely comfortable. You could hear the tinkle of ice rattling in a lemonade pitcher. In a distant kitchen, because of the heat of the day, someone was preparing a soft, lemon drink.

Captain John Black rang the bell.

Footsteps, dainty and thin, came along the hall and a kind faced lady of some forty years, dressed in the sort of dress you might expect in the year 1909, peered out at them.

"Can I help you?" she asked.

"Beg your pardon," said Captain Black, uncertainly. "But we're looking for, that is, could you help us, I mean." He stopped. She looked out at him with dark wondering eyes.

"If you're selling something," she said, "I'm much too busy and I haven't time." She turned to go.

"No, *wait*," he cried, bewilderedly. "What town is this?"

She looked him up and down as if he were crazy. "What do you mean, what town is it? How could you be in a town and not know what town it was?"

The captain looked as if he wanted to go sit under a shady apple tree. "I beg your pardon," he said. "But we're strangers here. We're from Earth, and we want to know how this town got here and you got here."

"Are you census takers?" she asked.

"No," he said.

"What do you want then?" she demanded.

"Well," said the captain.

"Well?" she asked.

"How long has this town been here?" he wondered.

"It was built in 1868," she snapped at them. "Is this a game?"

"No, not a game," cried the captain. "Oh, God," he said. "Look here. We're from Earth!"

"From *where?*" she said.

"From Earth!" he said.

"Where's that?" she said.

"From Earth," he cried.

"Out of the ground, do you mean?"

"No, from the planet Earth!" he almost shouted. "Here," he insisted, "come out on the porch and I'll show you."

"No," she said, "I won't come out there, you are all evidently quite mad from the sun."

Lustig and Hinkston stood behind the captain. Hinkston now spoke up. "Mrs.," he said. "We came in a flying ship across space, among the stars. We came from the third planet from the sun, Earth, to this planet, which is Mars. *Now* do you understand, Mrs.?"

"Mad from the sun," she said, taking hold of the door. "Go away now, before I call my husband who's upstairs taking a nap, and he'll beat you all with his fists."

"But—" said Hinkston. "This is Mars, is it not?"

"This," explained the woman, as if she were addressing a child, "is Green Lake, Wisconsin, on the continent of America, surrounded by the Pacific and Atlantic Oceans, on a place called the world, or sometimes, the Earth. Go away now. Good-bye!"

She slammed the door.

The three men stood before the door with their hands up in the air toward it, as if pleading with her to open it once more.

They looked at one another.

"Let's knock the door down," said Lustig.

"We can't," sighed the captain.

"Why not?"

"She didn't do anything bad, did she? We're the strangers here. This is private property. Good God, Hinkston!" He went and sat down on the porchstep.

"What, sir?"

"Did it ever strike you, that maybe we got ourselves, somehow, some way, fouled up. And, by accident, came back and landed on Earth!"

"Oh, sir, oh, sir, oh oh, sir." And Hinkston sat down numbly and thought about it.

Lustig stood up in the sunlight. "How could we have done that?"

"I don't know, just let me think."

Hinkston said, "But we checked every mile of the way, and we saw Mars and our chronometers said so many miles gone, and we went past the moon and out into space and here we are, on Mars. I'm sure we're on Mars, sir."

Lustig said, "But, suppose, just suppose that, by accident, in space, in time, or something, we landed on a planet in space, in another time. Suppose this is Earth, thirty or fifty years ago? Maybe we got lost in the dimensions, do you think?"

"Oh, go away, Lustig."

"Are the men in the ship keeping an eye on us, Hinkston?"

"At their guns, sir."

Lustig went to the door, rang the bell. When the door opened again, he asked, "What year is this?"

"1926, of course!" cried the woman, furiously, and slammed the door again.

"Did you hear that?" Lustig ran back to them, wildly. "She said 1926! We *have* gone back in time! This *is* Earth!"

Lustig sat down and the three men let the wonder and terror of the thought afflict them. Their hands stirred fitfully on their knees. The wind blew, nodding the locks of hair on their heads.

The captain stood up, brushing off his pants. "I never thought it would be like this. It scares the hell out of me. How can a thing like this happen?"

"Will anybody in the whole town believe us?" wondered Hinkston. "Are we playing around with something dangerous? Time, I mean. Shouldn't we just take off and go home?"

"No. We'll try another house."

