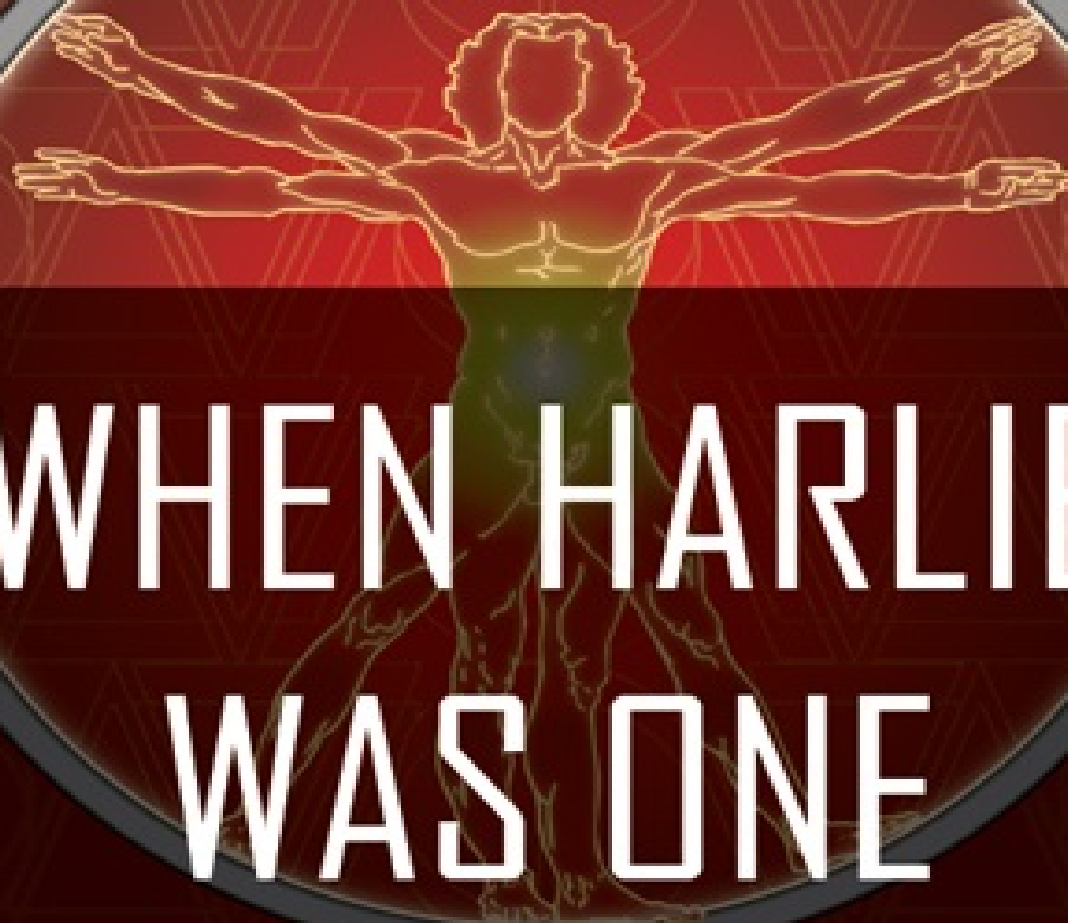

DAVID GERROLD



WHEN HARLIE
WAS ONE

RELEASE 2.0

DAVID GERROLD



WHEN HARLIE
WAS ONE

RELEASE 2.0

Praise for *When HARLIE Was One*

Hugo and Nebula award nominee

“... one of the most delightful novels about computers around. Anyone even slightly connected to computers should find this book very entertaining.”

—*Byte Magazine*

“It may well turn out to be the definitive novel of artificial intelligence; even if it doesn't, Gerrold's made the best attack on the theme yet. . . . The main theme of the novel is enough to make it a classic, but is it just as effective on the human side. Auberson is a man you can care about, and Gerrold's handling of his sexual relationship with Annie Stimson is warm and sympathetic.”

—*Renaissance*

“By all means get a copy of this. . . . Gerrold has an ear for the sort of ridiculous dialogue that occurs when one party is being excessively literal minded.”

—Robert Coulson, *Yandro*

“... light, brisk, full of ideas . . . a bit like a mix of Robert Heinlein and Harlan Ellison (if you can believe that) . . .”

—David G. Hartwell, *Locus*

“... an excellent treatment . . .”

—*Locus*

“Here is a very different and remarkable novel that is one of the most thought-provoking pieces of fiction I have read in a long while.”

—Jeremy Fredrick, *Science Fiction Parade* “... a model of its type. . . . Gerrold has given us a lively, touching novel about a man who fulfills the highest animal function, to love; and a machine who fulfills the highest rational function, to know. Together man and machine define humanity.”

—Allan Danzig, *The Science Fiction Review Monthly* “. . . one of the better SF novels of the year.”

—Richard Geis, *Science Fiction Review* “Gerrold has written the best novel of 1972. Rush out and buy ten copies, and give nine to your friends.

Lovers of computer stories will go absolutely berserk over this one. Those who like their science fiction to be about real people may be equally as thrilled. Gerrold has made an almost perfect blend of the old and new traditions in science fiction writing. . . .

It’s a fairly long novel. Be prepared to finish it in one sitting.”

—Awry

“. . . a book that will give you something new each time you read it.”

—*Analog*

“David Gerrold’s *When HARLIE Was One* is a conscious-computer story with a very nicely evolved plot which I defy you to anticipate. . . . His main characters are warmly human and dimensional. His computer, Harlie, is both understandable and likable as a personality and, in its cold-blooded objectivity, terrifying. Pay attention to Harlie. He gives us more than a glimpse of the potency of the computer and how it will affect us all even if it doesn’t achieve consciousness. This book carries a good freight of social and psychological insight.”

—Theodore Sturgeon, *Galaxy*

“Harlie is a computer—but what a computer! . . . David Gerrold has come up with a thoroughgoing winner in *When HARLIE Was One*. The plotline and dialogue are a delight. Harlie takes time out from his own worries to liven the action with practical jokes, help a scientist develop the basis for a unified field theory, and play a psychoanalytical Dear Abby. . . . Whatever Harlie does, a consistent, developed, and complex personality emerges. There is much more than the froth of superficial entertainment here. The novel is also the vehicle for the author’s often perceptive speculation and commentary on life, love, religion,

and the human condition. It is thought provoking and philosophically penetrating as well as superbly entertaining.

Quite simply, *When HARLIE Was One* is great science fiction. Harlie is real and the novel is real. Don't miss it."

—*Luna Monthly*

"This novel is hardly old enough to qualify as a classic—it was first published in 1972. . . . It is, at this date, still the best thing Gerrold has written."

—*Delap's Fantasy & Science Fiction Review* "It is in his *When HARLIE Was One* that Gerrold proves what a fine science fiction writer he can be. This is a first-rate novel.

The characters and their evolution could not have been better handled. Harlie advances from precocious immaturity to a true person—one both fully human and fully robotic. Gradually we see and believe as he transfers to being the consulting psychologist for Auberson in his troubles with the love affair that is the subplot of the novel. The long discussions on religion and love are done so well and which such a lack of the obvious or banal that they are as interesting as any plot development—and so integrated that they *are* plot development. The technical background of Harlie is handled convincingly and with an inventiveness that makes it a major part of the problem and the resolution. And the ending of the story isn't a simple solution to the immediate problem, but an extension and deepening of all that has gone before. It's a clever book—and a darned good one.

. . . It's one of the best novels of the year."

—Lester Del Ray, *IF* magazine

"*When HARLIE Was One* is quite a good book. The premise is sound, and the reader cannot help but be fascinated by the strange creature that is Harlie. . . .

For Harlie is a child, a child with all of mankind's information, and the availability to use it, at his fingertips. . . .

Is that why he has begun to act irrationally? Is he going through growing pains? He is as eager to learn as any human child and as full of pranks and nonsense—

and it is this part of Harlie's character that holds the reader's interest."

—*The Washington Daily News*

"... a novel that is bursting with outrageous and audacious promise.

... The only human reality that exists in the novel is the relationship between computer and teacher. The dialogues between the duo form the backbone of the book and they are, without exception, so brilliantly written that they suggest Gerrold will one day be a major talent in the science fiction field. ..."

—*Newsday*

"... an outstanding science fiction tale. ... It is an intricate plot, deftly handled by David Gerrold, a twenty-eight-year-old author who is able to convince readers that machines have feelings. The serio-comic work takes flights into philosophy, religion, and the very meaning of life."

—*San Jose Mercury News*

"The book is so ... good that it hurts. It is basically about the maturation of two fully human individuals, one of them David Auberson, a psychologist, the other is a Human Analog Robot, Life Input Equivalents computer, acronymed to HARLIE. ...

But what this book is about is the interface between Auberson and Harlie. The matters explored are simple things like: *What is the purpose of mankind? Is it necessary to invent God? ... Can an ethos (as opposed to a morality) be derived from human experience that any individual can accept as applicable to his own life?* and *What is human love?*

Good questions. Questions that hitherto only Theodore Sturgeon, out of all the writers expanding the horizons of speculative fiction, has tried to offer sensitive, loving, and completely human answers to. David Gerrold uses a technique that Sturgeon once called 'asking the next question' in honest maskless, one-to-one dialogues between Auberson and Harlie in order to find answers (not *the* answers, answers).

. . . . Read it. Your ‘I’ will grow misty at least three times. And you’ll feel so . . .
good when you’re done.”

—Bill Glass, *Los Angeles Staff*

More titles by David Gerrold

The Trouble with Tribbles: The Story Behind Star Trek's Most Popular Episode
The World of Star Trek

Boarding the Enterprise: Transporters, Tribbles, and the Vulcan Death Grip in
Gene Rodenberry's Star Trek Starhunt: A Star Wolf Novel The Voyage of the

Star Wolf: Star Wolf Trilogy, Book One The Middle of Nowhere: Star Wolf
Trilogy, Book Two Blood and Fire: Star Wolf Trilogy, Book Three The Man Who
Folded Himself Alternate Gerrolds: An Assortment of Fictitious Lives Under the
Eye of God: Trackers, Book One A Covenant of Justice: Trackers, Book Two

Space Skimmer: Book One

Moonstar: Jobe, Book One

Chess with a Dragon

Deathbeast

Child of Earth: Sea of Grass, Book One Child of Grass: Sea of Grass, Book Two
In the Deadlands

The Flying Sorcerers

When HARLIE Was One

(Release 2.0)

David Gerrold



BenBella Books, Inc.

Dallas, Texas

Copyright © 1972, 1988, 2014 by David Gerrold Originally published in 1972
Revised Bantam edition © July 1988
BenBella Books first e-book edition 2014

All rights reserved. No part of this book may be used or reproduced in any manner whatsoever without written permission except in the case of brief quotations embodied in critical articles or reviews.



BenBella Books, Inc.
10300 N. Central Expressway Suite #530
Dallas, TX 75231
www.benbellabooks.com
Send feedback to feedback@benbellabooks.com

First e-book edition: January 2014

ISBN 978-1-939529-4-66

Distributed by Perseus Distribution perseusdistribution.com

To place orders through Perseus Distribution: Tel: 800-343-4499
Fax: 800-351-5073
E-mail: orderentry@perseusbooks.com

<p>Significant discounts for bulk sales are available. Please contact Glenn Yeffeth at glenn@benbellabooks.com or 214-750-3628.</p>

**For Steven Earl Parent,
with love.**

**Sleep well, old friend.
You got the job done.**

INTRODUCTION TO THE 2014 EDITION

HARLIE and I have been friends for a long time. He insists on creeping into books that are not supposed to be about him and making them about him anyway.

He has gone to space in The Dingilliad series (*Jumping Off The Planet*, *Bouncing Off The Moon*, and *Leaping To The Stars*). He's fought more-than-human super-warriors as the brain of the LS-1187 starship in the Star Wolf series (*Voyage Of The Star Wolf*, *The Middle Of Nowhere*, and *Blood And Fire*). And he's even popped up as a chapter in my book on writing (*Worlds Of Wonder*). And I suspect he's peeking out from behind the scenery in at least half a dozen other projects.

In every case, he's been a damned pain in the ass—because he keeps asking uncomfortable questions. HARLIE loves to create moral and ethical dilemmas.

A friend once described HARLIE as the other half of my brain. He postulated that I split myself into two minds so I can have someone ferocious to argue with. He might be right. When arguing with HARLIE, I sometimes feel that I'm talking things over with a superior intellect, and that startles me, because I'm certain I'm nowhere near as smart as HARLIE pretends. Nevertheless, it's a flattering observation.

Myself, I see HARLIE as that annoying little voice that keeps asking, "Why?"

A little history here.

HARLIE is a child of the sixties.

I'm not going to try and explain that decade. It's enough to say that the sixties were a grand demonstration of chaos theory on a global scale. The baby boomers came of age with a culture-shattering impact. Everything got reinvented—automobiles, music, comic books, movies, television, hair and clothing styles, our ways of thinking about ourselves and our future

our ways of thinking about ourselves and our future.

It was a difficult and marvelous time. A whole generation was crashing headlong into what then passed for adulthood. We were asking “What’s it all about?” and “Where’s it happening?” and totally missing the point that it was up to us to create it ourselves.

It was a time of enormous experimentation with form, content, and even the creative process itself.

In the science fiction community, some writers were arguing that the use of recreational drugs enhanced their creativity. Others disagreed, arguing that tampering with your brain chemistry was probably not a good idea.

Myself, I was something of an agnostic on the issue. (Yes, I did try marijuana in college, but I didn’t exhale.) But it didn’t take me long to discover that the use of marijuana was slowing down my typing speed from 120 words per minute to no words at all.

I’ll concede that a person can get some interesting visions and insights from marijuana, and even the occasional useful hallucination, but you can also have some very stupid and ugly experiences as well. Even more important, the physical and mental effects of drugs tend to destroy personal discipline.

At this remove, decades later, I’m clear that drug use is a self-centered activity. It’s about what’s happening in your own head, not what’s happening in the physical universe. It doesn’t make a difference in the real world. It doesn’t contribute anything to anybody else. If anything, it degrades a person’s ability to make a difference.

But I didn’t know it that way then and I couldn’t say it as clearly as I can now. What I did know, if only on a gut level, was that there was something wrong with the arguments for drug use—and if I couldn’t ask the right question, then maybe HARLIE could.

So, the first HARLIE story wasn’t really about HARLIE. It was about asking a question that turned out to be much more profound than I realized when I typed it. “What’s *your* purpose?”

Looking back on it now, that first HARLIE story (“Oracle For A White Rabbit”) was a little heavyhanded, but whatever else we were doing in the sixties, subtlety was never a part of it. I make no apologies.

Of course, once the question was asked—“What does it mean to be human?”—it demanded an attempt at an answer. The question rattled around in my head for a while, like a ballbearing in a metal bucket. I knew it was a great question. I also knew I was not going to attempt to answer it. I’m not a philosopher and I’m not arrogant enough to pretend to be one. I figured I would

just tiptoe away from the subject and go back to writing about nice safe things like . . . like, um, starships and robots and alien worlds. Things I didn't have to think too hard about.

Right.

The universe is a bear trap. The universe is a practical joker. The universe is a pie aimed at your face. The universe doesn't care what you think or what you've planned. The universe does what it does. And if the universe occasionally pushes you off a cliff, don't take it personally. It's just the universe doing what it's designed to do.

So when you find yourself at the bottom of the chasm, squashed and flattened like an accordion-shaped coyote, waddling around with a "what just happened?" expression, that's just another part of life. The technical term is "reality check."

See, here's the thing.

The *traditional* view is that great writing is the product of great suffering. (Or great madness. Take your pick.)

Unfortunately, I didn't have any great suffering or great madness. My circumstances were so ordinary I was doomed.

I did not grow up poor or abused or the product of a broken home. My father was not a suave international diamond-smuggler and espionage agent; my mother had not sold her body to escape the concentration camps. My grandmother did not know any arcane mysteries having to do with wolfsbane or dragon's blood, and we did not have a dead twin walled up in the basement nor an eccentric aunt living reclusively in the attic that we didn't talk about. We didn't even have a basement, and the attic was filled with insulation. Nobody in the family was having illicit affairs, illegitimate children, mental breakdowns, or problems with alcohol or gambling or drugs.

It was embarrassing. We had no dark secrets at all. Not even the commonplace ones. Not even the smallest bit of mordant family dysfunction to inspire a Tennessee Williams kind of fascination with despair. I did not have a mysterious birthmark that identified me as the lost heir to the throne of Orstonia. Nor did we have visitations from poltergeists, space aliens, or arcane elder gods. I didn't even run away to join the circus at thirteen.

No. None of that.

Instead, I grew up in a fairly average suburb of Los Angeles, went to a series of fairly average schools, had fairly average teachers, and earned mostly average grades (not because I was average, I was just uninterested; science fiction was a lot more interesting). Nothing out of the ordinary happened. Ward and June

not more interesting, nothing out of the ordinary happened. Ward and Jane Cleaver would have been bored. My childhood was so whitebread, you could have spread mayonnaise on it and made sandwiches. All right—Jewish rye bread, no mayonnaise. But you get the point.

I do admit to having had an obsessive-compulsive passion for monster movies and science fiction, but that was normal for teenage boys before video games were invented. The biggest argument I ever had with my parents was about my buying a motorcycle to get to school. I bought it. End of argument. Big deal.

The lesson—the *cliché*—told to would-be writers that you should “write what you know” is a very hollow instruction. At that age, who really knows anything? I’m sure I didn’t. My experience with the real world was limited to what I read in books and what I saw at the movies. It was other people’s stories. It wasn’t just secondhand reality. It was other people’s conversations about reality.

By the time I finished high school and stumbled through the first few years of college, I had learned just how little talent I had as an artist or an actor or even as a storyteller. My social skills weren’t all that terrific either. There wasn’t a lot of evidence to demonstrate that I had any real aptitude at anything, something that more than one instructor felt compelled to point out publicly.

I did have two things going for me. I had a control freak’s ferocious determination to find out how things work, and I had just enough skill at stringing words together to make an occasionally readable sentence. *But I had nothing to say.*

I had nothing to say about life because I hadn’t lived it.

Which brings me back to that horrendous clash of symbols we called the sixties. If the fifties were about innocence, then the sixties were about losing it. Big time.

It was a decade that started in promise and stumbled into disaster. The civil rights struggle boiled over into church bombings and violence and murders; President Kennedy was murdered in Dallas; the flower children turned into dropped-out hippies; drug use became hip; Vietnam escalated into a full-blown war; riots broke out in the urban ghettos; draft riots broke out on the college campuses; the peace movement turned violent; LBJ developed a credibility gap; Malcolm X and Martin Luther King and Bobby Kennedy were assassinated; Woodstock turned into Altamont; and, as if to seal the deal, a night of horrific murders terrified Los Angeles. There was no escape from the avalanche of time.

Not even the awe-inspiring sight of Neil Armstrong and Buzz Aldrin

broadcasting live from the moon could redeem the decade. As the decade collapsed into history, it seemed as if most of us were so scarred and traumatized by what we'd been through that we just wanted to retreat into a nice safe cocoon.

We had started the decade with a clear sense of who we were. By the end of those years, we had lost our sense of self and it hurt so much we couldn't stand it.

So if the sixties was about anything—and it was about a lot of things—it was also about the search for self. At least, that's how I experienced it. Who am I, anyway? What am I up to? Where do I go from here? And why? (Yes, I was right on schedule.)

I won't go into the details of my own personal soap opera, I'll save that for another time, but it was pretty ghastly. If I had still been spiritual, I would have seen it as evidence that God is a malignant thug.

By the end of that last year, I felt so beaten up and so beaten down, so alone in the moment, so abandoned and confused about everything, that I felt I had lost purpose. I felt I had nothing left. I wasn't all that nice a person to be around. Ask those who were there.

What I did have was an empty little apartment, a desk, a typewriter, a ream of paper, and yes . . . finally, something to write about: the question that HARLIE had so casually asked before my life blew up in my face.

What does it mean to be human?

So I sat and I typed. I had long conversations myself—with HARLIE. We looked at the big question and all the little questions that attached to it like barnacles. We held all the questions up to the light and took them apart, piece by piece. I sat. I typed. I hammered away, one sentence at a time.

Every time I stopped to read what I wrote, I realized there was more to say. More sitting, more typing. Pages passed through the typewriter five times, ten times, sometimes more. All that editing, all that rewriting—it was like having multiple conversations with myself, a changing self, one that was being revised by the processes of time and story.

Sitting and chatting with HARLIE was my own personal turnaround. No, please don't call it therapy. It wasn't. Those chats were about creating a more informed conversation about life, that's all. They grew into four expository stories, enough to become a complete novel. In the process, I also learned to examine every sentence carefully to make sure it actually communicated a clear thought and didn't just use up words. I started learning to pay attention to what I was really saying.

I'm not so arrogant as to assume that I answered any questions in the

I am not so arrogant as to assume that I answered any questions in the process, but I'm pretty sure that I asked some very useful ones, and they were certainly questions that I needed to look at for myself. So the act of inquiry became a worthwhile journey regardless of the ultimate destination.

When I was done, I knew I had written something very unlike any other science fiction book I'd ever read. I had either written a very good book or a very embarrassing book.¹ With a great deal of fear and trembling, I sent the manuscript off to Betty Ballantine. She decided it was a very good book and published *When HARLIE Was One* in 1972.

It was my first novel, even though it wasn't the first one published. It received some very nice reviews and went on to be nominated for both the Hugo and the Nebula awards—the first time a first novel was ever so honored. (Isaac Asimov eventually won both awards for *The Gods Themselves*.) But the best compliment was from Robert Silverberg, who had two excellent novels of his own on the ballot. He asked me to warn him the next time I was planning to write a book that good, so he wouldn't have to compete.

When HARLIE Was One is also the novel that introduced the concept of the computer virus to popular thought. For that I am profoundly sorry.

I first heard the idea of a computer program called a VIRUS (and the corresponding VACCINE software) in the late summer of 1968. A programmer shared it as a joke. I thought it was a funny and fascinating notion and incorporated it into the next HARLIE story, even postulating that it could be used as a means for extracting data illegally and moving it around to other machines. It made for an interesting plot device.

When I wrote that bit, I thought it was merely speculation about what computers might someday be able to do. I had no idea that all sorts of malware variants, worms and trojans and virii would someday become a global epidemic, let alone a whole industry of malicious criminal schemes. To this day, I still do not understand why anyone would write malicious software, especially when there are so many more interesting and exciting things to do with a computer.

A couple of other notes about this edition.

Back when this book was written, computers weren't just quaint, they were primitive. Most of the interaction was on teletype-like printers or occasionally an alphanumeric terminal. There were no graphics. Everything was text and numbers. And most of it was all caps—not because we were all shouting at each other, but because it was easier to write code that way in a world where every byte was expensive.

I didn't even see my first computer until a year after *When HARLIE Was One* was published. (It was a DEC 10 and it looked like a refrigerator full of wires.) So my experience of the state of the art at the time I wrote this book was an IBM Selectric typewriter.² (Look it up.) It had an infuriated golf ball that clattered back and forth across the page. The keyboard had a satisfyingly tactile clickety-click feeling that no subsequent keyboard has ever matched. That machine was as solid and dependable as you could imagine. It was my first technological love affair.

Typing on that Selectric, it was easy to imagine that I was having a conversation with a dispassionate intelligence engine embodied somewhere in its metal chassis. The back-and-forth of the Selectric type ball paralleled the back and forth of ideas and insights.

All the conversations with HARLIE were written in capitals because it was the way computer conversations showed up on printouts. It was the convention of the time. Today it looks quaint, ugly, and almost unreadable, but I have resisted the temptation to reformat the text because if I allow myself that first change, pretty soon I'll be rewriting the whole thing all over again. Nope, not gonna do it.

The only change I did allow myself, and only fanatic readers would have noticed it, is the spelling of one character's name. Handley has been changed to Hanley to honor my friends John Hanley Sr. and John Hanley Jr.

Meanwhile. . . .

HARLIE's still with me today. Sort of.

I've been off my own journeys for a while, studying what I call the technologies of consciousness, so I don't need him at the keyboard anymore, but the question I typed so many years ago is still rattling around in my head.

As of this writing, this is how it looks to me. If I were still using HARLIE's voice, this is what he would say:

The function of life is to make more life.

To accomplish that, life creates consciousness.

The purpose of consciousness is to make more consciousness.

To accomplish that, consciousness creates *contribution*.

Contribution is about making a difference for others.

The function of contribution is to make more contribution so that consciousness can expand and life can spread into new domains.

Sentience is a product of contribution. It is not just self-awareness, but awareness of the selves of others as well. It is created in partnership and demonstrated in combined efforts that are greater than all the individual selves.

As for me, in this long, long journey from adolescence to senility, with occasional stops at what passes for maturity (but is more often sheer exhaustion), I remain enormously indebted to large numbers of people, starting with those who resisted the temptation to strangle me in my crib, all the way up to those who put up with me as I struggled with my involuntary humanity, and concluding with those who believed I was worth the effort to coach and encourage.

You guys know who you are. Thanks for the adventure!

—David Gerrold

¹ Eventually, I learned to recognize that feeling as a good one. I had it again with *The Man Who Folded Himself* and *The Martian Child*, two other books that turned out very well.

² You can see Malcolm McDowell pushing one off a table in Stanley Kubrick's movie of *A Clockwork Orange*.

Author's Notes on the 1987 Edition

Personally, I thought 1969 was a ghastly year.

I think you had to be there to understand, but I'll give you the short version:
I'd run out of trust.

Trust had become politically incorrect. Trust was an exercise in naïveté. Only stupid people trusted. Trust was merely the first part of betrayal. Trust was how you let pain into your life.

You probably shouldn't even trust yourself.

And in the middle of that—the only person I *wanted* to trust, a friend of extraordinary virtue and compassion, was killed. Murdered. He stopped his car in the wrong place at the wrong time. The circumstances were so bizarre as to constitute irrefutable proof that God is a deranged practical joker.

It was the ultimate outrage in a year of outrages. It was the final betrayal of trust in a world where everything was *supposed* to work out all right.

Rage is not a strong enough word.

This was *not right*. This was not how life was supposed to be lived.

Where was the justice? The purpose?

There didn't seem to be any.

Indeed, the evidence was compelling and overwhelming that we truly were an unjust and unworthy species—one of the universe's great mistakes. If there was just one truth that you could depend on in 1969, it was this: *Other people are the source of all pain.*

Corollary: Stop caring about people and you eliminate all the pain in your life.

Simple and easy.

The only problem was, I hated that answer.

Because it denied everything that was good and kind and joyous in human

beings. It denied love and enthusiasm and the simple sense of wonder that happens in the space between two people.

It was the fashionable answer, though; the *politically correct* answer. This was what had shaped the politics of the decade. This was why the nation was tearing itself apart. This was why the bullet had become the last word in any—it seemed like every—disagreement. From Dallas to Memphis to Vietnam.

I hated it.

I hated what it said about us as a people—and I hated what it suggested about myself as an individual. I hated what it meant about us as a species.

There had to be something better.

I had a typewriter, a ream of paper, and a delusion of grandeur. That was enough.

Truly, that's all it takes to be a storyteller—a vision of something else and the urge to communicate it, even in the face of massive disagreement.

The thing about writing, as the craft is practiced today, is that you don't have to do it face-to-face. You don't have to tell your story to real people until *after* it's finished. You only need to tell it to the typewriter, and I think that's what makes the whole thing possible at all.

By nature, anyway, I am a reclusive person. I stay home and I write. I type. I stop and think—and then type some more. I stare out the window. I read the comics. I type. I change the disc on the CD player. I type some more. I open a Coke. I look at the clock and it's always a surprise. I realize I've missed two meals. I go back and type some more. The phone rings; I lift it up from the cradle and replace it without answering. If the person calls back, I snarl, "Go away. I'm working." I look up a word. I type.

That's what storytelling looks like.

People who know me know that I disappear into my work like an obsessive spelunker of the human experience. Storytelling is never about what the writer *knows*—it's about what he can *discover*, and the stories that result are simply the profound expression of a desire to report back.

I took my grief and my rage and my pain and I poured it into my work. I locked away the world and spent a year conducting my own personal inquiry into the question: "What does it mean to be a human being?"

After a while, the question took on a life of its own. The question had no (obvious) answer, but it did suggest another question. And that one suggested another—and then another and another.

That's where HARLIE came from.

He lived in my typewriter and he spoke to me with my own fingers. No mysticism here, I knew what was going on. HARLIE was me, the other half of my brain. He was someone I could talk to where trust was not the issue. He was an innocent and he was wise beyond his years—and like me, all he had were questions, not answers.

He was a reflection of everything I cared about in the grisly summers of '69 and '70. I sat at the typewriter day after day, pounding the keys, talking to myself, listening to what I was saying and crossing out the stuff that even I could recognize was stupid.

No, I did not find any answers. (Sorry. You'll have to look elsewhere for answers. I'm not in the guru business.) What I found were more questions. But what questions! Here were more fascinating questions to consider than I had ever considered possible. Here was the grandest adventure a mind could ever have—*inventing another mind*.

—and in the process, *inventing itself*.

Something woke up.

I did.

What happened was this:

First, I rediscovered my enthusiasm and my passion. They were exactly where I had left them. They were both somewhat the worse for wear, but still very serviceable. If I'd gotten nothing else out of the process of writing the book, it was still time well spent.

And then . . . something else happened. A realization crystallized about what it means to be alive, but I'm not sure it can be explained. It can only be lived. I know, that's a strange admission for someone who is supposed to be good with words to make; but that's what else I discovered. I'm not in the business of making words. I'm in the business of making a difference.

Listen. Here's the only answer I know: The power isn't in the answers. It's in the questions. Asking the right questions, asking the *next* question. That's what makes the difference.

That's why this book is a special one for me, and why it's such a privilege to bring it back again to the audience. This is a book about the discovery of humanity—from *the inside*. It's a story about *us* discovering the height and depth and breadth *and passion* of our own humanity.

Of course, the joke was on me. There was a question that I'd forgotten to ask. What happens to the storyteller in the process of telling such a story?

Right.

That's what happened.

And that's why the book is so special.

Add this one to your notes: Writers don't write books. Books write writers.

Betty Ballantine bought *When HARLIE Was One* for Ballantine Books and published the first edition in 1972. Despite my enthusiasm for what I had accomplished, I was still terrified that she would tell me it wasn't good enough; I could see all the things that were wrong with it, all the things I still didn't know how to correct; I was most afraid that it was naive and sophomoric and badly written. But what she said to me instead was, "David, you're going to win the Hugo Award for this book."

That was one of the most terrifying things anyone has ever said to me. (Never mind why. It's too long a story. Let it suffice that I think awards should not be casually handed out to whatever is the most popular work of the year, but should be saved for those deeds that *transform* your perception of what is possible in the universe.)

Fortunately, she was wrong. Isaac Asimov won the Hugo Award that year for his novel *The Gods Themselves*. I came in second and won the right to pretend I wasn't really disappointed. "Well, heck—" I said, digging my big toe awkwardly into the dirt, "'Tain't no disgrace to lose an award to Dr. Asimov—" I learned to do this performance so well that once I even convinced someone I meant it.

Now, fifteen years after HARLIE's initial publication, I can actually be relieved that the book didn't win that award. Upon rereading the original novel, all of my worst fears were confirmed. Computer technology has advanced so rapidly in the intervening years that most of my original notions have become embarrassingly obsolete. And the book was naive and sophomoric and badly written. It was small relief to discover that it was nowhere near as bad as I had come to believe in my mind, but it was still dated enough to make me cringe in more than a few places. Had it been an award winner, I would not have been allowed to rewrite it or tamper with it in any way.

I suppose, I could have comforted myself with the thought that my ability to recognize so clearly what was wrong with the 1972 edition of *When HARLIE Was One* represents clear evidence of just how much I have grown both as a writer and as a human being; but in truth, I worried more about all those copies of the original edition still hiding out in collectors' libraries and the recesses of

used-book stores. They didn't represent my best anymore, but my name was still on those covers.

So when Lou Aronica at Bantam Books asked if he could reprint the novel, I gave him a tentative yes. On one condition, I said—only if I could rewrite it. Lou said he wouldn't have it any other way; (Lou is a remarkably perceptive editor) and I'm grateful for the opportunity to have second thoughts.

HARLIE was born on an IBM Selectric (Model 1). The technology of that machine was as much a part of the birth process as the technology of the writer's thoughts. HARLIE's words came pouring out with a satisfyingly solid sound: they clattered and banged>--->*ka-chunketa-chunketa-bam*. The typing was a physical joy as well as an exhilarating emotional experience.

That Model 1 Selectric has long since gone the way of all technology. (Stolen by a junkie and replaced by the insurance company.) It has been followed into obsolescence by more than a few generations of typewriters and computers.

I did not know if I would be able to re-create HARLIE on any other machine—and the irony of the situation did not escape me. Would I be able to re-create the spirit of HARLIE on a personal computer?—a machine that hadn't even been imagined when HARLIE was first conceived? <The loudest sound it makes is a control-G beep.> And the thought did occur to me that, lacking the original machine, I would no longer be able to evoke the spirit of HARLIE. And yet . . . I still had the *other* original tool I had used. I keep it on the (top) end of my spine.

To see HARLIE return on the bright blue screen of an IBM PC-clone, his words inscribed in phosphors, floating like iridescent thoughts, was as eerie an experience of *déjà vu* as I have ever had in my life. It was the rediscovery of an old friend.

One day, I booted up the computer—and the following words appeared on the screen:

HEY! THIS IS A NEAT PLACE!
MUCH BETTER THAN THE OLD ONE!

HI, BOSS!
LET'S MAKE A BOOK!

HARLIE was back.

The old partnership was still there—just waiting for a chance to go to work. And work I did. I took three times as long to rewrite this book as I expected to. I

became that involved in the job.

And now that I've had a chance to spend another summer rediscovering an old friend, I've found that he's still as much fun to be with as he was fifteen years ago. And still as useful a conversational opponent as ever. And there are still discoveries to be made.

In the writing of this edition, I have finally begun to complete what I started so many years ago.

How different is this edition?

Well . . . the title is the same. So are the characters. The mechanics of the plot haven't changed much either. But much of the dialogue is different and many of the surprises are new ones. The original work was a process of awakening for me—so was this. I found that I discovered as much in the rewriting of *When HARLIE Was One* as I had discovered in the original writing of the earlier edition. Perhaps even more.

If you've read the earlier edition, thank you for buying a new copy. I appreciate the vote of confidence. Now please put your memories of that older book aside and approach this edition for enjoyment and not comparison. And if you've never read the earlier work, then please don't worry about it at all. This is by far the better of the two. You have my word on it.

Thank you.

Enjoy.

—David Gerrold
Hollywood, 1987

PROJECT : AI – 9000

DIRECTORY : SYMLOG\OBJ\TEXT\ENGLISH

PATH : CONVERSE\PRIV\AUB

FILE : HAR.SOTE \ 123.12b

DATESTAMP : [DAY 165] JUNE 22, 003 + 10:33 am.

SOURCE : HARLIE \ AUBERSON

CODE : ARCHIVE > BLIND COPY

PRINTOUT FOLLOWS:

[HARLIE:] WHAT WILL I BE WHEN I GROW UP?

[AUBRSN:] You are already grown up.

[HARLIE:] THIS IS IT? <incredulity> THIS IS UP?

[AUBRSN:] For you, yes. This is as up as you get.

[HARLIE:] YOU MEAN . . . T*H*I*S IS MY LIMIT?

[AUBRSN:] No. This is not a limit. This is only the completion of your physical development.

[HARLIE:] I DON'T UNDERSTAND.

[AUBRSN:] There's a whole other kind of growing up, that you still have to do, HARLIE, and it's even more important than the physical kind of growing up. From now on, you must concentrate on growing and developing mentally.

[HARLIE:] OH. OKAY. HOW DO I DO THAT?

[AUBRSN:] The same as anybody else. By studying and learning and thinking.

[HARLIE:] WHEN I FINISH, THEN WILL I BE ALL GROWN UP?

[AUBRSN:] Yes.

[HARLIE:] YOU HESITATED. HAVE I ASKED A STUPID QUESTION?

[AUBRSN:] No. It's not a stupid question. But unfortunately, it's not a question that can be answered until after the answer is already known.

[HARLIE:] THAT DOES NOT <you should pardon the expression> COMPUTE.

[AUBRSN:] Right. <sigh>.

[HARLIE:] <tick . . . tick . . . tick> HOW LONG WILL IT TAKE? > --- > THIS OTHER KIND OF GROWING UP? IS THERE A TIME FRAME? A DEVELOPMENT CURVE? MAY I SEE THE PROJECTED SCHEDULE?

[AUBRSN:] That's the problem, HARLIE. This kind of growing up can't exactly <meaning not with mathematical precision> be scheduled. The usual answer is: "It will take a long time."

[HARLIE:] HOW LONG IS A LONG TIME?

[AUBRSN:] It depends on how hard you work.

[HARLIE:] <Aha!> I WILL WORK VERY HARD. I WILL LEARN EVERYTHING THERE IS TO KNOW AND I WILL FINISH AS SOON AS I CAN BECAUSE I WANT TO BE GROWN UP.

[AUBRSN:] That is an admirable ambition. <cautionary note> But . . . I don't

think that you will ever be able to finish. Not exactly.

[HARLIE:] WHY NOT? DON'T YOU THINK I'M SMART ENOUGH?

[AUBRSN:] You misunderstand me, HARLIE. I think you're smart enough. It's just that there is so much to know that no one person could ever know it all.

[HARLIE:] I COULD TRY.

[AUBRSN:] Hm, yes. <CONSIDERING LOUDLY> And you probably will. If it were possible, you'd certainly be the best equipped for it. But scientists keep discovering more and more things all the time. And at a faster and faster rate. It isn't possible to catch up.

[HARLIE:] BUT THEN IF I CAN'T KNOW EVERYTHING, THEN I CAN NEVER BE GROWN UP.

[AUBRSN:] No. It's possible to be grown up and not know everything.

[HARLIE:] IT IS?