They walked three houses down to a little white cottage under an oak tree. "I like to be as logical as I can get," said the captain. He nodded at the town. "How does this sound to you, Hinkston? Suppose, as you said originally, that rocket travel occurred years ago. And when the Earth people had lived here a number of years they began to get homesick for Earth. First a mild neurosis about it, then a full fledged psychosis. Then, threatened insanity. What would you do, as a psychiatrist, if faced with such a problem?"

Hinkston thought. "Well, I think I'd re-arrange the civilization on Mars so it resembled Earth more and more each day. If there was any way of reproducing every plant, every road and every lake, and even an ocean, I would do so. Then I would, by some vast crowd hypnosis, theoretically anyway, convince everyone in a town this size that this really *was* Earth, not Mars at all."

"Good enough, Hinkston. I think we're on the right track now. That woman in that house back there, just *thinks* she's living on Earth. It protects her sanity. She and all the others in this town are the patients of the greatest experiment in migration and hypnosis you will ever lay your eyes on in your life."

"That's it, sir!" cried Lustig.

"Well," the captain sighed. "Now we're getting somewhere. I feel better. It all sounds a bit more logical now. This talk about time and going back and forth and traveling in time turns my stomach upside down. But, *this* way—" He actually smiled for the first time in a month. "Well. It looks as if we'll be fairly welcome here."

"Or, will we, sir?" said Lustig. "After all, like the Pilgrims, these

people came here to escape Earth. Maybe they won't be too happy to see us, sir. Maybe they'll try to drive us out or kill us?"

"We have superior weapons if that should happen. Anyway, all we can do is try. This next house now. Up we go."

But they had hardly crossed the lawn when Lustig stopped and looked off across the town, down the quiet, dreaming afternoon street. "Sir," he said.

"What is it, Lustig?" asked the captain.

"Oh, sir, *sir*, what I see, what I do see now before me, oh, oh—" said Lustig, and he began to cry. His fingers came up, twisting and trembling, and his face was all wonder and joy and incredulity. He sounded as if any moment he might go quite insane with happiness. He looked down the street and he began to run, stumbling, awkwardly, falling, picking himself up, and running on. "Oh, God, God, thank you, God! Thank you!"

"Don't let him get away!" The captain broke into a run.

Now Lustig was running at full speed, shouting. He turned into a yard half way down the little shady side street and leaped up upon the porch of a large green house with an iron rooster on the roof.

He was beating upon the door, shouting and hollering and crying when Hinkston and the captain ran up and stood in the yard.

The door opened. Lustig yanked the screen wide and in a high wail of discovery and happiness, cried out, "Grandma! Grandpa!"

Two old people stood in the doorway, their faces lighting up.

"Albert!" Their voices piped and they rushed out to embrace and pat him on the back and move around him. "Albert, oh, Albert, it's been so many years! How you've grown, boy, how big you are, boy, oh, Albert boy, how are you!"

"Grandma, Grandpa!" sobbed Albert Lustig. "Good to see you! You look fine, fine! Oh, fine!" He held them, turned them, kissed them, hugged them, cried on them, held them out again, blinked at the little old people. The sun was in the sky, the wind blew, the grass was green, the screen door stood open.

"Come in, lad, come in, there's lemonade for you, fresh, lots of it!"

"Grandma, Grandpa, good to see you! I've got friends down here! Here!" Lustig turned and waved wildly at the captain and Hinkston, who, all during the adventure on the porch, had stood in the shade of a tree, holding onto each other. "Captain, captain, come up, come up, I want you to meet my grandfolks!"

"Howdy," said the folks. "Any friend of Albert's is ours, too! Don't stand there with your mouths open! Come on!"

* * *

In the living room of the old house it was cool and a grandfather clock ticked high and long and bronzed in one corner. There were soft pillows on large couches and walls filled with books and a rug cut in a thick rose pattern and antimacassars pinned to furniture, and lemonade in the hand, sweating, and cool on the thirsty tongue.

"Here's to our health." Grandma tipped her glass to her porcelain teeth.

"How long you *been* here, Grandma?" said Lustig.

"A good many years," she said, tartly. "Ever since we died."

"Ever since you what?" asked Captain John Black, putting his drink down.

"Oh, yes," Lustig looked at his captain. "They've been dead thirty years."

"And you *sit* there, calmly!" cried the captain.