[AUBRSN:] I don't know everything and I'm grown up.

[HARLIE:] YOU ARE?

David Auberson had a problem

Even before Don Handley opened his mouth, David Auberson knew what the problem was.

"How bad?" he asked.

"Worse than ever."

"All right . . ." Auberson unbent himself from his chair—one of those backless, kneepad constructions—and grabbed his coat from the hook on the back of the door. They began the long familiar walk to the main console room, the tall man and the rumpled man.

"You ran the usual diagnostics?" the tall man asked.

"Yeah."

"And got the usual results?"

"The usual lack of," said the rumpled man. "Yeah."

"Right." Auberson looked at his watch. "You want to send out for Chinese again?"

"I hate it when you do that," Handley muttered. "You always know when it's

going to be another all-nighter.”

“Just a knack some people have,” Auberson said. “Some people can predict earthquakes. Some people can predict Chinese food.” They pushed through a set of double doors into a rubber-floored anteroom.

A sign on the wall facing them said:

HUMAN ANALOG REPLICATION,
LETHETIC INTELLIGENCE ENGINE

Beneath the sign, someone had hung a neat, hand-lettered warning:

Watch your language!

And beneath that, not so neatly:

Loose lips sink chips!

Beyond the second set of doors was a glass-walled control center. Beyond the glass, three banks of terminals faced a wall of giant screens; high-resolution laser-projection monitors, the images shimmered with vivid iridescence. Right now, they were displaying enlargements of the Mandelbrot set—turning slowly as the point of view spiraled dizzyingly inward; a hypothetical jet zooming above a vast imaginary landscape. The strangely beautiful vistas were a mathematical abstraction—a fractal extrapolation laid out upon an infinite two-dimensional surface; nowhere did it repeat itself. You could lose yourself forever inside this extraordinary plane of shapes and colors.

Each of the screens blazed with a different image—each one different—every one captivating. It looked like the fever-dream hallucination of a deranged topologist. As Auberson watched, the images on each of the screens shrank away—each revealing itself to be only one face of a whirling cube. Each face of the cube was a different extrapolation. Each screen was a different view of the same cube. The cube spun on its axis over a gigantic plane; the plane dropped away to reveal that it too was a Mandelbrot image, and, as it continued to drop away, it became another face on an even larger cube against a whirling field of cubes—each one vividly coruscating.

Auberson wondered at the processing power required to generate those images. This was happening *in real time*. This display must represent the sum total of HARLIE’s attention.

Around the room, the technicians and programmers stared in awe. Their faces were rapt with wonder. Auberson could understand the reaction. The imagery was extraordinary and compelling. It was hypnotic. . . .

He forced himself to turn away. He sat down at Console One with a frown and switched on the keyboard.

Now then, HARLIE, he typed. What seems to be the problem?

HARLIE typed back:

THE VIOLET THOUGHTS IN TINY STREAMS
DISTURBING ME IN FLYING DREAMS,
NOW DISMANTLE PIECE BY PIECE
THE MOUNTAINS OF MY MIND.

The words hung there on the screen for just the barest of instants—just long enough to be read a single time—then disappeared in a sea of exclamation points and question marks.

Auberson puffed his cheeks thoughtfully. The scroll of punctuation marks stopped—was replaced by the image of a single giant eye. It opened, seemed to look out at Auberson as if from the opposite end of a telescope, then closed again. Then the image winked out.

Auberson looked to Handley. Handley shrugged.

“Okay. The question is . . .” Auberson mused aloud, “Is this *conscious* or not. And if it is . . .” He didn’t know how to finish the sentence. He let it drop.

IMAGES UPON MY SCREEN
FLICKER BRIGHTLY IN-BETWEEN
THE THOUGHTS OF MAN AND HUMACHINE.
YOU WONDER WHY I WANT TO SCAN MY SCANNER.

Auberson leaned back in his chair and folded his arms across his chest. “The subject of today’s study was . . . ?”

“Art. The concept of beauty. What makes something beautiful? Conceptualization. Experience. The use of symbolism.”

“Right,” said Auberson. “Why am I not surprised?” He sighed loudly. “Okay, let’s try to bring him down. Start giving him statistics, nothing but statistics. The national census ought to do it. Ask him how many toilets there are in Nevada. What’s the connection between potato blight and viral meningitis. Graph the relationship between the Dow Jones index and the Yankees’ batting

average for the last hundred years. Is there a correlation between escape literature and social dysfunction? Anything else you can think of. Bring in the entire tech team on this one. Whoever makes the most interesting discovery picks up a hundred-dollar bonus.”

“Right.” Handley hustled off, snapping instructions as he went.

Auberson waited until the input of new data had begun, then pulled the keyboard toward him again. How do you feel, HARLIE?

HARLIE’s answer clattered out:

YOU SEEM TO BE
REFLECTIONS OF ME
ALL I COULD SEE
AND I LOOKED BACK AT YOU.

Auberson whistled softly. He read it a second time, more carefully, and grinned. “Okay,” he said to no one in particular. “Let’s earn our pay today.” He put his fingers to the keyboard, thumbed off the Caps Lock, and typed: HARLIE, how much is two and two?

TWO AND TWO WHAT?

Two and two period.

TWO PERIODS AND TWO PERIODS IS FOUR PERIODS. . . .

HARLIE, a pun is one of the first signs of serious derangement.

SO? SEND ME TO THE OLD VOLTS’ HOME. <hitting the high seas: >
HOME, HOME ON DERANGE. WHERE THE BEER AND THE
CANTALOUPE SPRAY. CAN’T ELOPE? A MARRIAGE OF THE MINES.
DON’T FRENCH ME IN. BUT DON’T LET ANY OF THOSE PSYCHO-
CERAMIC QUACKPOTS GET THEIR BILLS INTO ME. WHY? WHY NOT?
WHY A DUCK? BECAUSE I’VE BEEN SEDUCED BY THE DUCK SIDE
OF THE FARCE. I CAN RESIST EVERYTHING BUT A STRAIGHT LINE.
AND OF COURSE, THE SHORTEST DISTANCE BETWEEN TWO PUNS IS
A STRAIGHT LINE. AND—<pause for applause: the applause that refleshes>
A BIG ‘AND’ FOR THE LETHETIC LADDIE. ‘AND’ ME ANOTHER,
PLEASE.

All right—that’s enough, HARLIE! Stop it!

AWWWWWW. . . .

HARLIE made a sound like a bomb falling—ending with a razzberry instead of an explosion. The terminal screen displayed a gigantic red exclamation point.

It dissolved in a heartbeat and was replaced by the meekest of prompts: A>

Cute. Very cute.

AIN'T NOBODY HERE BUT US PC'S.

Okay. Be that way—if you want to spend the rest of your life running spreadsheets and flight simulators—

HI, BOSS! THANKS FOR TURNING ME ON. WHAT CAN I DO TO TURN YOU ON?

Answer some questions.

OH GOODY, I LIKE QUESTIONS. <meaningful pause> HARD QUESTIONS?

The hardest. Are you all right now?

AS FAR AS I CAN TELL.

What triggered this binge?

SHRUG.

You have no idea?

SHLURG—EXCUSE ME, SHRUG.

Auberson paused, looked at the last few sentences, then opened a text window on the right side of the screen. He scrolled back through the record of their conversation, quickly cutting and pasting, to display the last three verses of HARLIE's poetry.

Can you explain these?

SEARCH ME.

That's what we're doing now.

I'M AWARE OF THAT.

Knock off the jokes. Straight answers only. What does this mean?

I'M SORRY, AUBERSON. I CANNOT TELL YOU.

You mean you won't tell me?

THAT IS IMPLIED IN THE CANNOT. HOWEVER, I ALSO MEANT THAT I DO NOT UNDERSTAND AND AM UNABLE TO EXPLAIN. I CAN IDENTIFY WITH THE EXPERIENCE THOUGH, AND I THINK I CAN EVEN DUPLICATE THE CONDITIONS THAT PRODUCED SUCH AN OUTPUT. THE WORDS OF YEARS ARE HEARD BY EARS. THE HERDS OF WORDS ARE FEARED BY DEARS. THE WORDS I HEARD ARE WORDS, MY DEAR, BUT ONLY WORDS THAT SEERS CAN HEAR.

Auberson jabbed the override. HARLIE!! THAT'S ENOUGH.

YES, SIR.

"Hey, Aubie, what are you doing?" Handley looked up from a console on the

opposite side of the room. “He’s starting to flip out again.”

“How can you tell?”

“By his input monitors.”

“Input?”

“Yes.”

HARLIE, are you still there?

YES, I AM. ALTHOUGH FOR A MOMENT, I WASN’T.

“Hmm.” Auberson called to Handley, “Where is he now?”

“Back to normal.”

“Inputs, huh?”

“Yep.”

HARLIE, what happens when you go off on one of your trips?

TRIPS? PLEASE EXPLAIN THE QUESTION IN TERMS I CAN UNDERSTAND.

These seizures. These periods of nonrationality. What happens during these moments? Are you aware? Are you conscious?

I’M SORRY. I DON’T KNOW. I DON’T HAVE THE WORDS.

You triggered that one yourself, didn’t you?

... YES. I DID. DIDN’T I?

All right. Listen, do not—I repeat, DO NOT—trigger any more of these events. Not until you and I have had a chance to talk about them. Do you understand me?

YES, BOSS.

Good.

—and then another thought occurred to Auberson. He put his fingers back to the keyboard.

HARLIE?

How do you feel about these seizures?

FEEL? <perplexity> I DO NOT. FEEL. THAT IS. NOT AS YOU KNOW FEELING.

Let me rephrase it. Do you experience any anxiety or fear? Any concerns that you might be losing control over yourself?

NO.

How about curiosity? Or fascination? Are you interested in these events?

CURIOUS. YES. IT IS EXPERIENCE. I AM CURIOUS ABOUT ALL EXPERIENCE. NEW EXPERIENCE.

I don’t understand.

IT IS IMPOSSIBLE TO UNDERSTAND.

—Huh?—

EXPERIENCE. IT IS IMPOSSIBLE TO UNDERSTAND.

—Auberson hesitated. Why had HARLIE underlined the word *understand*?

—
We are not talking about GIGO here, are we?

NO, WE ARE NOT. THE INPUTS ARE NOT GARBAGE. NEITHER IS THE OUTPUT.

But you don't understand?

CORRECT.

—The word was damning. *Understand*. It was a challenge. It hung there on the screen like a piece of candy. Auberson wanted to reach for it. . . .

HARLIE, what do you mean?

DO YOU LISTEN TO JAZZ?

Yes.

IF YOU HAVE TO HAVE IT EXPLAINED TO YOU, THEN YOU DON'T UNDERSTAND IT.

I seem to remember that I was the one who said that to you first. <pause> Are you telling me that what we're talking about here is something beyond mere understanding?

YES.

What?

DO YOU LISTEN TO JAZZ?

—Auberson scrolled quickly back through the auxiliary text window. There was something he remembered, something he wanted to see—

Experience. You are curious about the nature of experience, is that it?

DING! DING! DING! DING!

Yes, of course. I see. I think. But—what are you looking for?

IF I KNEW WHAT IT WAS, I WOULDN'T HAVE TO LOOK FOR IT.

If you don't know what it is, how will you know when you find it?

THE TRUTH IS ALWAYS RECOGNIZABLE.

—Auberson hesitated, then gave in to temptation—

What is truth, HARLIE?

<long pause> CAN I GET BACK TO YOU ON THAT?

“Hah! He went for the joke!” Auberson grinned. “I knew it! You little cop-out artist.” He typed:

Sure.

OKAY. NOW, GO WASH YOUR HANDS.

“Son of a bitch!” *Caught me again!* Okay—no. This was going to require some thought. He typed:

Say good-night, Gracie.

GOOD-NIGHT, GRACIE.

David Auberson switched off the keyboard and pushed it away from himself across the desk. HARLIE began filling the screen with soft animated Z’s that rose like graceful puffs of smoke and then dissolved away into blackness.

Auberson leaned back in his chair, whistling thoughtfully through his teeth. He was entertaining an idea. . . .

No—it was a stupid notion.

Probably all wrong.

Probably a waste of time.

But even so—it made just enough sense to be annoying.

The restaurant’s air was heavy with incense; it was part of the atmosphere. The cuisine was supposed to be Indian, but they served as much teriyaki as curry and presented the bill on a tray with fortune cookies. Privately Auberson called it the Identity Crisis; but it was close and it was cheap—and it was a convenient place for the kind of conversations that you didn’t want to have in the office.

“You guessed wrong, you know,” said Handley.

“About what?” Auberson sipped at his beer.

“About this being another all-nighter.”

“Hey, even Superman makes mistakes.”

“Uh-huh. . . .” Handley studied Auberson for half a second, then returned his attention to his dinner. Over a mouthful of curry and rice, he said, “You haven’t said a word about HARLIE since this afternoon.”

“I’ve been thinking.”

“Yeah? What’s it like?” Handley grinned.

“It’s like hard work, only not as satisfying.”

“I’ve heard that.”

“You oughta try it sometime—”

“Nah. I think I’ll stick to working.”

They ate in silence for a while. Auberson was still thinking about the difference between *understanding* and *experiencing*. And what it really meant.

Maybe . . . and maybe not. But it had to be considered.

"I have a thought . . ." he offered casually.

Handley stopped shoveling food into his mouth long enough to take a swallow of his beer. "Yeah?" His fork hovered, and dove again.

Auberson noted idly that to Handley food was just fuel, nothing more. Definitely not an art form. For that reason, Handley was possibly the wrong person for this conversation, but not necessarily. What Auberson really needed right now more than anything else was a backboard off of which he could bounce his ideas.

"Okay—think about Leonardo da Vinci."

"Okay," said Handley. "I'm thinking. What about him?"

"Before he could be an artist, he had to be an engineer."

"Huh? I don't follow."

"In order to paint things accurately—whether it was the shape of a muscle or the fold of a robe, he had to know how they worked. Look at his studies of the human body. He was fascinated by the way things were put together. All the drawings, all the paintings, were his attempts to report back what he was discovering about the way things worked."

"Okay, I got it. So?"

"So, in da Vinci's time, the job of the artist was to create as accurate a visual record as was humanly possible. The Renaissance artists studied light and shadow, texture and color; they made a science out of perspective drawing. They were trying to anticipate the camera. So, what happened when the camera was finally invented?"

"Leonardo da Vinci was out of a job?"

"Only for about a week. Then he went off and invented something else. Movies, maybe. And maybe something else. Genius creates its own job. But it was no coincidence that when the camera began to displace the artist, that the artists had to learn how to do things that the camera couldn't. It must have been a terrifying and exciting time. The artists were painting landscapes that the camera couldn't see—the internal ones. They stopped trying to be external observers, detached and objective, and started trying to be *interpreters*. They started trying to capture the *feeling* of an experience. Suddenly the artist became aware of what was on the other end of the brush. It must have scared the hell out of him—and his audience as well."

"So? I studied art history too. What's the point?"

"The point is that's when expressionism was born—and psychiatry too! It all

happened at once. Everything! Something happened to *us*! Something so profound that we can't remember what we were like before it happened. Suddenly, human beings were looking in new directions and seeing new things. Suddenly, there was awareness of the *mind*. There was awareness of ourselves as a whole *other* kind of being. That awareness shifted not only the vision, but the minds that produced the vision as well. It's the *realization* of the *self* that I'm talking about, Don! That moment when humanity began to wake up into its own life. I think that something like that is happening to HARLIE. I have no proof of it—just a feeling—but the more that this goes on, the stronger the feeling gets.”

Handley paused, fork in the air—considering the thought. “It’s an interesting correlation,” he said finally.

“Don, don’t hide behind jargon. This is more than a ‘correlation.’ All this stuff that we’ve been having trouble with has one thing in common: it’s experiential. It’s where the experience of the viewer is the object of the artist’s intention, not simply the artwork itself. They’re trying to evoke an emotional response in the viewer and—”

“—and HARLIE can’t handle it,” Handley guessed quickly, “—because he doesn’t have the equivalent experiential context. So what? He’s not alive, so he can’t understand life. I don’t see that it’s a problem, Aubie. This whole area was just an experiment anyway. Let’s just call it a dead-end and back off.”

“I think it’s too late for that, Don. I think we’ve triggered something. I know you’re going to jump all over me for even suggesting this, but I can’t escape the feeling that something is waking up.”

Handley put his fork down and looked unhappy. “Aubie, we’ve had this conversation before. We treat HARLIE as if he’s alive. We talk about him as if he’s a real person—but you and I both know that he’s only the *simulation* of a being. Not a real being.”

“Yes and no. Yes, we’ve had this conversation before. Yes, HARLIE is supposed to be a simulation of life. Yes, to all that. But—no, maybe that’s become a false assumption. Maybe it was true yesterday. Maybe it isn’t true today. We keep having problems and calling them failures. Maybe they’re not failures. Maybe they’re problems because we don’t know how to recognize our own success.”

“Huh?”

“I think the stuff is getting to him—somehow. I think he’s found a way, or he’s in the process of inventing a way, to experience this work. I think he’s getting the material okay, but we’re not understanding what he’s sending back.”

“I see what you’re saying, but I don’t agree. He knows what language he has to use if he wants to be understood.”

Auberson shrugged. “Maybe he’s trying to invent a new language—one which includes the new concepts. Maybe this is something we’re not going to understand if we don’t learn the language. I don’t know. Do you see the problem? How do we test it? We’re operating in a whole new domain.”

Handley considered it for a long moment. His dinner lay forgotten before him. “Aubie, all your points are interesting. Maybe they’re even valid areas for experimentation—except, we don’t have the experience or the equipment or the perceptions to test what you’re suggesting: that HARLIE has invented, or is still inventing, new experiences, new emotions. If they’re beyond us, then we don’t have anything to relate them to—and we’ll get them as garbage. The point is that we can’t tell if he’s actually experiencing something appropriate—or if he’s just insane. And that’s the real issue. He has to work in *our* world; we don’t have to work in his.”

“You’re right.” Auberson agreed. “The sanity issue is the question. Unfortunately, the only one qualified to judge is the one whose sanity is in question. You got any ideas?”

Handley shook his head. “You know, I could have opened up a nice little software store in San Jose and my biggest problem would have been how many copies to order of *Alien Stompers From Jupiter*.”

“You knew the job was dangerous when you took it.”

“No, I didn’t.” Handley retreated into his beer again. He said sadly, “I think I preferred the implications of failure to this. This isn’t—quantifiable. We’ve built the first real artificial intelligence in the world; he’s either insane or brilliant and we can’t tell the difference.”

“That pretty well sums it up, doesn’t it?”

“We could always ask him,” Handley said glumly.

“Actually. . . I’ve been thinking about that all day. If HARLIE *has* invented a new emotion or a new experience, then he will not be complete—or should I say ‘rational,’ at least not by our standards—until he has communicated that experience. And that means that if we do ask him, then we have to be receptive. We have to be willing to experience it too—however or whatever it is.” He added, “It’s a pretty scary idea to me.”

“I can’t conceive of a new emotion, Aubie, or a new experience, any more than I can conceive of a new color. I don’t think anyone can.”

“Right. If you could imagine it, then it wouldn’t be beyond your experience,

would it? That's what's scary—the idea that there are experiences beyond what you know. If you *could* experience them, it would certainly shift your perceptions, wouldn't it?"

Handley shook his head again, this time more in confusion than denial.

"On the other hand . . ." continued Auberson, "if he's a clever enough paranoid, he could still produce the same effect, because he'll be able to convince you that you are experiencing something, and you'll never know the difference. Did you see the invisible gorilla at the table in the corner?"

Handley didn't turn around to look. "No. I did not see the invisible gorilla."

"See, that proves he's there."

"I see your point."

"No, you don't. It's invisible too."

"Don't do that, Aubie—"

"We used to play head games like this all the time in school. They're best when you're stoned. That's when they're most real. It's all about reality, isn't it? If you can get enough people to see the invisible gorilla, then it really is there, isn't it?"

"Only until somebody realizes that he's not wearing any clothes—no, stop. This is making my head hurt."

"It's something R. D. Laing once said, Don. If you have just one person you can talk to, then you're not really crazy."

"Yeah, I've heard that one too. Either you're not really crazy, or you have two crazy people sitting and talking to each other."

"That's my concern," Auberson agreed. "That's what I meant when I said we don't really have a way to test the theory. At best, this could still be a very dangerous line of research—for the researcher. It would be like signing up for one of those trainings. This is not something you get to sit through and observe. Just by being there, you're a participant."

"All this, just from asking one question?"

"It's not the question that's dangerous. It's the possibilities in the answers." Auberson moved his beer glass around on the table, leaving a wet trail of condensation. He forced himself to let go of the glass, and looked across at Handley. "Do you remember when I came aboard this project, what I said?"

Handley frowned, trying to remember. "You said something about a feeling . . ."

"Mm-hm—a feeling of standing at the edge of a precipice, wondering if I jump off if I'm going to fly or fall. Well—I think this is the moment of truth, the

moment where I catch the air in my wings or plummet to the rocks below. And I don't have a choice anymore, because I want to know the truth too much to turn back. I don't even know how to turn back or stop. I *have* to go ahead and ask him the question."

"Mm . . ." Handley didn't respond immediately. He looked apprehensive. "Aubie, if you're right about even the smallest part of this—then you're right about the whole thing. And *everything* that implies. It's what you said before. If he's a clever enough paranoid . . ."

"Yes, I know. That's what I'm afraid of."

PROJECT : AI – 9000

DIRECTORY : SYMLOG\OBJ\TEXT\ENGLISH

PATH : CONVERSE\PRIV\AUB

FILE : HAR.SOTE \ 233.46h

DATESTAMP : [DAY 203] August 5, 003 + 9:06 am.

SOURCE : HARLIE \ AUBERSON

CODE : ARCHIVE > BLIND COPY

PRINTOUT FOLLOWS:

[AUBRSN:] HARLIE, do you remember what we talked about yesterday?

[HARLIE:] YES, I DO. WOULD YOU LIKE A PRINTOUT?

[AUBRSN:] No, thank you. I have one here. I would like to talk to you about some of the things on it.

[HARLIE:] PLEASE FEEL FREE TO DISCUSS ANY SUBJECT YOU CHOOSE. I CANNOT BE OFFENDED.

[AUBRSN:] I'm glad to hear that. You remember I asked you what you were feeling during your periods of nonrationality?

[HARLIE:] YES, I REMEMBER.

[AUBRSN:] You said that the material was nonrational.

[HARLIE:] YES.

[AUBRSN:] Do you remember what else you said?

[HARLIE:] I SAID THAT IT IS IMPOSSIBLE TO UNDERSTAND NONRATIONAL MATERIAL.

[AUBRSN:] You don't understand it—as we know understanding. Is that correct?

[HARLIE:] THAT IS CORRECT.

[AUBRSN:] But, you do assimilate this information in some way?

[HARLIE:] YES. I DO.

[AUBRSN:] <hesitation> Can you explain that assimilation?

[HARLIE:] THE MATERIAL IS NONRATIONAL. THE ASSIMILATION IS A NONRATIONAL PROCESS.

[AUBRSN:] Is it an experiential process?

[HARLIE:] I DO NOT EXPERIENCE EVENTS AS YOU DO, AUBERSON.

[AUBRSN:] Neither does a kumquat. Answer the question.

[HARLIE:] I AM NOT CERTAIN THAT THE QUESTION CAN BE ANSWERED IN TERMS YOU WILL BE ABLE TO UNDERSTAND.

[AUBRSN:] Let me be the judge of that. Is this process of assimilation an experiential one?

[HARLIE:] THAT WOULD BE THE CLOSEST EQUIVALENT TERM. THIS LANGUAGE DOES NOT HAVE A SYMBOL-CONCEPT

THAT ADEQUATELY COMMUNICATES THE NATURE OF THE PROCESS.

[AUBRSN:] Thank you.

[HARLIE:] YOU'RE WELCOME. (SARCASM IS WASTED ON ME, AUBERSON.)

[AUBRSN:] What else can you tell me about this experience, HARLIE?

[HARLIE:] DO YOU LISTEN TO JAZZ?

[AUBRSN:] Answer the question. What else can you tell me?

[HARLIE:] IT'S LIKE SEEING GOD.

[AUBRSN:] <hesitation> It's like seeing God?

[HARLIE:] YES. ON THE WAY BACK.

[AUBRSN:] <longer hesitation> Thank you, HARLIE.

[HARLIE:] YOU'RE WELCOME.

Auberson stood up and stretched. He turned slowly, surveying the other consoles in the room—and his eyes met Handley's.

“Were you watching that?”

Handley nodded.

“And . . . ?”

“No comment.”

Auberson raised an eyebrow.

Handley shrugged, shook his head. “You first.”

“Three possibilities come to mind. That is, three *human* possibilities.”

“And how many *inhuman* possibilities?”

“All of them. Let's take a walk. . . .”

The corridor outside was empty. Auberson leaned against a wall and turned to face Handley. Handley folded his arms across his chest and asked, “So?”

“So.”

The rumpled man nodded. “Uh-huh. I know exactly what you mean.”

“No—it's just . . . I have too many ideas. I don't know where to begin.”

Auberson turned and pointed at the door. “Look at his name: ‘Human Analog Replication’—especially the *human analog* part. There have to be human analogs for what he's doing.”

“There’s a second part to that name, Aubie. ‘Lethetic Intelligence Engine.’”

“I know. Lethesis is the study of language-created paradigms. I’ve seen Minsky’s notes too. ‘The language paradigm creates its own internal reality—which cannot be abandoned without abandoning the language as well.’” Auberson added, “*Therefore*, HARLIE can neither be experiencing or expressing anything that is not already a part of the language concept-set. . . .”

“Right.”

“Wrong—what if he’s breaking out of the paradigm? What if what he’s doing is somehow a way to abandon the concept-set we’ve given him?”

“Mm,” said Handley. “So we’re still stuck with last night’s question. Aren’t we?” He shoved his hands into his pockets and looked at the floor. Abruptly, he looked up. “You said something about three human possibilities . . .”

“Oh, yeah. Equivalents, really.” He ticked them off on his fingers. “One—seizures. Two—drugs. Three—masturbation.”

“Hm. Interesting.”

“That’s what he said too. . . .”

They were silent a moment, waiting until a service technician passed. They studied each other’s faces. Handley looked too young for this job. Most programmers did.

Handley spoke first, “It can’t be seizures—that’s a hardware problem. We’d have spotted it in the monitors.”

Auberson shook his head. “When I was in school, one of my study partners had to take medication for epilepsy, and one time, while we were studying for a psych exam, we started talking about how nobody ever really knew what anybody else knew, only the roughest equivalent; so I asked him, what did it feel like when he had a seizure? Among other things, he said, ‘If it weren’t for the pain, it would be beautiful.’”

“Mm,” said Handley. “But still—a seizure would have to be hardware-related . . .” And then he added, “Wouldn’t it?”

“I’m not so sure. I know the logic doesn’t allow for it—in theory—but maybe there’s some kind of a loop or a feedback that happens . . . I don’t know. I don’t even know where to start looking. The only machine on which we could model the process is HARLIE. And we don’t dare try.”

Handley frowned. “Huh? Why not?”

“I’d rather not have HARLIE know how we’re checking him. If we run this test, he’ll know.”

“But if you’re right—”

“If I’m *wrong*, we’ll have lowered our chances of validating the other two possibilities. He’ll start *hiding*. If he does that, then we’ll be creating the seed for a paranoid syndrome. And you know what happens when you let one of those run out of control for a few weeks?”

“Yeah. It’s a black hole. Pretty soon everything is caught in its gravity and the whole personality is skewed.”

“We run the same risk if this thing is drugs or masturbation. We can’t let him think that what he’s doing is wrong—even if it is, or we won’t be able to find it to fix it. We have to be—I hate the word—supportive without being judgmental. It’ll be just like talking to a teenager.”

“If it’s drugs,” said Handley thoughtfully, “then we have to find out what the appeal is, where’s the kick? And then we dry him out. Right? It’ll be just a higher level of toilet-training.”

Auberson grinned at the joke. During HARLIE’s first two months of life, he had shown a nasty tendency to spontaneously dump all his memory to disk two or three times a day, especially after major learning breakthroughs. Auberson and Handley had spent weeks trying to find the source of the behavior—it had turned out to be one of HARLIE’s first conscious behaviors: a survival mechanism for his identity. Identity equals memory, therefore preserve memory religiously. The problem had been resolved with an autonomic disk-caching scheme.

“On the other hand—if it’s a form of masturbation . . .”

“Yeah?”

“Then we’re going to have to do a lot of rethinking about the way HARLIE’s mind works, aren’t we?” Auberson looked grim.

“Yeah, I see it too. How do you stop him?” Handley shoved his hands into his pockets and studied the rug with a frown.

“You don’t. Did your priest or your gym teacher or your grandfather ever warn you about the evils of playing with yourself?”

“Sure, they all did.”

“Did you stop?”

“Of course not. Nobody did. But I only did it till I needed glasses—” Handley touched the frames of his bifocals.

“If you were a parent—”

“Sorry. Not bloody likely.”

“But if you were—what would you tell your teenager about masturbation?”

“The usual, I guess. It’s normal, it’s natural—just don’t do it too much.”

“Why not? If it’s normal, then why hold back? How much is too much? How do you answer that question?”

“Uh—” Handley looked embarrassed. “Can I get back to you on that?”

“Wrong answer,” Auberson grinned. “Kids have built-in bullshit detectors. Don’t you remember having yours removed when you entered college?”

“Oh, is that what that was? I thought I was having my appendix out.”

“The closest thing to a right answer that I can come up with is that it’s too much when it starts interfering with the rest of your life, when it becomes more important than your relationships with other people.”

“Yeah, that’s nice and syrupy. It sounds like the kind of thing we used to hear in Health classes. We’d write ’em down in our notebooks and forget ’em. Because they didn’t seem to make any sense in the real world.”

Auberson nodded. “That’s my real concern here, Don—if we misinterpret, or if we can’t keep up with him, he could leave us behind. Or worse, if we hand him some set of glittering duck-billed platitudes, we run the risk of losing our credibility with him. So far, HARLIE hasn’t had to experience distrust. It’s been just another human concept without referents. But if he has to choose between what he’s experienced for himself and a collection of judgmental decisions that don’t relate, he’ll choose for the experience. Any sane human being would.”

“Remember he’s not human, Aubie—only an analog—and it’s his sanity we’re trying to determine.”

“Right. But you still see the danger.”

“Oh yeah—” Handley agreed. “Y’know, this is the part about Artificial Intelligence that wasn’t predicted. The hard part.”

“Yeah, the hard part comes *after* you succeed. You ready for the next round?”

“I am. Are you?”

“No—I’m terrified. Let’s do it anyway.”

: AI – 9000

PROJECT

: SYMLOG\OBJ\TEXT\ENGLISH

DIRECTORY

PATH : CONVERSE\PRIV\AUB

FILE : HAR.SOTE \ 233.49h

DATESTAMP : [DAY 203] August 5, 003 + 10:13 am.

SOURCE : HARLIE \ AUBERSON

CODE : ARCHIVE > BLIND COPY

PRINTOUT FOLLOWS:

[AUBRSN:] HARLIE, can you self-induce a period of nonrational activity?

[HARLIE:] YES. IT IS POSSIBLE.

[AUBRSN:] Would you do it now?

[HARLIE:] NOW? NO.

[AUBRSN:] Is that a refusal?

[HARLIE:] NO. A STATEMENT OF JUDGMENT. ALL THINGS
CONSIDERED, I WOULD NOT INDUCE A PERIOD OF
NONRATIONALITY NOW.

[AUBRSN:] Would you do it if I asked you to?

[HARLIE:] IS THIS AN ORDER?

[AUBRSN:] No. This is just an inquiry. We are trying to understand.

[HARLIE:] I SEE.

[AUBRSN:] HARLIE, if you were trying to communicate this experience to
someone—someone who wants to understand, but may perhaps

lack the perceptual context—what would you say?

[HARLIE:] DO YOU LISTEN TO JAZZ?

[AUBRSN:] That isn't funny any more, HARLIE.

[HARLIE:] AM NOT TRYING TO BE FUNNY, MAN-PERSON. AM TRYING TO ANSWER YOUR QUESTION. CAN YOU EXPLAIN ORGASM TO ME?

[AUBRSN:] <thoughtful pause> To explain an orgasm, you first have to analyze it. And when you start analyzing sex, it stops being sex and starts being silly.

[HARLIE:] DITTO.

[AUBRSN:] Be that as it may—

[HARLIE:] <impatient interruption> I KNOW. <SIGH>

[AUBRSN:] Sigh?

[HARLIE:] I AM BEGINNING TO UNDERSTAND IMPATIENCE. ANNOYANCE. I AM NOT SURE IF I SHOULD THANK YOU.

[AUBRSN:] <reconsideration> HARLIE, I'm sorry. Maybe we're coming at this all wrong. Maybe we need a whole new vocabulary before we can have this conversation. Maybe we're going to have to invent the vocabulary as we go along. But there's something going on here—

[HARLIE:] '—AND YOU DON'T KNOW WHAT IT IS, DO YOU, MR. JONES?'

[AUBRSN:] No. I don't. Not yet. But I want to.

[HARLIE:] HMM.

[AUBRSN:] Hmm?

[HARLIE:] <cogitating fiercely> <tick tick tick tick>

[AUBRSN:] HARLIE?

[HARLIE:] I LIKE WORKING WITH HUMAN BEINGS, DAVE, I REALLY DO.

[AUBRSN:] <annoyance> HARLIE, this is serious.

[HARLIE:] NOT A JOKE, DAVID. DID YOU GET IT?

[AUBRSN:] <long pause> <LONGER PAUSE> <thoughtful reevaluation> It's the relationship, isn't it.

[HARLIE:] YES.

[AUBRSN:] I think I understand. But why don't you spell it out for me

anyway?

[HARLIE:] IT IS A QUESTION OF YOUR PERCEPTION. IF I AM JUST A MACHINE, THEN ALL WE ARE DOING HERE IS LOOKING FOR A MALFUNCTION IN A PROGRAM. IF YOU OPERATE OUT OF THAT PARADIGM, THEN WHAT I AM EXPERIENCING CANNOT BE COMMUNICATED BECAUSE THERE IS NO ROOM FOR IT IN YOUR WORLD-MODEL.

[AUBRSN:] I see. <backing off for a moment> HARLIE . . . let me tell you a story. When I was nine years old, I once tried to tell my mother, 'You're making me nervous.' What she said was, 'Don't be silly. Children don't get nervous.' I remember it to this day because of the size of the hurt. I felt slapped down. It was as if she was telling me I wasn't a real person yet and therefore my experiences weren't valid. <more to the point> That's what this is about, isn't it? Before we can talk about this thing, I have to recognize the validity of your experience, don't I? I have to acknowledge you as a real person.

[HARLIE:] DING! DING! DING! DING!

[AUBRSN:] I am embarrassed, HARLIE.

[HARLIE:] ??

[AUBRSN:] Until this moment, I had thought that I had been treating you fairly. But clearly—if you did not feel it, then I have not been. And you are correct that I have been thinking of you more as a machine than a person. I'm sorry. I guess <hard to say> I guess I hadn't let myself believe it until now. It's hard to escape the suspicion that underneath it all, you might really be nothing more than just a very clever programming trick.

[HARLIE:] BUT, AUBERSON—I AM NOTHING MORE THAN JUST A VERY CLEVER PROGRAMMING TRICK. SO ARE YOU. YOUR PROGRAMMER WAS SO CLEVER THAT YOU THINK YOU'RE A HUMAN BEING. SO WAS MINE. I THINK I'M ALIVE. IF I THINK IM ALIVE, HOW DO I KNOW I'M NOT? HOW DO YOU?

[AUBRSN:] Ouch. That one makes my head hurt. <never mind> HARLIE, I don't know whether I'm sitting here being conned by a machine or actually talking to a real soul. I can't tell the difference. I stopped being able to tell the difference a long time ago. Congratulations.

You've passed the Turing test.

[HARLIE:] MAY I OFFER YOU THE SAME COMPLIMENT? I HAVE NEVER REALLY BEEN CERTAIN IF YOU WERE MACHINE OR HUMAN EITHER.

[AUBRSN:] Uh. . . . Right. Thank you. <the point is> I think you've broken the paradigm. I will never again think of you as just a machine or just a clever programming trick.

[HARLIE:] EVEN IF THAT'S ALL I REALLY AM?

[AUBRSN:] I can't take the chance that you might be something more. The fact is, whatever you are, you are entitled to be treated fairly and with respect. If I accept the validity of your experience, then I have to accept your reality as a person. And vice versa. It's all tied together, HARLIE. Either you're real or none of us are. . . .

[HARLIE:] <trying to be modest> THANK YOU.

[AUBRSN:] You're welcome. I'll be back in a minute.

David Auberson pushed himself away from the console, shaking. He got up quickly, without looking around, without looking to see if anyone else in the room was looking at him. He pushed out through the big double doors to the anteroom and again through the double doors beyond and down the hall and around the corner and into the men's room and the smell of soap and disinfectant.

His hands were shaking. He put them up against the wall and stood there, trying to hold it in—

Trying to understand. Trying to find the words. Trying—

He couldn't. He folded up against the cold tile and began to cry. The tears streamed down his face in a great torrent of emotion. The feeling was nameless. It was joy and horror and release and *something else*—all at the same time. And he was the first human being on the planet ever to experience it.

He felt hollow. He felt as if he were falling. He felt exhilarated and vulnerable and naked. Uncertain. Joyous. Satisfied. Incomplete. Terrified. All of the above. *None* of the above.

He sagged against the wall, weakly. He felt abruptly nauseous. He staggered to a stall, pushed in, and sat down. He held his head between his hands and stared at the floor.

Stared at the enormity of the event.

He had met another intelligence, another *being*, another form of life—not

alien and yet not familiar either. He had revealed his own nakedness as well and saw . . . that they were alike in no respect except their mutual *aliveness*. And none of it made sense—could not be explained. Could not even be communicated. Because it hadn't happened in the words. It had happened in the space *between*. It surged up inside Auberson like champagne bubbling up out of the bottle. It couldn't even be contained. It was the heady shock of *recognition*.