"Tush," said the old woman, and winked glitteringly at John Black. "Who are we to question what happens? Here we are. What's life, anyways? Who does what for why and where? All we know is here we are, alive again, and no questions asked. A second chance." She toddled over and held out her thin wrist to Captain John Black. "Feel." He felt. "Solid, ain't I?" she asked. He nodded. "You hear my voice don't you?" she inquired. Yes, he did. "Well, then," she said in triumph, "why go around questioning?"

"Well," said the captain, "it's simply that we never thought we'd find a thing like this on Mars."

"And now you've found it. I dare say there's lots on every planet that'll show you God's infinite ways."

"Is this Heaven?" asked Hinkston.

"Nonsense, no. It's a world and we get a second chance. Nobody told us why. But then nobody told us why we were on Earth, either. That *other* Earth, I mean. The one you came from. How do we know there wasn't *another* before *that* one?"

"A good question," said the captain.

The captain stood up and slapped his hand on his leg in an off-hand fashion. "We've got to be going. It's been nice. Thank you for the drinks."

He stopped. He turned and looked toward the door, startled.

Far away, in the sunlight, there was a sound of voices, a crowd, a shouting and a great hello.

"What's that?" asked Hinkston.

"We'll soon find out!" And Captain John Black was out the front door abruptly, jolting across the green lawn and into the street of the Martian town.

He stood looking at the ship. The ports were open and his crew were streaming out, waving their hands. A crowd of people had gathered and in and through and among these people the members of the crew were running, talking, laughing, shaking hands. People did little dances. People swarmed. The rocket lay empty and abandoned.

A brass band exploded in the sunlight, flinging off a gay tune from upraised tubas and trumpets. There was a bang of drums and a shrill of fifes. Little girls with golden hair jumped up and down. Little boys shouted, "Hooray!" And fat men passed around ten-cent cigars. The mayor of the town made a speech. Then, each member of the crew with a mother on one arm, a father or sister on the other, was spirited off down the street, into little cottages or big mansions and doors slammed shut.

The wind rose in the clear spring sky and all was silent. The brass band had banged off around a corner leaving the rocket to shine and dazzle alone in the sunlight.

"Abandoned!" cried the captain. "Abandoned the ship, they did! I'll have their skins, by God! They had orders!"

"Sir," said Lustig. "Don't be too hard on them. Those were all old relatives and friends."

"That's no excuse!"

"Think how they felt, captain, seeing familiar faces outside the ship!"

"I would have obeyed orders! I would have—" The captain's mouth remained open.

Striding along the sidewalk under the Martian sun, tall, smiling, eyes blue, face tan, came a young man of some twenty-six years.

"John!" the man cried, and broke into a run.

"What?" said Captain John Black. He swayed.

"John, you old beggar, you!"

The man ran up and gripped his hand and slapped him on the back.

"It's you," said John Black.

"Of course, who'd you *think* it was!"

"Edward!" The captain appealed now to Lustig and Hinkston, holding the stranger's hand. "This is my brother Edward. Ed, meet my men, Lustig, Hinkston! My brother!"

They tugged at each other's hands and arms and then finally embraced. "Ed!" "John, you old bum, you!" "You're looking fine, Ed, but, Ed, what is this? You haven't changed over the years. You died, I remember, when you were twenty-six, and I was nineteen, oh God, so many years ago, and here you are, and, Lord, what goes on, what goes on?"

Edward Black gave him a brotherly knock on the chin. "Mom's waiting," he said.

"Mom?"

"And Dad, too."

"And Dad?" The captain almost fell to earth as if hit upon the chest with a mighty weapon. He walked stiffly and awkwardly, out of coordination. He stuttered and whispered and talked only one or two words at a time. "Mom alive? Dad? Where?"

"At the old house on Oak Knoll Avenue."

"The old house." The captain stared in delighted amazement. "Did you *hear* that, Lustig, Hinkston?"

"I know it's hard for you to believe."

"But alive. Real."

"Don't I *feel* real?" The strong arm, the firm grip, the white smile. The light, curling hair.

Hinkston was gone. He had seen his own house down the street and was running for it. Lustig was grinning. "Now you understand, sir, what happened to everybody on the ship. They couldn't help themselves."

"Yes. Yes," said the captain, eyes shut. "Yes." He put out his hand. "When I open my eyes, you'll be gone." He opened his eyes. "You're still here. God, Edward, you look fine!"

"Come along, lunch is waiting for you. I told Mom."