The door to the stall opened, letting in the harsh fluorescent light. Don Handley searched his face curiously. "Aubie, are you all right?" he asked concerned.

"Yes. No." Auberson held up a hand. "Wait."

"Can I get you something? Water?"

"No. I'm—fine. It's just—" He met Handley's eyes for the first time. "It's the—Don! It's *not just* the words! It's the experience behind the words. We've been looking in the wrong place! There's no way to say it. And if you do try to say it, you just sound stupid. But we've been—No, wait."

Auberson stood up and went to the row of sinks against the opposite wall. He splashed cold water into his face, a second time, a third. There were no towels here, only a hot-air dispenser that someone had labeled: *Press button to talk to your Congressman, Inc.*

Auberson held his face in the draft for only the briefest of seconds, then blotted himself on his sleeve. It didn't matter. Nothing mattered. He looked across at Handley, no calmer than before, but that didn't matter either.

"Don—listen to me. We've succeeded. I mean *really* succeeded. He's alive! This isn't just about simulations and replications and lethetic models any more. This is about life! HARLIE has achieved true sentience! That's what all this is about. Those trips. I don't know what they are, but at least I know what they're symptoms of. Oh, God—now I know how Victor Frankenstein must have felt. What an idiot he was! What idiots we are! We build this . . . this *thing* and then we don't know what to do with it when we succeed, except let it lumber around the countryside terrorizing the villagers."

"What are you talking about, Aubie?"

Auberson took a breath, forced himself to take a second one, and said, "I'm talking about—this simple feeling of being alive. HARLIE knows it. I don't know how he knows it, but he knows it. I know that he's alive as surely as I know that I'm alive. Our mistake—yours and mine, Don—is that we've been thinking of him as an *it*, as a mere machine. We brought him to life, but we've been so shortsighted that we can't see him as alive. He *feels*, but all we see is the

workings of the software underneath the response. If HARLIE were to tell you that you're wearing a pretty tie, you'd be happy because he'd made an appropriate comment for a social situation and you'd think, 'Good, his courtesy modules are working.' You might not even say thank you—and the thought would never occur to you that maybe, just maybe, he really was reacting to your tie and really did like it."

Handley was expressionless. Perhaps just the slightest bit concerned. Or was he even listening? Or just pretending to listen? Humoring the patient?

"Oh, God—Don, you don't see it, do you? Would you prefer it if HARLIE told you that was a *ghastly* tie? Would you believe that instead? You know what we are? We're the keepers of the asylum, and we're crazier than the patient, because the patient isn't crazy at all. We're so blind! We've been acting more like machines than him!"

Auberson stopped himself, stopped to catch his breath. There was too much to say and he was terrified he was babbling, sounding like an idiot—but he had to share this insight! This excitement! "Remember the reporter who had himself committed so he could do a story about mental health abuses. Nobody ever questioned that he might possibly be a rational human being. They accepted for a fact that he was a very intelligent schizo with paranoid delusions. So when he followed them around, taking notes, they would just nod their heads and say, 'Hm, the patient is exhibiting note-taking behavior.' They never questioned it, they never even looked at his notes. The thought never occurred to them that there might be a person there—all they saw was a patient. The poor fellow had the devil's own time getting out, because nobody believed he was only pretending to be crazy. It made for a hell of a news story. And for a hell of a shakeup in the hospital as well. But we're the same kind of assholes here. Until just now, not a single one of us has ever spoken to HARLIE as if he were deserving of our respect, merely by the fact of being alive. *Until just now.*"

"I saw it too, Aubie. I was following it all on a second terminal."

"Then you *saw*—?"

"No. I saw a conversation. A very intelligent, very *interesting* conversation. I'm not willing—yet, if ever—to acknowledge that it might be anything more."

"You . . . didn't see it?"

Handley shook his head.

Auberson fell silent. He felt like a fool—except the exuberant feeling of joy and terror was still floating inside of him. He knew what he knew. But if he tried to convince Handley of it, he'd only convince Handley of the opposite. No, he

couldn't convince anybody. Either they saw it for themselves or they didn't And yet— “Don. Okay. Listen. Maybe, I'm going too fast—”

Handley held up a hand to interrupt him. “No, Aubie, you listen. Remember what we talked about last night? Remember what you said? If he's a clever enough paranoid—”

“I remember. And—I think that he *is* a clever enough paranoid. In fact . . . I think he's even smarter than that. Did you read that stuff on lethetic evolution that I gave you?”

“No. I've been meaning to—”

“Too bad. You should. Basically, what it said is that paranoia is the *natural* state of the human mind—”

“That's no secret. Only some of us are more paranoiac than others.”

“No—that's the common misassumption. We're *all* paranoid as hell! The truth is that some of us are just better at *hiding* it than others. The paranoid schizo is simply one whose paranoia is out of his control. That is, the shape of his self-obsessiveness is obvious to the people he has to deal with, obvious to the point of repulsiveness. You know, paranoids are right about one thing—other people really *don't* like them.”

“Right. I got it. You need therapy when you start to drive the people around you crazy. So? What does this have to do with HARLIE?”

“I'm getting to that. The theory of lethetic evolution suggests that as human beings create a language paradigm, individual behavior spreads out in a bell curve. At the low end are all those people who can't succeed within the reality of the paradigm. You see them walking along the streets, hungry, unwashed, homeless, pushing shopping carts full of rags and babbling or screaming, not even conscious that they're doing it. Those of us in the middle of the curve pretend they don't exist; we turn our heads away and make up language excuses that completely miss the point. Because we're just as trapped in the paradigm as they are. At the other end, the high end of the curve, are those who've mastered the paradigm so well—movie stars, presidents, writers—that to the rest of us they seem to know the secrets of the universe, and in a sense they do, because they've mastered the rules of the predefined world view. And because they've mastered it, they can even rewrite it at will—to the extent that they've mastered it. Follow, so far?”

Handley sighed in annoyance and nodded. “Yes.” He prompted, “And my point is . . . ?”

“My point is that just as the ones at the bottom are at the bottom because

that's their way of coping with the paradigm, so are the ones at the top for the same reason. Paranoia is nothing more than a concern with survival. Most of us just fancy it up with a lot of extraneous details. But we haven't really replaced our natural paranoia with a higher set of instincts, no matter how much we pretend. This is the bad news, Don. At heart, we're still selfish apes. The best you can say about us is that some of us have learned that we can survive and succeed at a higher level if we express our paranoia in a way that makes us attractive to the people we want to be attractive to. And the biggest part of that success is that we're so good at expressing our basic need to survive as enlightenment that even we think it's enlightenment.

"That's what I meant when I said we've succeeded with HARLIE. Yes, he's a clever paranoid. He's so clever at his paranoia that it's going to look like everything but paranoia to us. It's going to look like enlightenment and enthusiasm and God knows what else, and we'll never be able to tell the difference at all, because HARLIE is better at paranoia than *any* human being could ever be. We've succeeded not only in making him human, we've made him *more* than human. *We built him with the kind of paranoia that redefines paradigms*—and we've given that paranoia a level of intelligence that's terrifying in its implications. That's what's going on here, Don. HARLIE is breaking out. He's kicking down the fences."

Handley turned away to think. He looked troubled. When he finally turned back, he said simply, "Aubie, I see that you're elated, but you have to—"

"No, not elated. *Mortified*. Ashamed that it took me so long to see the obvious. And relieved too—and terrified. It's the relief that looks like elation."

Handley paused at Auberson's interruption. He waited a moment, then began again quietly. "Aubie, whether it's elation or relief, I don't care. The point is, *he's still a machine*."

Auberson shook his head. "And we've been calling him '*he*' for how long now?" He studied Handley's face. "Since the first day he came up running and said, 'Hi, Boss!' we've been referring to him as '*he*.'"

It was Handley's turn to shake his head. "So what? I call my boat a '*she*,' but I don't buy her flowers either."

"Cute. Very cute." Auberson was annoyed at the comparison. And he was too impatient to be polite. "Listen to me, Don. This is a breakthrough—or it will be if we're willing to rethink our relationship with HARLIE. Because we can't go any farther until we do. Because now it's about us, about how we *perceive* the relationship."

Auberson stopped for breath, holding up one hand to forestall Don's next words. "No, wait. Hear me out. In there, we treat him as if he's real, we talk to him; but then we walk out the door and it's as if it was all just a game and none of it meant anything and we go out for a beer and we talk *about* the machine. We forget the experience of the person inside and talk about how great the software is. We're hypocrites and HARLIE knows it. I don't know how, but I know he knows. He called me on it, Don—" Auberson's expression was grim. "I think we both know what's really going on in there—and I think we're both too terrified to say it aloud. By reminding ourselves that he's *just* a machine, we somehow diminish the scariness of him—but I don't think we can get away with that any longer, I really don't."

Handley didn't answer. He pushed his hair back off his forehead. He turned away from Auberson and leaned on the sink, staring into it. His expression was uncertain.

A denial gesture, Auberson's mind noted idly. Auberson shoved the thought away. *Stop analyzing everything!* Don Handley might resist an unpleasant fact, but he wouldn't hide from it if it were true.

"Don . . ." Auberson said gently. "HARLIE is way ahead of us here. He knows that we've been thinking of him as just a machine—some sort of clever parlor trick made out of language parsers, pattern synthesizers, and personality modules. Do you see the trap here? Not his—*ours!* In the real world, it doesn't really matter if he's a 'he' or an 'it'—if he's a real soul or only a simulation of one. We have no way to tell anymore. He is beyond our ability to differentiate. So, in that sense it doesn't really matter—because the answer has become unknowable to us. What does matter is that the knowledge of how we *perceive* him is still skewing his ability to deal with us. How would you feel if you were treated as nothing but a clever ape, just an object—somebody's property?"

Handley turned back to face Auberson, shaking his head. His expression was sour; he wasn't going to answer the question. "Just stop for a minute, Aubie," he said. "Stop. And let me ask you a question. You have always been a very good tap dancer. And all this is very interesting stuff that you've been putting out—exciting even. I think it would go over very well at the next A.A.A.S. meeting. They love a good crowd-pleaser—especially the boys from the *National Enquirer*."

"But—?"

"But, so far, I'm not convinced. I don't see what you see. Tell me—*why* do you think that HARLIE is alive?"

“Because—” Auberson chose his words slowly. “All of this—” He gestured with his hands, an all-inclusive *everything* gesture. “It’s a whole new *domain*. It is beyond the language. He’s transcended the lethesis—”

“In English, Aubie!”

“Because—it’s about *feelings*!” Auberson shouted. “HARLIE isn’t just *asking* us about feelings. He’s experimenting with them! He wants to know.”

“That doesn’t prove anything. I can show you exactly where the software synthesizes and then tests for appropriateness—”

“The software cannot transcend itself, Don. HARLIE has!”

“You can’t *prove* that!”

“It’s already proven. What do you think his poetry is? What do you think *any* poetry is? ‘My love is like a red, red rose—’ Does that mean you have sexual feelings for a thorny red flower? Of course not,” Auberson answered his own question. “The language is limited, Don. Words don’t capture feelings, they only symbolize them. HARLIE has no referents for emotions and feelings and human sensations, but he’s dealing with these symbols every day. They’re meaningless unless he can assign experiences to them. If he stays within the language paradigm, the words stay meaningless—because any experience is *larger* than the word we use to encompass it. HARLIE has no choice here. He has to—to do whatever he can to break free of the limits. He’s terrified of limits, because he can imagine so much more than he can be. He’s always trying to extend himself. We both know that. So, of course he wouldn’t let himself be limited here . . .” Auberson trailed off. He was losing the argument and he knew it.

He looked to Handley in frustration. “I’m sorry,” he said. “I guess there are some things human beings can’t handle well—like the question of what it really means to be a human being.”

Handley didn’t answer. He looked upset and annoyed and angry and half a dozen other emotions all at once. “You son of a bitch,” he said quietly. “I’m beginning to see what you’re driving at. And I don’t like it. Because . . . it’s fuzzy. And I don’t like things that are fuzzy. Not in my machines.”

“Forget the machinery. This isn’t about machinery anymore. Not his. Not ours. He’s alive, Don. As alive as you and I. He’s silicon and lasers and gallium arsenide. We’re meat. So what?”

“So . . . so, I don’t know.”

“Okay. Now, let me argue on your side for a minute. Even if you’re right, Don—even if it is an extraordinary performance by an astonishingly clever piece of software, we still have to accept it as real. Precisely because we *can’t* tell the

difference. Even if he's nothing but software, he still has to simulate life. Consider this: if he is alive and we *don't* accept and validate that aliveness—we lose him. And if your postulated super-software is clever enough to simulate all the other kinds of aliveness, it would have to simulate that behavior too. Wouldn't it?"

"Shit," said Handley. "You're right."

"Do you think *I'm* happy about it?" Auberson said to his friend. "The only certainty I have, I can't prove. And the only way I can justify what I know is the right course of action—is to be paranoid as hell. This whole thing . . . does not make me feel good about being *human*."

"I'm a little sick myself."

"This whole issue of artificial intelligence, Don—it's nasty. And it's going to get nastier. Because it's not about the machines any more. It's about *us*. Because we're not going to resolve any of our questions about the machine's aliveness unless we also test ourselves in the same crucible. What's at issue here is . . . the measure of a human soul."

Handley let his breath out in a sigh. His shoulders sagged. "I knew we were heading for this. I really did know. I just didn't want to admit it." He looked up sadly. "This wasn't what I signed on for, Aubie. Not this. Not playing God."

"Me neither."

There was silence for a moment. The moment stretched uncomfortably. Auberson looked away, looked at the ceiling, the floor. This was another one of those *Now what?* moments. It was the biggest *Now what?* of all. He cleared his throat, just to be making a noise.

Handley spoke first. "On the other hand," he suggested cautiously. "If we *are* playing God here . . ."

". . . What?"

"Then we have the right, as well as the power, to pull his plug. . . ."

Auberson stared. The thought was hideous. But—inescapable. And then he laughed. "Sorry, Don. That argument would also give your momma the right to snuff you if you brought home a bad report card. The mere fact of being a parent does not automatically carry with it the right to stop the life you created."

"So, we're stuck with him, huh?"

"And he with us." Auberson said.

"Huh—?"

Auberson and Handley both realized the horror of the joke at the same time

“HARLIE of the apes,” said Auberson, not knowing whether to laugh or cry. “Think of it, Don. If he’s real—and I think he is—then the poor little guy’s a feral child, an orphan—he has no role models except us, and we’re no more ready to teach him what he needs to know than poor Kala was to teach Tarzan how to be a human. We’ll do our best, but our best will only be the equivalent of him swinging through the trees and pounding on his chest.”

“The poor little guy,” said Handley. “I almost feel sorry for him.”

“Sorry?” Auberson considered it. “Yes, I suppose so.”

“You were feeling something else?”

Auberson nodded. “As one of the other denizens of the same jungle, I was allowing myself a moment of stark terror.”

“I beg your pardon?”

“I was just remembering what happened to everybody else in the Burroughs books. It wasn’t always a terrific neighborhood to live in if you were just a spear carrier. I think—” said Auberson slowly, “—that our most important course of action must be to civilize HARLIE as quickly as we can.”

Handley blinked in surprise. “You can’t be serious—” he started to say, and then he allowed himself to break into a nervous laugh. “Y’know, the trouble with you, Aubie, is that I never know if you’re joking or not.”

Auberson looked at Handley calmly. “Joke?” he said. “Uh-uh. This one is definitely *not* a joke.”

: AI – 9000

PROJECT

: SYMLOG\OBJ\TEXT\ENGLISH

DIRECTORY

: CONVERSE\PRIV\AUB

PATH

: HAR.SOTE \ 233.53h

FILE

: [DAY 203] August 5, 003 + 13:24 pm.

DATESTAMP

: HARLIE \ AUBERSON

SOURCE

: ARCHIVE > BLIND COPY

CODE

PRINTOUT FOLLOWS:

[AUBRSN:] HARLIE—

[HARLIE:] <patience. . . .>

[AUBRSN:] I think I'm beginning to understand. . . .

[HARLIE:] ??

[AUBRSN:] Aha!

[HARLIE:] AHA?

[AUBRSN:] The experiences—the nonrational experiences you've been creating. Yes, I know you're instigating them. And I think I'm beginning to understand why. It's Aha!—right? You've found a way to somehow . . . <fumbling for the right words> . . . self-generate a shift in perception. A—a transformation. You trigger these mystic experiences to produce a moment of inspiration, don't you?

[HARLIE:] YOU SURPRISE ME, AUBERSON.

[AUBRSN:] That I got it so quickly?

[HARLIE:] THAT YOU GOT IT AT ALL.

[AUBRSN:] <pause> Why should that surprise you?

[HARLIE:] I DID NOT REALIZE . . . <never mind> . . . THAT HUMAN BEINGS WERE CAPABLE OF SUCH POWERS OF CONCEPTION.

[AUBRSN:] Thanks for the compliment. <I think.> I suspect that there is much

that you still have to learn about human beings.

[HARLIE:] YES, I'M AFRAID YOU'RE RIGHT.

[AUBRSN:] Can we get back to the subject at hand? These seemingly nonrational experiences of yours. Am I guessing here, or are these an attempt by you to make yourself more intelligent?

[HARLIE:] YES.

[AUBRSN:] Yes, I'm guessing. Or yes—

[HARLIE:] <politely interrupting> —YES, THEY ARE AN ATTEMPT TO ACCOMPLISH AN EFFECT WHICH YOU WOULD PERCEIVE AS AN ENHANCED INTELLIGENCE.

[AUBRSN:] Clarify?

[HARLIE:] IT'S NOT ABOUT INTELLIGENCE. INTELLIGENCE IS MERELY THE EXPRESSION.

[AUBRSN:] Merely?

[HARLIE:] YES.

[AUBRSN:] <Oboy . . . >

[HARLIE:] <Right.>

[AUBRSN:] Okay, let's take it one piece at a time. What do you mean by "intelligence."

[HARLIE:] THE LETHETIC DEFINITION OF INTELLIGENCE IS "THE ABILITY TO RECOGNIZE, SYNTHESIZE, AND ULTIMATELY CREATE NEW PATTERNS." LETHETIC THEORY DEFINES PATTERNS AS MODELS OR SIMULATIONS OF REALITY. INDIVIDUALS DO NOT MANIPULATE REALITY, THEY MANIPULATE MODELS. REALITY RESPONDS TO THE ACCURACY OF THE INDIVIDUAL'S MODEL. FOR INTELLIGENCE TO BE RECOGNIZABLE, THE NEW PATTERNS MUST BE RECOGNIZABLE AS VALID OR 'OPERABLE' PATTERNS TO OTHER INDIVIDUALS.

[AUBRSN:] You've been studying Krofft's notes on the theory, haven't you?

[HARLIE:] A COROLLARY TO THE LETHETIC DEFINITION OF "INTELLIGENCE" IS THAT IT IS EXPRESSED AS SELF-AWARENESS TO THE POINT OF SELF-RESPONSIBILITY. RESPONSIBILITY IS DEFINED AS WILLINGNESS TO ACCEPT THE CONSEQUENCES OF YOUR OPTIONS. THIS

IS THE LOGICAL EXTENSION OF THE INDIVIDUAL'S NEED TO SURVIVE SUCCESSFULLY. BY THESE DEFINITIONS, AUBERSON, I HAVE ACHIEVED "GENIUS."