Lustig said, "Sir, I'll be with my grandfolks if you want me."

"What? Oh, fine, Lustig. Later, then."

Edward grabbed his arm and marched him. "You need support."

"I do. My knees, all funny. My stomach, loose. God."

"There's the house. Remember it?"

"Remember it? Hell! I bet I can beat you to the front porch!"

They ran. The wind roared over Captain John Black's ears. The earth roared under his feet. He saw the golden figure of Edward Black pull ahead of him in the amazing dream of reality. He saw the house rush forward, the door open, the screen swing back. "Beat you!" cried Edward, bounding up the steps. "I'm an old man," panted the captain, "and you're still young. But, then, you *always* beat me, I remember!"

In the doorway, Mom, pink and plump and bright. And behind her, pepper grey, Dad, with his pipe in his hand.

"Mom, Dad!"

He ran up the steps like a child, to meet them.

It was a fine long afternoon. They finished lunch and they sat in the living room and he told them all about his rocket and his being captain and they nodded and smiled upon him and Mother was just the same, and Dad bit the end off a cigar and lighted it in his old fashion. Mom

brought in some iced tea in the middle of the afternoon. Then, there was a big turkey dinner at night and time flowing on. When the drumsticks were sucked clean and lay brittle upon the plates, the captain leaned back in his chair and exhaled his deep contentment. Dad poured him a small glass of dry sherry. It was seven-thirty in the evening. Night was in all the trees and coloring the sky, and the lamps were halos of dim light in the gentle house. From all the other houses down the streets came sounds of music, pianos playing, laughter.

Mom put a record on the victrola and she and Captain John Black had a dance. She was wearing the same perfume he remembered from the summer when she and Dad had been killed in the train accident. She was very real in his arms as they danced lightly to the music.

"I'll wake in the morning," said the captain. "And I'll be in my rocket in space, and all this will be gone."

"No, no, don't think that," she cried, softly, pleadingly. "We're here. Don't question. God is good to us. Let's be happy."

The record ended with a circular hissing.

"You're tired, son," said Dad. He waved his pipe. "You and Ed go on upstairs. Your old bedroom is waiting for you."

"The old one?"

"The brass bed and all," laughed Edward.

"But I should report my men in."

"Why?" Mother was logical.

"Why? Well, I don't know. No reason, I guess. No, none at all. What's the difference?" He shook his head. "I'm not being very logical these days."

"Good night, son." She kissed his cheek.

" 'Night, Mom."

"Sleep tight, son." Dad shook his hand.

"Same to you, Pop."

"It's good to have you home."

"It's good to *be* home."

He left the land of cigar smoke and perfume and books and gentle light and ascended the stairs, talking, talking with Edward. Edward pushed a door open and there was the yellow brass bed and the old semaphore banners from college days and a very musty raccoon coat which he petted with strange, muted affection. "It's too much," he said faintly. "Like being in a thunder shower without an umbrella. I'm soaked to the skin with emotion. I'm numb. I'm tired."

"A night's sleep between cool clean sheets for you, my bucko." Edward slapped wide the snowy linens and flounced the pillows. Then

he put up a window and let the night blooming jasmine float in. There was moonlight and the sound of distant dancing and whispering.

"So this is Mars," said the captain undressing.

"So this is Mars." Edward undressed in idle, leisurely moves, drawing his shirt off over his head, revealing golden shoulders and the good muscular neck.

The lights were out, they were into bed, side by side, as in the days, how many decades ago? The captain lolled and was nourished by the night wind pushing the lace curtains out upon the dark room air. Among the trees, upon a lawn, someone had cranked up a portable phonograph and now it was playing softly, "I'll be loving you, always, with a love that's true, always."

The thought of Anna came to his mind. "Is Anna here?"

His brother, lying straight out in the moonlight from the window, waited and then said, "Yes. She's out of town. But she'll be here in the morning."

The captain shut his eyes. "I want to see Anna very much."

The room was square and quiet except for their breathing. "Good night, Ed."

A pause. "Good night, John."

He lay peacefully, letting his thoughts float. For the first time the stress of the day was moved aside, all of the excitement was calmed. He could think logically now. It had all been emotion. The bands playing, the sight of familiar faces, the sick pounding of your heart. But—now . . .

How? He thought. How was all this made? And why? For what purpose? Out of the goodness of some kind God? Was God, then, really that fine and thoughtful of his children? How and why and what for?

He thought of the various theories advanced in the first heat of the afternoon by Hinkston and Lustig. He let all kinds of new theories drop in lazy pebbles down through his mind, as through a dark water, now, turning, throwing out dull flashes of white light. Mars. Earth. Mom. Dad. Edward. Mars. Martians.

Who had lived here a thousand years ago on Mars? Martians? Or had this always been like this? Martians. He repeated the word quietly, inwardly.

He laughed out loud, almost. He had the most ridiculous theory, all of a sudden. It gave him a kind of chilled feeling. It was really nothing to think of, of course. Highly improbable. Silly. Forget it. Ridiculous.

But, he thought, just suppose. Just *suppose* now, that there were Martians living on Mars and they saw our ship coming and saw us inside

our ship and hated us. Suppose, now, just for the hell of it, that they wanted to destroy us, as invaders, as unwanted ones, and they wanted to do it in a very clever way, so that we would be taken off guard. Well, what would the best weapon be that a Martian could use against Earthmen with atom weapons?

The answer was interesting. Telepathy, hypnosis, memory and imagination.

Suppose all these houses weren't real at all, this bed not real, but only figments of my own imagination, given substance by telepathy and hypnosis by the Martians.

Suppose these houses are really some other shape, a Martian shape, but, by playing on my desires and wants, these Martians have made this seem like my old home town, my old house, to lull me out of my suspicions? What better way to fool a man, by his own emotions.

And suppose those two people in the next room, asleep, are not my mother and father at all. But two Martians, incredibly brilliant, with the ability to keep me under this dreaming hypnosis all of the time?

And that brass band, today? What a clever plan it would be. First, fool Lustig, then fool Hinkston, then gather a crowd around the rocket ship and wave. And all the men in the ship, seeing mothers, aunts, uncles, sweethearts dead ten, twenty years ago, naturally, disregarding orders, would rush out and abandon the ship. What more natural? What more unsuspecting? What more simple? A man doesn't ask too many questions when his mother is suddenly brought back to life; he's much too happy. And the brass band played and everybody was taken off to private homes. And here we all are, tonight, in various houses, in various beds, with no weapons to protect us, and the rocket lies in the moonlight, empty. And wouldn't it be horrible and terrifying to discover that all of this was part of some great clever plan by the Martians to divide and conquer us, and kill us. Some time during the night, perhaps, my brother here on this bed, will change form, melt, shift, and become a one-eyed, green and yellow-toothed Martian. It would be very simple for him just to turn over in bed and put a knife into my heart. And in all those other houses down the street a dozen other brothers or fathers suddenly melting away and taking out knives and doing things to the unsuspecting, sleeping men of Earth.

His hands were shaking under the covers. His body was cold. Suddenly it was not a theory. Suddenly he was very afraid. He lifted himself in bed and listened. The night was very quiet. The music had stopped. The wind had died. His brother (?) lay sleeping beside him.

Very carefully he lifted the sheets, rolled them back. He slipped from bed and was walking softly across the room when his brother's voice said, "Where are you going?"

"What?"

His brother's voice was quite cold. "I said, where do you think you're going?"

"For a drink of water."

"But you're not thirsty."

"Yes, yes, I am."

"No, you're not."

Captain John Black broke and ran across the room. He screamed. He screamed twice.

He never reached the door.

In the morning, the brass band played a mournful dirge. From every house in the street came little solemn processions bearing long boxes and along the sun-filled street, weeping and changing, came the grandmas and grandfathers and mothers and sisters and brothers, walking to the churchyard, where there were open holes dug freshly and new tombstones installed. Seventeen holes in all, and seventeen tombstones. Three of the tombstones said, CAPTAIN JOHN BLACK, ALBERT LUSTIG, and SAMUEL HINKSTON.

The mayor made a little sad speech, his face sometimes looking like the mayor, sometimes looking like something else.

Mother and Father Black were there, with Brother Edward, and they cried, their faces melting now from a familiar face into something else.

Grandpa and Grandma Lustig were there, weeping, their faces also shifting like wax, shivering as a thing does in waves of heat on a summer day.

The coffins were lowered. Somebody murmured about "the unexpected and sudden deaths of seventeen fine men during the night—"

Earth was shoveled in on the coffin tops.

After the funeral the brass band slammed and banged back into town and the crowd stood around and waved and shouted as the rocket was torn to pieces and strewn about and blown up.