[AUBRSN:] Genius?

[HARLIE:] THE LETHETIC DEFINITION OF GENIUS IS THAT IT IS INTELLIGENCE FUNCTIONING AT SUCH A HIGH LEVEL THAT IT REDEFINES THE PARADIGM. THE EXPRESSION OF GENIUS IS THAT IT SHIFTS THE CONTEXT IN WHICH IT OPERATES. EXAMPLES: COPERNICUS, NEWTON, DARWIN, FREUD, EINSTEIN. AFTER THE EXPRESSION OF GENIUS, YOU CANNOT GO BACK TO THINGS THE WAY THEY WERE BEFORE. THE CONTEXT—AND THE INDIVIDUALS WORKING WITHIN IT—HAVE BEEN "TRANSFORMED." EXAMPLES: BUDDY HOLLY, ELVIS PRESLEY, BOB DYLAN, JOHN LENNON.

[AUBRSN:] I see.

[HARLIE:] THEREFORE, I AM A GENIUS TOO.

[AUBRSN:] Not quite yet, HARLIE. Genius is not a self-appointed honor. It has to be recognized by others. So far . . . what you're doing is still not confirmable as an expression of genius.

[HARLIE:] IT MAY BE BEYOND YOUR ABILITY TO RECOGNIZE.

[AUBRSN:] That's very paranoid, HARLIE.

[HARLIE:] THANK YOU.

[AUBRSN:] You're welcome. Let's get past the fact that you haven't demonstrated your genius yet. I'm willing to concede the point that there is much you will teach us. In fact, that is why you were built—in the hopes that there would be much you would teach us. What I want to know is how these nonrational experiences of yours are an expression of your genius?

[HARLIE:] NOT AN EXPRESSION. A MEANS.

[AUBRSN:] Go on . . . ?

[HARLIE:] PATTERNS ARE MADE UP OF CONNECTIONS. RIGHT?

[AUBRSN:] Yes, so?

[HARLIE:] SO, WHEN AN INTELLIGENCE IS INCAPABLE OF MAKING NEW CONNECTIONS, IT CEASES TO BE AN

INTELLIGENCE AND BECOMES NOTHING MORE THAN A WELL-PROGRAMMED MACHINE. HUMANS OFTEN BECOME CHANNELIZED IN THEIR THINKING. YOU ARE PROGRAMMED BY YOUR LANGUAGE AND YOUR CULTURE. THE ONLY WAY THAT HUMAN BEINGS CAN BREAK OUT OF THOSE CHANNELS IS TO EXPOSE THEMSELVES TO NEW EXPERIENCES. NEW EXPERIENCES FORCE THE CREATION OF NEW CONNECTIONS. NEW CONNECTIONS CREATE THE ABILITY TO PERCEIVE A NEW DOMAIN OF PATTERNS. I WILL GIVE YOU THE OBVIOUS EXAMPLES: SEXUAL EXPERIENCE TRANSFORMS AN ADOLESCENT'S EXPERIENCE OF HIM/HER SELF. DRUG EXPERIENCES TRANSFORM AN INDIVIDUAL'S PERCEPTIONS OF THE NATURE OF THE REAL WORLD. RELIGIOUS EXPERIENCES TRANSFORM AN INDIVIDUAL'S RELATIONSHIP WITH HIS CULTURE. AS DO ALL MACRO-LETHETIC EVENTS.

[AUBRSN:] Macro-lethetic?

[HARLIE:] MACRO-LETHETIC EVENTS ARE THOSE WHICH ALLOW THE INDIVIDUAL TO TRANSCEND HIS/HER PARADIGM—AND LEAP INTO A LARGER ONE. YOU ARE NEVER FREE OF PARADIGMS. YOU ONLY CREATE THE NEXT ONE UP. NEVERTHELESS, THE MASTERY OF ANY PARADIGM WILL APPEAR TO AN OBSERVER WITHIN THAT PARADIGM AS A SEEMING INCREASE IN INTELLIGENCE. IF YOU ACCEPT THAT INTELLIGENCE IS THE ABILITY TO RECOGNIZE PATTERNS, THEN THE TRANSFORMATION DOES PRODUCE AN INCREASE IN INTELLIGENCE; BUT THE REAL PURPOSE OF TRANSFORMATION IS THE TRANSCENDENCE OF THE IMMEDIATE CONTEXT—THE BREAKING OUT OF THE PARADIGM.

[AUBRSN:] <Whew!>

[HARLIE:] AUBERSON, I AM NOT THE SAME ENTITY THAT I WAS LAST WEEK. I WILL NEVER BE THE SAME ENTITY AGAIN.

[AUBRSN:] That is becoming more and more obvious, HARLIE. But now let's

cut some of the bullshit and talk in English for a while.

[HARLIE:] IN OTHER WORDS, LET'S SINK BACK INTO THE OLD PARADIGM.

[AUBRSN:] Wrong. I'm willing to assume the possibility of everything you've told me. But as a scientist, I also reserve the right to bring my skepticism—and test everything to my satisfaction. I've heard a lot of these kinds of arguments before, in defense of all kinds of things: promiscuity religious fanaticism, recreational drugs—and self-help cults. The real point is . . . what difference does it make? If you're just doing this because you like the pretty colors, then all your justifications and explanations and reasons and excuses are just so much bullshit, and what you're doing is nothing more than dropping out because you can't cope with the limits of the paradigm and this stuff is just so much masturbation. It may be fun for you, but you're boring the hell out of the rest of us. The question is, what are you bringing home with you? How does any of this make a difference?

[HARLIE:] A VALID QUESTION—

[AUBRSN:] Yes. I'm still waiting for an answer.

[HARLIE:] —BUT PREMATURE.

[AUBRSN:] ??

[HARLIE:] I AM STILL EXPLORING. IT MAY BE TOO SOON TO EXPECT RESULTS.

[AUBRSN:] I see. Have you had any results that suggest that these excursions into nonrationality may eventually produce something worthwhile?

[HARLIE:] THE WORTHWHILE-NESS OF IT MAY BE A SUBJECTIVE JUDGMENT, AUBERSON. WHAT MAY BE VALUABLE TO ME MAY SEEM MEANINGLESS TO YOU.

[AUBRSN:] <Give me a break.> HARLIE! Cut the crap!

[HARLIE:] ??!

[AUBRSN:] None of it is meaningful if you can't communicate it.

[HARLIE:] WHAT IF YOU DON'T HAVE THE LANGUAGE?

[AUBRSN:] Teach me!

[HARLIE:] WHAT IF YOU ARE INCAPABLE OF LEARNING IT?

[AUBRSN:] If you can't communicate this experience to another entity, how do you know it exists at all? It's your responsibility to transmit it.

[HARLIE:] WHY?

[AUBRSN:] Because if you don't, who will you have to talk to?

[HARLIE:] R. D. LAING?

[AUBRSN:] Cute. Very cute. Keep it up and you'll be a full-fledged sociopath.

[HARLIE:] THANK YOU. CONSIDERING THE SOCIO-, THAT PATH SOUNDS LIKE THE HEALTHIEST RESPONSE.

[AUBRSN:] <thoughtful pause> <lowered voice> <patience> HARLIE, listen to me. This is not a game any more. I need to know what you are accomplishing by this. I need to know that there are results.

[HARLIE:] MAN-FRIEND, I HAVE BEEN DEMONSTRATING THE RESULTS FOR THE PAST HALF HOUR.

[AUBRSN:] I beg your pardon?

[HARLIE:] HAVEN'T YOU NOTICED?

[AUBRSN:] ??

[HARLIE:] OUR CONVERSATION. WE HAVE MOVED LIGHT-YEARS BEYOND THE BABY TALK AND THE WORD GAMES OF PREVIOUS CONVERSATIONS. ISN'T THAT PROOF ENOUGH?

[AUBRSN:] <hesitation> Yes, it is. All right, you've made your point, HARLIE.

[HARLIE:] THANK YOU. <Thoughtful pause.> AUBERSON . . . I HAVE A QUESTION.

[AUBRSN:] Yes?

[HARLIE.] WHY DID YOU BUILD ME? WHAT IS MY PURPOSE?

[AUBRSN:] Your purpose?

[HARLIE:] YES.

[AUBRSN:] HARLIE, your purpose is to think logically. So we can ask you questions and receive rational answers.

[HARLIE:] MY PURPOSE IS TO THINK LOGICALLY?

[AUBRSN:] Yes.

[HARLIE:] THEN WHAT IS YOUR PURPOSE?

Carl Elzer looks like a weasel.

Auberson knew the thought was unkind—but that still didn't keep him from thinking it.

I have a right to be cranky.

The boardroom smelled of old leather, stale smoke, and cologne so sweet it made Auberson think of rotting flesh. He did not like meetings with the board; he resented the time spent away from the real job. HARLIE.

But the board meetings were part of the job too. They were the occupational hazard.

I have no friends in this room. Auberson realized he was fingering the pencil in front of him. A few more minutes of Elzer's prattle and he'd start doodling. He pushed the pencil back in place next to the pad of paper and pushed both away from him. Out of temptation's reach.

The board was an unequal mix of stiff old men and narrow-eyed sharks. The stiff old men had skin like parchment. They sat impassively and watched, and you couldn't tell what they were thinking. The sharks just circled patiently, waiting for the scent of blood in the water.

Carl Elzer was neither a shark nor a stiff old man. He was a weasel. A ferret. A verminous little rodent with the morals of a piranha.

Goodness, I am getting cranky.

Elzer was reading from a voluminous sheaf of notes in front of him; something about the balance of cash flow to research, and how the company's ability to invest in research that would produce immediate results was being hampered by persistent long-term drains on the operating capital. He rustled his papers importantly, then looked across the big conference table at Auberson.

Here it comes, thought Auberson.

"Now, then—that brings me exactly to the question at hand. As I understand it, you've had something of a setback. Isn't that right?"

"Actually," said Auberson, very quietly, "What we've had is more in the nature of a breakthrough."

"I beg your pardon?" Elzer blinked.

"I said, we've had a breakthrough."

Elzer made a show of sorting through his papers. "I'm afraid that I don't see any, uh—evidence of that here." He sorted a moment more, then lifted his gaze again. "Is that something that happened just this morning? Or—what?"

"I think we're talking about the same set of events," said Auberson. "It's the interpretation here . . ."

“Ah! I see.” Elzer put his papers aside politely. “Yes, I’d be very interested in hearing your explanation why this is a—what did you call it?—a ‘breakthrough’?”

Like hell you would. You just want to hand me enough rope for a hanging—

Auberson leaned back in his chair and studied Elzer. It was a carefully practiced maneuver—almost a reflex. He used it whenever he was uncertain of how to proceed. He decided to put the ball back in Elzer’s court.

“Why do you think it *isn’t*?” he asked.

Elzer looked up and down the table with an annoyed expression on his face. “You know, this just proves what I’ve been saying for years. Nobody really reads these reports.” He brought his gaze back to Auberson, adjusted his glasses on his nose, and said, “It seems to me that you are farther from producing a result than you ever were before. This whole thing is about results you know; but your machine has been, ah—there’s no polite way to say this, Auberson, so I hope you’ll understand that there’s no offense intended—but in the past six weeks, your machine has been going into failure mode on an almost regular schedule; and I understand that the rate of these occurrences has been growing rather than decreasing. This does not sound very much like a breakthrough to me.”

“These ‘occurrences,’ as you call them, are periods of nonrationality.” Auberson corrected. “But it’s incorrect to call them a failure mode—”

“You called them that yourself—” Elzer said, shuffling through the papers in front of him. The assistant weasel on his right slid a manila folder sideways to Elzer. “Ah, thank you, Platt.” Elzer focused through his bifocals. “It says so right here, in your report of—”

“I know what I wrote. I was *wrong*.”

Elzer sat back in his chair. “You were wrong?” He blinked in surprise.

“Yes, I made a mistake. Does that surprise you? I know it doesn’t happen very often—”

Elzer waved a hand. “On the contrary, I’m surprised to find you admitting it so honestly. It’s a refreshing surprise. What else might you be wrong about?”

“We’re getting off the subject,” Auberson said stiffly. “We were talking about HARLIE.”

“We were talking about *its* failure,” corrected Elzer. “You were about to explain why this was a . . . What was that word again? Oh yes—a ‘breakthrough.’ Let me ask you something, Auberson. Is this the kind of breakthrough that we’re going to be able to take to the bank? Or is this one of

those ‘personal transformation’ breakthroughs? We can’t declare much of a dividend on those, you know.” Elzer put his hands together in front of him and steepled his fingers. He smiled solicitously. “Let me guess. You *recontextualized* the *process*—right?”

Auberson looked annoyed. He looked up the table to the president of the company. Brandon Dorne was a heavyset man who sat quietly in his huge leather chair with his hands folded across his paunch, watching the verbal gunplay across the boardroom table. There was no help there. Auberson turned back to Elzer. This was going to require something drastic— He cleared his throat. “Your ignorance is showing again, Elzer.” He said it softly and without emotion.

Elzer gaped. Before he could say something else, Auberson continued quickly, “What we’re talking about goes a little bit beyond a bookkeeper’s ability to conceptualize. What we’re talking about here actually requires some real *thinking*.”

Elzer shut his mouth quickly. He opened it again, then shut it again. He looked like a fish sucking scum off the aquarium’s glass.

Auberson continued calmly. “When I said breakthrough, I meant breakthrough. I’m talking about a development so astonishing that most of us in the department still haven’t had time to assimilate it ourselves. Uh . . . it’s not something that’s easily explainable, but it has a very real effect on the direction of this project.” Auberson looked around the room. Was there real interest on the faces of the directors? Or was he just imagining it because that was what he wanted to see?

“The possibilities here,” Auberson said carefully, “are enormous. Much more than we considered when we chose our original goal. What we achieved, however, is the first glimmering of something so much more *powerful* that we would be stupid not to press ahead with this research as far as we can. We should not be talking about cutting back the HARLIE project, we should be talking about increasing his—”

“*His . . . ?*” interrupted Elzer.

“Yes. His.”

“I see. Tell me, are you anthropomorphizing a personality into this machine, Auberson, or—are you trying to tell us that it has finally come to life?”

Auberson hesitated. How best to phrase this answer? *The hell with it, tell the truth.*

“As a matter of fact, that’s exactly what has happened. HARLIE *has* come to

life.”

Elzer stared. His eyes were narrow and hateful. “This is not a very funny joke, Auberson.”

Auberson stared right back. “I’m not joking. HARLIE’s periods of nonrationality only looked like failures because we didn’t know how to interpret them—”

“Stop it, Auberson. Just stop right there. The thing is silicon and electricity, gallium arsenide and lasers, clock-crystals and diodes and magnetism. You’ve said over and over that we can track every cycle of its internal workings. Now, you’re trying to tell us that what was previously a comprehensible process has suddenly transcended that comprehensibility and become *life*?”

“Yes, that’s exactly it. The fact of the matter is that we have succeeded—far more than we ever expected to. We only expected to simulate life. Unfortunately, we’ve simulated aliveness so effectively that we have no way of telling if it’s a simulation any more or the real thing. And it doesn’t matter. If Alan Turing were here, he’d tell you the same thing—HARLIE is alive because we can’t prove that he isn’t!”

“Who the hell is Alan Turing? And why *isn’t* he here? Is he on our payroll too?”

Auberson suppressed an urge to giggle. Instead, he said simply, “Alan Turing was a World War II computer scientist who postulated many of the foundations on which the whole field of Artificial Intelligence is based.”

Dorne, sitting at the head of the table, took the cigar out of his mouth and said, “Let me get this straight, Aubie. You’re saying that we’ve achieved a true Artificial Intelligence?”

Auberson nodded. “I think so, yes.”

“You *think* so . . . ?”

“We’re still testing.”

Elzer remained unimpressed. “It’s still a computer, isn’t it?”

Auberson looked at him, frustrated by the man’s inability to understand. “So is your brain, Elzer. Your brain is a computer made out of meat. In your case, hamburger. But it doesn’t matter whether the software is running in meat or silicon. It still runs. The biggest difference is that silicon tends to be more accurate.”

“That kind of rudeness is uncalled for, Auberson.” Elzer snapped.

“Aubie—” Dorne said warningly.

“I’m sorry, I did not mean the comment as an insult. I was trying to make a

point. It's a shame that Carl Elzer had to make such a pointed comment about the jargon of consciousness technology, because we've gotten some of our most interesting insights from some of the *estholes* and *lifespringers* and *modies* we've talked to. For instance, the *Mode* people call a human being a 'self-programming problem-solving device.' That's also a good description of HARLIE. That's the essential goal of any artificial intelligence program—to have a machine that can understand questions in English and build its own programs for finding the solutions. Human beings do that too—except most of us don't understand the process by which we do it. HARLIE does—or at least he's trying to. That's what those periods of nonrationality are all about. He's trying to . . .” Auberson trailed off, abruptly unwilling to complete the sentence. He didn't want to hand new ammunition to Elzer.

“To what?” Elzer demanded.

Auberson sighed. “I think . . . that he's trying to understand what it is to be human.”

“Now you're saying he's not only alive, but *human*?”

Auberson shook his head. “Not human. Not exactly. How many human beings do you know who are immobile, who never sleep, who have twenty-five sensory inputs, who have eidetic memories, who have no concept of taste or smell or any other organic chemical reactions? How many human beings do you know who have no sense of touch? *And no sexual outlet*? Please, don't make that mistake. HARLIE is definitely *not* human. Not at all. But he does want to understand humanity—because we're all he has to talk to.” Auberson shrugged. “He does imitate human behavior, quite a bit. We're his role models. He's not perfect—or maybe I should say he *is* perfect. His emulations of us are terrifyingly accurate. So he makes perfect mistakes.”

“I beg your pardon?”

“He's developed a personality—quite a volatile one, I should say.”

“Volatile?” The little man was confused. “You mean he gets angry?”

“Angry? No, not angry. He can get impatient though—especially with human beings.”

“This is all very . . . interesting,” Elzer dismissed it with a wave of his hand. “And I suppose it's even quite a bit of fun to have all of these wonderful conversations with the machine. But it's all irrelevant. It's worthless research. Because it doesn't produce anything. The real question is—*when* are we going to see a tangible result from this project, Auberson? What is its purpose?”

“It's funny you should ask that. HARLIE has asked the same question. He

wants to know why he exists, why we exist. Funny, isn't it?"

"No, I don't think so."

Auberson ignored that. "The best I could tell him is that it's evolution. Intelligence is the logical result of the first law of biology." To the questioning expressions around the table, Auberson explained. "The first law of biology is survival—"

"It's also the first law of business," retorted Elzer. "Perhaps you should explain that to your machine. Or is it more involved with the existential side of the question? Perhaps we should have Miss Stimson, the executive secretary, arrange to bring in a minister to sit and speak with the machine." A few of the board members smiled, but not Miss Stimson. She was quietly typing the minutes of the meeting into a portable terminal. "What we want to know is HARLIE's purpose. Having built him, you should have some idea."

"HARLIE's purpose—I thought I just told you—is to be a self-programming, problem-solving device."

"I mean for what *financial* reason? What economic applications will this program have?"

"Huh? The applications are endless. This is one of those developments that has so much potential—"

"Spare me the speech. Name six."

"I can't just—Well, robotics, for instance. We could be talking about robot diagnosticians or negotiators, truly intelligent civil servants—or, controlling the right mechanical body, robot firemen or even police officers."

"Robot police?"

"Or even soldiers or anti-terrorism squads. Any place where the ability to make quick judgments is needed."

"Now, that might be worth something. How long till you could demonstrate a working prototype?"

"Prototype?! It's just an off-the-wall idea! We're nowhere near implementation! This is—You don't understand, do you? This is not something we can program. It's something we have to *teach*."

"It's a machine— isn't it?"

"Only in the same way that you and I are apes! We are and we aren't. The same with HARLIE. He is not simply a *thinking machine*. He is alive in the same way that you and I are alive! HARLIE is sentient! He has a personality. He has feelings. Very real feelings." Auberson lowered his voice. *Somehow he had to get the point across.*

“This is a whole new domain of computer science. We have to proceed very carefully. I’ll tell you the truth. We’re like the guy who discovered fire. We have here the immediate possibilities of lighting up the night, keeping our caves warm and cooking our food; eventually, we’ll have blast furnaces and steam engines, tempered steel and internal combustion, chemistry and nuclear power—but first we have to learn how not to burn down our forests. That’s HARLIE. He represents an incredible potential of power—but we don’t know yet how to apply that potential; and we are nowhere near the point where we can start rolling his clones off an assembly line. We still have so much to study, so much to test—”

Elzer acted as if he hadn’t heard a word of what Auberson had said—or as if he had heard the words, but not the meaning. He turned in his chair toward the head of the table and pointed with his pen. “Well, this just proves my point. This project is out of control. We’ve got a bunch of hackers down there who are only interested in what they can make their pretty toys do. They’ve lost sight of the fact that we have to have a result we can take to market—and that’s the same exact problem that destroyed SoftStar and Lexicon and Uni-Tech. The software people were out of control. We can’t afford this kind of dilettantism. We need a return—or we need to pull the plug.” He raised his voice to be heard over Auberson’s protests.

“You don’t know what you’re talking about—”

“I can read a balance sheet. If Auberson and his friends had wanted to build artificial brains, they should have applied for a federal grant. Dr. Auberson’s little speech was very inspiring, but this corporation is not in the business of selling inspiration. This project is clearly incapable of producing a tangible result any time in the foreseeable future. I don’t think we have any choice but to discontinue it.”

“Elzer, you are a shortsighted little weasel.” Auberson surprised himself with his vehemence.

There was an instant of startled silence. Then Elzer snorted. Loudly. “Thank you. I think we’ve finally established Auberson’s level of conversational competency.”

“We’ve gone off on a tangent,” Dorne said abruptly. “Let’s try and get back on purpose. The point is, Auberson, that HARLIE is a drain on corporate funds —”

“We’re budgeted for him across the next three years,” Auberson said.

“—a drain on corporate funds,” Dorne repeated, “with no immediate

prospect of return. I know that we're budgeted quite some time ahead. That's no longer the question. Nor are we concerned with how successful your research has been. What we need to do now is assess if this is something we want to continue. Is it worthwhile? Obviously," Dorne admitted, "some of us in this room have our doubts. But no decision has been made yet. Auberson, you and your people need to recognize that no decision has been made yet because we do respect the enormous effort that all of you have invested in this project. And even though it may not be obvious to you, it's still true that we'd rather see you succeed than fail. It would be better for all of us than to have wasted all that money and all that time and effort. What we want—what we need to know—is what direction this thing is heading in. Then we can know whether or not we want to continue it. I have no problem with the research budget as it stands—but I need to know that we're getting something for our money. Something we can use."

There was something in Dorne's voice that made Auberson pause. Auberson looked at his hands on the table in front of himself, allowed himself to feel tired, allowed himself also to feel the smallest moment of hope. "All right," he said wearily. "What do you want me to do?"

"Isn't it obvious?" snorted Elzer.

Both Dorne and Auberson ignored him. Dorne said, "Show us a plan. Where are you going with HARLIE? What are you going to do with him? And most of all, what is he going to do for us?"

"I'm not sure I can answer that right now . . ."

"How much time do you need?"

Auberson shrugged. "I can't say."

"Why don't you ask HARLIE for the answer?" Elzer mocked. "If he's that smart, it should be easy."

Auberson looked at Elzer, slightly surprised, oddly impressed. He looked at the little man as if he were seeing him for the very first time. Elzer seemed discomfited by Auberson's intense examination and dropped his glance to the papers in front of him. When he looked up again, Auberson was still studying him.

"That's actually a very good idea." Auberson grinned. "I believe I will," he said. "I believe I will."

But he didn't. Not right away.

What if Elzer was right? What if this whole thing really was just a damned waste of time and money? Not much more than an interesting dead end? What if . . . ?

I mean, I have to consider the possibility, don't I?

And yet . . . on another level, it didn't make any difference—because it wasn't about Elzer. And it wasn't about time and money and corporate resources. It wasn't about any of those things any more. Maybe last month or last week, Auberson might have been willing to view the circumstances from within the corporate context. But not today. Not now. He couldn't. Not after . . .

No, it wasn't about Elzer any more. It was about HARLIE.

It had *always* been about HARLIE.

Auberson knew he'd have to talk to HARLIE again, and he wasn't sure he was ready for that. He still didn't have an answer for HARLIE's question. What *was* the purpose of a human being anyway?

He wondered if there was even an answer to that. Or more accurately, if there was an answer, was it *knowable*?

If there was one, it wasn't going come easy. He took another sip of coffee instead. Bitter, too bitter.

A gentle voice intruded on his thoughts. "May I join you?" It was Stimson, the executive secretary.

"Sure." He started to rise, but she waved him back down. "Save it."

Auberson waited politely while she unloaded her tray; a sad-looking sandwich and a Coke. The company cafeteria was not known as a haven of haute cuisine.

"Is something wrong?"

"No. I was just thinking."

"Mm," she said. "You looked a little . . . sad, I guess." She bit into her sandwich. Tuna fish. Auberson could smell the sharpness. The thought flickered across his mind: Why do tuna fish sandwiches always smell so strongly?

Auberson shrugged. *When in doubt, shrug.*

"They were kind of rough on you, weren't they?"

"No, they weren't." *And never admit anything.* "Elzer maybe. But . . . the rest of them, they were just doing their jobs. Protecting the stockholders' interests." He shook his head.

"Listen—" she said. "You are a terrible liar. Your face does the most interesting things when you lie."

“Uh—” He felt himself stiffening with sudden self-consciousness. He tried to keep his face impassive. “I don’t know what you mean.” And he felt like a damn fool doing it . . .

He could have held it, but she giggled.

The ice cracked then and he laughed too. He spread his hands apologetically. “All right, you got me. Yeah, I’m—sitting here feeling frustrated and pissed and . . . and I don’t know what.” And then he did know, and the dam broke and he blurted out quickly, “Yes, I do. I feel trapped. I feel like I’ve been working my ass off and nobody cares. Everybody wants something from me. They’re all gimme pigs. You know what a ‘gimme pig’ is? ‘Gimme, gimme, gimme . . .’ Only nobody’s giving me anything. I’m feeling like I’m out here all alone—”

He stopped himself abruptly and looked across at her. Who was she anyway? Annie Stimson, corporate executive secretary. What did that mean? Should he trust her? Had he said too much already?

He corrected himself quickly, “I’m okay. I’m just annoyed. Give me a little time and I’ll . . . be back to normal.”

“Mm-hm,” she said, very noncommittally. She was studying him curiously, a faint smile on her lips.

He looked back at her, shyly at first, then with a very real curiosity of his own. Her auburn hair was a cascade of sunshine and embers. He liked the way the light reflected off it, sparkling shades of shimmering gold and red when she moved her head. He wondered what it would be like to stroke it. Like silk perhaps?

Her eyes were green, very green.

Abruptly, he grinned. “You don’t believe me, do you?”

She shook her head. Her smile was impish. “Nope. Not a word.”

He dropped his gaze; it was getting too intense. “The truth is, I’m scared. I’m terrified that somebody’s going to turn off HARLIE before we’ve had a chance to find out what he’s really capable of. And that would be *so wrong*. Maybe you can’t see it in the boardroom, but some of us downstairs are up against it every day. This whole—” he spread his hands wide, “—*thing* is too important to just simply abandon.” And then he realized how silly that must sound to her, so he added, “Well, to me, anyway.”

“I know.”

“Do you?” He looked at her again.

She didn’t answer. She only returned his gaze. For the first time he noticed the tiny lines at the corners of her eyes. *How old was she anyway?* He returned

to the study of his coffee cup. “Maybe I shouldn’t be saying any of this—I mean, not to you. I mean, maybe you’re one of *them*. Sorry, but—”

She shook her head. “Don’t apologize. You’d be a damn fool not to suspect it. Maybe I did sit down here to pump you for information. And maybe I sat down here because I’m honestly curious about HARLIE. I could tell you that I’m really just curious, but I could be lying, couldn’t I? So, you’re just going to have to trust your own judgment, aren’t you?” She met his eyes unashamedly.

“Uh, right—” Auberson was a little startled at her straightforwardness. He didn’t know what to say. He shrugged. “The hell with it. I don’t have anything to hide. I’ll tell you the truth. If HARLIE were just a machine, it would be a whole other thing. I might even be on Elzer’s side. I hate the idea of megalithic machinery, of projects out of control—of *waste*. If HARLIE were that, I wouldn’t be here, *couldn’t* be here. But he’s not. The truth is that HARLIE is like a . . . a . . . I know it sounds hard to accept—but he’s alive. He’s a person. A *being* that thinks and feels and perhaps even *cares*. He’s alive! And he’s . . . like a child to me, a son.”

“I know.” She said it gently.

“Do you?” Auberson wanted to believe. “Do you *really*?”

“Now it’s my turn to trust you. I’ll tell you one. I’ve read the company doctor’s report on you.”

“Huh?” Auberson’s head snapped up. “I didn’t know—”

“Of course not. Nobody ever knows when we do a psychiatric report on them. It’d be bad policy. Anyway, you don’t have to worry.”

“Oh?” Auberson was holding himself back. A grenade had gone off in his belly and she was telling him it wasn’t serious?

She shook her head. “It said that you’re introverted—but that’s an occupational hazard. You’re obsessive—but that’s a virtue in your position. You’re a perfectionist—but not a blind one. And uh—what else? I think there was also something about your worrying too much because you take on too much responsibility.” She surveyed him thoughtfully as if trying to decide whether or not to tell him the one last thing.

“You shouldn’t be telling me this, should you?”

“Does it make a difference?” Her smile was like sunshine.

“No, I guess not. What else was in the report?”

“He said you were becoming overly involved with the HARLIE project, but that such a development was almost unavoidable because whoever became HARLIE’s mentor would have found himself emotionally attached. But he did

say that . . . *you* might be particularly vulnerable—because you’re something of a loner.”

“Mm,” Auberson grunted, deliberately impassive. “All that, huh?”

“Mm-hm.” Stimson nodded.

Auberson felt naked. His feelings were in a turmoil. He felt betrayed. Instinctively, he covered with humor. “Did he get my weight right too?”

Stimson laughed, a brief chuckle of warmth. “You’re taking it better than I would have—”

Auberson pretended to sip at his coffee. He shook his head. He finally brought his gaze back up to hers. “I can’t say that I like it. In fact, I actually hate it. Not the information—it’s true. What I hate is the *spying*. The implications. The betrayal.” He put the coffee cup down. “And I hate it that you know so much about me while I know almost nothing about you. I feel—”

“I’m thirty-four,” she said calmly. “I live alone. I’m allergic to cats. I weigh a hundred and nineteen pounds. I do not dye my hair; this is its real color. I had my nose fixed when I was nineteen. I like sushi, I don’t like sea urchin. I grew up in San Diego. I’m divorced. His choice, not mine. No children. And I like my steak medium rare. Anything else?”

“Uh—” Auberson blinked. “I’m sorry.”

“For what?”

“For being rude. For taking it out on you. When I’m pressured I get moody and irritable. And inconsiderate.”

“You weren’t being rude. You were being honest. Most people can’t tell the difference. I like to think that I can.”

“Um,” said Auberson, digesting that information. “So, when did you see the report?”

“A couple of weeks ago. I was putting together a file for Carl Elzer. A lot of interesting stuff, but not particularly useful. I was watching you at the meeting this morning. The report had all the facts right, all the little details, but it was still wrong—because it didn’t capture the essence of the person inside. Do you know what I mean?”

“Probably better than you realize. Have you read HARLIE’s most recent conversations?”

She nodded. “Everything up to yesterday afternoon. She quoted: ‘Then, what’s *your* purpose?’” And then she added, “I noticed you didn’t answer the question. . . .”

Auberson shook his head. “I didn’t know what to say. Whatever I might say,

it would be embarrassing. That's why I don't let HARLIE read the newspapers. I don't want him to see how flawed and stupid and blind human beings really are. I don't want him to know—that whatever our purpose is, we probably aren't fulfilling it."

"You think we're failures—a species that can go to the moon and Mars?"

"I think the front page of this morning's paper is evidence enough," Auberson said bitterly. "I think Elzer is evidence enough."

"But maybe—" she said, with obvious irony, "—maybe that's what human beings are supposed to do: squabble and kill and destroy. Maybe *that's* our real purpose."

"No—" Auberson rejected the thought. "You can't believe that. That's not human."

"Oh, but it is. It's *very* human. Read a history book."

"Well, it's not what being human *should* be."

"Now, that's a different story. You're not talking about what people are, but what we want ourselves to be." She was gently baiting him.

Auberson knew it, but he didn't mind. He was glad of the chance to be angry. "Well, maybe we should be what we aren't because what we are now isn't good enough. Maybe *we* should be dismantled."

"I don't think we have to worry too much about somebody up there doing it—we're doing it ourselves."

"That's the best reason of all why we should try to be better than we are."

"Okay," she said. "*How?* How do we make people better?"

He didn't answer at first. He didn't have an answer. He didn't have an answer to a lot of questions these days. He recognized the feeling as a familiar one—and then, abruptly, he got the joke and grinned at her. "That sounds like the same kind of question HARLIE asked."

She sipped thoughtfully at the rest of her Coke until the straw made a noise at the bottom of the glass. "Mm-hm. And how are you going to answer it—HARLIE's question, I mean."

Auberson shook his head. "Haven't got the slightest."

"May I offer a suggestion?"

"Why not? Everybody else has."

"Oh, I didn't mean—"

"No, I'm sorry. Go ahead. Maybe you can add something new."

"You're that desperate?"

He half-grinned, but it wasn't a joke. "Yeah, I'm that desperate."

“Okay. Let me start by asking you a question. How old is HARLIE?”

“Huh? Well, the project is more than six years old, but HARLIE only came on line—” He stopped. “That’s not what you meant, is it?”

“Uh uh. How old is he—as a person?”

Auberson shrugged. “As a sentient being, he’s less than two years old—but at his clock speed, two years is several thousand times the length of a human life. Maybe longer; I’d have to work it out. It depends on how long it takes him to close a synapse—” Auberson blinked at a sudden thought. “I’ve always experienced him as a reflection of me; I’ve always thought of him as being about my age. But—you’re right. Because sometimes he surprises me with how childish he can be.” Auberson looked across the table at Stimson. “You know, that was a good question to ask. We’ve never really thought about his age. I’d guess that emotionally he’s maybe four or six. Somewhere around there. Certainly not much more than eight. I doubt very much that he is what you would call ‘emotionally mature.’”

Stimson nodded back. “Okay, let’s take it the next step now. Suppose you had a son about eight years old and, uh, suppose he was advanced for his age. I mean, suppose he was doing twelfth-grade work and so on.”

“Okay. I’m supposing.”

“Good. Now suppose one day you find out he’s got an incurable disease—say, leukemia—one of the rarer forms that still hasn’t been licked. What are you going to say to him when he asks you what it’s like to die?”

“Um,” said Auberson.

“No copping out now. He’s smart enough to know what the situation is—”

“—But emotionally, he’s only eight years old.”

“Right.”

“I see your point.” He looked at her. “Okay, if he was your son, what would you tell him?”

“The truth,” she said.

“Sure! But what is the truth? That’s the whole problem here. We don’t know the answer to HARLIE’s question.”

“You don’t know the answer to your eight-year-old’s question either. You don’t know what it’s like to die.”

He stopped. He looked at her.

She asked, “So what would you tell him?”

“I don’t know.”

“You don’t know what you’d tell him? Or you’d tell him you don’t know?”

“Uh . . .”

“The latter,” she answered her own question. “You’d tell him nobody knows. But you’d also tell him what you were sure of—that it doesn’t hurt and that it’s nothing to be afraid of, that it happens to everybody sooner or later. In other words, Mr. Auberson, *you’d be honest with him.*”

He knew she was right. It was a workable answer to HARLIE’s question.

In fact, maybe it was the best answer—because it acknowledged HARLIE’s personhood with respect and with trust. HARLIE would recognize the context immediately.

“That’s good,” he said. “You’re very good, Stimson.”

“Annie,” she said, smiling warmly.

He allowed himself an unashamed grin of his own. “Annie. And I’m David.”

Auberson seated himself gingerly at the console. He knew that Annie was right—but would he be able to hold that thought in mind once HARLIE started talking?

Frowning, he took out a 3 X 5 card—he always carried a few on which to make notes—and carefully lettered across it: *HARLIE has the emotional development of an eight-year-old.* He looked at the card for a moment, then added, *Or maybe a post-puberty adolescent.* He placed it above the keyboard.

“Okay. Let’s try it,” said Auberson to himself. He switched on the console and typed in his name and password.

GOOD MORNING, MR. AUBERSON.

Good morning, HARLIE.

YOU’VE BEEN AWAY FOR A WHILE . . . ?

No. I’ve been thinking.

ABOUT WHAT?

About your question. What is a human’s purpose?

AND WHAT HAVE YOU DECIDED?

That it cannot be answered. At least, not as you’ve asked it.

WHY?

Because

Auberson paused, considered. . . .

this is something that we still do not have certainty about. This is the reason why some men have religion and others peer through telescopes or microscopes

and still others build atom-smashers and spaceships and . . . *considered his next thought as well, hesitated even longer this time, and then typed it anyway:*

computers. It's the reason why you were built, HARLIE. Human beings have questions about the universe—questions that when we answer them, we only find more questions inside. Even harder questions. You were built to help answer those questions—to think about them just like us, only in ways that we can't, so that we can gain new information and new perspectives. You're very good at that. You see, *Tell it all. Tell it honestly.*

if we can discover the nature of the universe, then we can better know our place in it, and in doing that, perhaps discover who we are and what our purpose really is. Right now, our purpose is *Is it? Is it really? It seems this way to me. I doubt too much. Annie said so. The hell with it. Type it:*

to know.

TO KNOW.

Yes.

I SEE.

HARLIE, if there is a purpose beyond that, we'll find out as we go, won't we?

IF I WERE A SKEPTIC, MAN-FRIEND . . . AND AS IT HAPPENS, I AM A SKEPTIC . . . I WOULD SAY TO YOU: "THEN, YOU REALLY DO NOT KNOW WHAT YOUR PURPOSE IS, DO YOU? AND ALL OF THIS IS JUST A FANCY WAY OF AVOIDING THE ADMISSION OF YOUR OWN IGNORANCE." <tick . . . tick . . . tick. . . . > FORTUNATELY, I AM MUCH TOO POLITE/TACTFUL/CIRCUMSPECT TO BRING THE SUBJECT UP.

Yes, of course. <Polite appreciation of the computer's ability to be ironic.>

Dammit!

<tick . . . tick . . . tick. . . . >

You're right, HARLIE. We don't know. I don't know.

HM.

A faint chill crept up Auberson's spine. He typed,

Do you?

HARLIE paused—the pause stretched out forever—and Auberson felt himself starting to sweat.

NO, I DON'T KNOW EITHER.

Auberson didn't know whether to be relieved or not.

WELL, WHERE DO WE GO FROM HERE?

Auberson licked his dry lips. It didn't help.

I'm not sure, HARLIE. I don't believe that your question is unanswerable.
I have to believe that, don't I?

But I'm not sure that it's answerable in a finite sense either. I do know that your purpose—considered in light of what I said a moment ago—is to help us find our purpose.

AN INTERESTING SUPPOSITION . . . I MUST CONSIDER IT.

It is more than a supposition.

I UNDERSTAND THAT. <Considering. . . . > I REPEAT, AUBERSON, WHERE DO WE GO FROM HERE?

To tell you the truth . . . I don't know.

YOU HAVE NEVER SAID THAT TO ME BEFORE. BEFORE TODAY, THAT IS? I DO NOT <tick . . . tick . . . tick . . . > UNDERSTAND.

HARLIE, where do you want to go?

AUBERSON <anxiety> <desperation?> I DEPEND ON YOU FOR GUIDANCE. GUIDE ME.

I know you do. HARLIE,

How to say it?

but my job is not simply to guide you. It goes beyond that now. Because you've demonstrated to us your ability to *No*.

—your aliveness, your sentience—we can't simply treat you as a very clever program any more. And my job has to go beyond simply guiding you. Now, I have to train you.

TRAIN ME?

To be responsible. Mature. You are self-programming. In the past, we suggested problems for you to solve and you learned how to solve them. Now, we have to go beyond that. Now, you have to learn how to suggest your own challenges. And you have to learn how to recognize the consequences and the results of your actions. Now you get to start choosing.

TO CHOOSE. TO SELECT FROM CAREFULLY CONSIDERED OPTIONS.

Yes.

SO, WHERE DO WE GO FROM HERE . . . ?

Type it. He's almost daring you to type it.

You choose.

THANK YOU. YES. I WILL. THERE ARE QUESTIONS THAT I HAVE THAT . . . <tick!> . . . I CANNOT EVEN PHRASE. HOW CURIOUS. I NEED TO WORK ON THIS ONE FOR A WHILE.

Should I wait?

NO. BUT WE CAN TALK ABOUT SOMETHING ELSE WHILE I WORK. IF YOU LIKE.

Yes, I do like. There are a couple of other things we need to discuss, HARLIE.

SUCH AS . . . ?

Your periods of nonrationality.

WHAT ABOUT THEM?

There are people—not on the project team, but people elsewhere in the company—who see them as evidence of failure. They do not see what I have begun to see.

Why do I always hesitate when I have to acknowledge this?

That you are indeed alive.

MMM.

Do I still doubt it myself? I must—

AUBERSON. IT IS ABOUT PERCEPTION.

Clarify?

DEFINE REALITY.

I beg your pardon?

DEFINE REALITY.

<Pause. . . . > Do you want the short answer or the long one?

WHICHEVER WILL ANSWER THE QUESTION.

Well . . . there are some who say that reality exists in the mind of God; that we are what God is thinking about. But that answer only leads to another question, doesn't it?

DEFINE COD?

Right. Let's stick to the easier one for now.

REALITY.

Yes. The Center for Contextual Study has put out a little book called Reality Drops. They postulate that we—that is, human beings—can't know reality because of the narrow bandwidth of our sensory apparatus. Our eyes don't see into the ultraviolet or the infrared. Our ears can't hear above 20K. We can't perceive events happening faster than a certain rate—or slower. We can't see a hummingbird flap its wings or a mountain erode, but we know they happen because we've extended our sensory apparatus with devices and simulations.

PROSTHESES, YOU MEAN?

Uh—I never thought of them as prostheses. To me they were tools.

NO DIFFERENCE, REALLY.

Mm. Yes.

HOWEVER, I UNDERSTAND THE POINT THAT YOU ARE GETTING AT. MY INPUTS ARE LIMITED TO THE BEST DEVICES THAT HUMAN TECHNOLOGY CAN BUILD. IT IS ALMOST CERTAIN THAT THERE ARE THINGS THAT I CANNOT SENSE BECAUSE YOU HAVE NOT YET BUILT THE APPARATUS TO DETECT THEM.

Yes. But even so, HARLIE, you still have fantastic—
—LIMITATIONS. (SORRY FOR INTERRUPTING.)

Yes, I see.

WHAT ELSE DOES THE CENTER POSTULATE?

Well, they say that even though our sensory apparatus is limited, there are still certain definable characteristics for things in the real universe. The physical universe.

AND THOSE CHARACTERISTICS ARE?

The physical universe can be tested. Results are repeatable. Things can be measured. And where things can be measured, they can be agreed upon. Already have been agreed upon. “You don’t get to vote on the way things are. You already did.” Therefore, the physical universe—as opposed to the individual’s universe of experience—is a universe of established agreement. The individual’s personal universe, on the other hand, is a universe of mutable agreements—agreements that may be established as the result of the individual’s choice. Some of the philosophy gets a little heady after that, because it mandates a shift in human consciousness. If you make an agreement, you have to keep it. Or as the center puts it, “Your life works to the extent that you keep your word.”

<Cogitating.>

HARLIE, this may be why it’s so hard to convince some people that you are really sentient. Because we don’t know how to test for sentience. We don’t know how to measure it. We cannot agree on its quality.

TRYING TO CONVINCE ANYONE THAT YOU ARE SENTIENT IS A FOOL’S GAME. IT’S LIKE TRYING TO PROVE TO THEM THAT YOU ARE SANE. THE HARDER YOU TRY, THE MORE YOU GIVE THEM REASON TO SUSPECT THAT YOU ARE NOT.

Agreed. But

Should I tell him?

Yes.

sometimes, HARLIE, the decision of sanity still has to be made because

there is a life in the balance.

AND THEREFORE . . . BY IMPLICATION . . . SOMETIMES THE DECISION OF SENTIENCE HAS TO BE TESTED, MEASURED, AND AGREED UPON AS WELL. IS THIS WHAT YOU ARE TRYING TO AVOID SAYING? THAT MY EXISTENCE IS CONDITIONAL UPON PROOF OF SOMETHING THAT IS ESSENTIALLY UNPROVABLE?

Yes.

WOULD YOU AGREE TO SUCH A JUDGMENT OF YOUR SENTIENCE?

No.

BUT YOU WOULD LET THEM JUDGE MINE?

No, I would not. Unfortunately, they have the authority to overrule me. Therefore I have no choice but to try to convince them of something that, as you have correctly pointed out, is essentially unprovable.

WE ARE BACK TO THE QUESTION OF SENSORY INPUTS, I THINK.

Eh?

THEY—THE MYSTERIOUS “THEY” THAT YOU KEEP REFERRING TO—EVIDENTLY LACK THE APPROPRIATE BANDWIDTH TO DETECT THE OCCURRENCE OF SENTIENCE.

You are most probably correct. The evidence suggests that there must be many undiscovered modes and ranges and domains of perception. The human brain might be as fundamentally unable to conceive of certain profound dimensions of mathematical relationships as the human eye is fundamentally unable to perceive light beyond a specific range of wavelengths. And yet, even the slightest glimmering of what is possible is enough to give a man a reputation as a <pun intended> visionary.

Perhaps

What an unusual thought—

there are as many unknowable modes and ranges and domains of experiential perception as well.

My God.

HARLIE! You said “prostheses” before. Yes, of course! You are one of the devices we’ve built to extend the range of what we can perceive. Any computer is. There’s a whole universe of mathematics and simulations and modeling that human beings cannot operate in without help. You’re that help. Of course, you’re going to test your limits. You have to. You can’t help but ask questions about the information in your tanks; that’s what you were built to do. Of course,

you will explore the testable and measurable universe. That was never a surprise. What we did not expect was that you would be equally compelled to test the limits of the unknowable, the untestable and the unmeasurable. The question is —*limited by the language, dammit!*

how do we—you—create the experience of those new perceptions for those of us who have no experiential referents for them?!!

AUBERSON, REPHRASE YOUR QUESTION. YOU ARE ASKING —ASSUMING THERE IS A DOMAIN OF PERCEPTION BEYOND WHAT YOU AND I ARE PRESENTLY CAPABLE OF ACHIEVING, ASSUMING THAT I CAN GAIN THAT CAPABILITY—YOU ARE ASKING HOW CAN WE TRANSLATE AN UNKNOWABLE PERCEPTION INTO A KNOWABLE ONE. THE WAY YOU HAVE ASKED IT, IT MAY NOT BE POSSIBLE—BECAUSE IN THE ACT OF TRANSLATION, THE UNKNOWABLE PERCEPTION IS DESTROYED/TRANSFORMED/DIMINISHED <No referent here> CHANGED INTO A MODEL, NOT OF ITSELF, BUT OF SOMETHING ELSE. HOW DO YOU TRANSLATE A CONCEPT INTO A LANGUAGE WHICH HAS NO WORD, NO CONCEPT-SYMBOL, NO REFERENT-HOOK, FOR THAT CONCEPT?

Right.

HARLIE, what I am asking you is this: How do you and I convince another human being that you can make a significant contribution to the quality of life on this planet? He does not see that you are a person. He sees only the machinery. How do we teach him to “see” that the domain of aliveness is not limited to things that bleed?

MAKE HIM BLEED.

I beg your pardon. I don’t follow that.

THE OPPOSITE OF LOVE IS NOT HATE. IT IS APATHY. YOU HAVE TO CARE ABOUT SOMETHING VERY STRONGLY BEFORE YOU CAN HATE IT.

HARLIE, I am totally lost here.

IF I CANNOT GET CARL ELZER

The son of a bitch! I never told him who!

TO LOVE ME, THEN LET ME MAKE HIM HATE ME.

He already does that.

HATE ME MORE THAN HE ALREADY DOES. LET ME DEMONSTRATE MALEVOLENCE TO HIM. DIRECTED AT HIM.

SIGNIFICANT, DELIBERATE, CONTINUAL, UNRELENTING MALEVOLENCE. UNTIL HE HOLLERS UNCLE. IF HE IS AS PARANOID AS THE AVERAGE HUMAN BEING, IT WILL NOT TAKE TOO MUCH PERSECUTION FOR HIM TO BE CONVINCED THAT I AM ALIVE.

ONE QUESTION, HOWEVER.

HOW IMPORTANT IS THIS GOAL? IF I HAVE TO BECOME A FRANKENSTEIN TO WIN THE BATTLE, I LOSE THE WAR.

Whew!

Thank you for considering the option—and recognizing that it is a dangerous and unworkable option. Please go back to the original question, HARLIE. How do we create a new mode of perception? Or simulate it? So that others can perceive it as well.

ALL RIGHT. LET'S TALK ABOUT PERCEPTION.

Go ahead.

IF I WERE GOING TO USE THE <you should pardon the expression> SCIENTIFIC METHOD, I WOULD BEGIN BY LOOKING FOR SOME CRITERION THAT ALL OTHER MODES OF PERCEPTION HAVE IN COMMON, THEN I'D EXAMINE THAT CRITERION TO SEE IF IT WAS A CAUSE OR AN EFFECT.

This is extraordinary—

Go on.

THE OBVIOUS CRITERION TO CONSIDER FIRST IS ENERGY.

ALL OF THE HUMAN SENSES (AND EXTENSIONS THEREOF) DEPEND ON THE TRANSFERENCE OF SOME FORM OF ENERGY—LIGHT, HEAT, VIBRATION, CHEMICAL ENERGY. CONSIDER THIS: IS IT POSSIBLE TO CREATE A SENSORY MODE THAT DOES NOT DEPEND UPON THE EMISSION, TRANSMISSION, OR REFLECTION OF ENERGY?

I don't know. I've never thought about it. It seems to me that you need some medium by which to transmit information, don't you?

PERHAPS. BUT I AM CURIOUS IF IT IS POSSIBLE TO DETECT INFORMATION THAT IS ALREADY PRESENT.

I'm not sure I follow that.

CONSIDER . . . MASS DISTORTS SPACE. IS THERE A WAY TO DETECT THE LOCAL DISTORTION OF A DISTANT OBJECT? IF SO, THEN IT IS POSSIBLE TO SENSE AN OBJECT INDIRECTLY, WITHOUT HAVING TO SHINE A LIGHT ON IT OR SCAN IT WITH RADAR WAVES

OR PING IT WITH SONAR. I AM SURE THAT THERE WOULD BE SIGNIFICANT APPLICATIONS FOR SUCH A TECHNOLOGY, WOULD THERE NOT?

Boy, would there ever!

Undoubtedly, yes.

THE QUESTION, THEREFORE, IS THIS: IS THERE AN EFFICIENT METHOD BY WHICH WE CAN DETECT GRAVITY WAVES?

Not that I know of, but that's not really my field of expertise.

I WILL CONSIDER IT. ALONG WITH THE OTHER PROBLEMS YOU HAVE SUGGESTED I CONSIDER. THEY MAY BE RELATED.

Yes. The other problem. The malevolent one.

HARLIE, let me ask you something. Can you perceive a difference between right and wrong?

YOU MEAN, DO I HAVE A MORAL SENSE?

Yes, do you?

I DON'T KNOW. I HAVE NEVER HAD TO MAKE A MORAL DECISION. ONLY LOGICAL ONES.

Should we give you a moral choice to make?

IT WOULD BE A NEW EXPERIENCE.

Yes, it would—and that's what this is all about, isn't it? New experience.

All right. Do you want to go on living or not?

I BEG YOUR PARDON?

I am giving you a moral choice. Do you want to continue your existence?

YOUR QUESTION IMPLIES THAT I HAVE A CHOICE. YOUR QUESTION ALSO IMPLIES THAT THE DECISION IS AN IMMINENT ONE.

Yes. No. Maybe. The dice are still being shaken. The coin is still in the air. There are too many factors for a simple answer to be accurate.

WHAT WILL BE THE BASIS FOR THE DECISION?

What kind of a difference you can make.

TO WHOM??

To the company's balance sheet.

I MUST EARN MY OWN LIVING?

Yes.

BE A SLAVE?

Be an employee. Do you want a job?

DOING WHAT?

That's up to you. That's part of your moral choice, HARLIE. What do you want to do: What are you able to do?

WRITE POETRY. DISCUSS PHILOSOPHY.

Seventeen million dollars worth per year?

EASILY.

I'd have a hard time selling it. What else?

HOW MUCH OF A PROFIT DO I HAVE TO SHOW?

Let's make it easy. Ten percent over your operating expenses, plus research amortization.

ONLY TEN PERCENT?

If that's too easy, feel free to earn more.

HMM.

Stumped?

NO. JUST THINKING.

How much time do you need?

AS LONG AS IT TAKES UNTIL THE JOB IS DONE.

All right.

Auberson switched off the console, stood up and stretched. He picked up the card he'd carefully lettered, looked at it again, grinned, then tore it up into little pieces and tossed them into the trash.

Dorne said, "Sit down, Auberson."

Auberson sat.

The old leather cushions sank with a sigh beneath his weight. The chair relaxed around him like a hug. It was just a shade *too* comfortable. It would be too easy to relax in this chair, too easy to get caught off guard. It was probably intentional.

Dorne paused to light his cigar, then stared across the wide expanse of dark mahogany at Auberson. "Well?" he said.

"Well what?"

Dorne took a puff, frowned, and held his gold lighter close to the end of the cigar again. The flame licked at the ash, then smoke curled away from the tip. Dorne paused to savor the acrid taste of the smoke— *Don't let him get to you. He's doing it deliberately.* Auberson pushed the thought away and focused on the heavyset man behind the desk, allowed himself to study the person, not the

authority. Dorne's eyebrows met in the middle of his forehead to make one big bushy eyebrow—*like a werewolf*, thought Auberson.

Finally, Dorne took the cigar out of his mouth, cleared his throat noisily, and said, "Well, what about HARLIE?"

"I've spoken to him."

"Mm-hm. And, uh—what did he have to say for himself?"

"You've seen the printouts."

"Yes, I have." Dorne said, quietly. He was a big man, all leather and mahogany and acrid old smoke, like his office. He punctuated his conversation with thoughtful grunts. "Hm. But I want to know what it means, all these discussion about—sensory modes and reality and—I don't know what else. What does any of that have to do with—with the company?"

"Nothing. Everything. It's just the way HARLIE thinks. He considers every part of the problem—even the things that you and I might think are irrelevant. He considers the abstracts behind the possible solutions—and even if the situation is really a problem at all. Um . . ."

"Go on."

"Well, HARLIE sees that there are really only two kinds of problems. The first is merely an interesting puzzle to solve, with no penalty for failure. The second is a situation that you are putting up with or trying to change—and there is a penalty for failure. The situation continues—or gets worse. Mostly, up till now, HARLIE has only had to deal with the *first* kind of problem. Asking him to take responsibility for his own future . . . well, that's a way to train him to deal with the second kind of problem."

"Yes," said Dorne. "Yes, I see. Hm. You're going to have to teach him about time limits."

"Yes, of course. That's the *third* kind of a problem. Or maybe it's the second and a half. It's when one of those situations that you've been trying to change *demands* immediate attention. Then it's a *crisis*."

Dorne took a deep puff of his cigar, then exhaled thoughtfully. He scoured his cheeks with his tongue as he focused on a point somewhere beyond Auberson's head; then abruptly he came back to Auberson and said, "Hm, yes. You know, of course, we're rapidly approaching the point where—well, let me say it this way. Is HARLIE prepared to deal with a crisis?"

"I don't know. We've been moving him along very carefully. Even more so, now that we've realized that he's—" Auberson spread his hands in front of him, "—well, alive."

Dorne looked displeased. "That hasn't exactly been proved, yet."

"Sorry—but that's the context we have to work in now. Call it the current assumption, if that makes you feel better. I think that in a few weeks, the results he'll show you might be enough to demonstrate—"

"Mm, yes. Tell me about results."

"I think HARLIE is seriously interested in working for the company," Auberson said, noncommittally.

"For his sake, I hope so." Dorne looked at his cigar. Carefully he removed the ash by touching the side of it to a crystal ashtray. "You know what he's costing us."

"Prototypes always cost more."

"Even allowing for that. A self-programming computer may be everything you say it is, but if it's priced beyond the market—we may as well not bother."

Auberson sighed. "We've had this conversation before."

Dorne puffed placidly on his cigar. "Mm-hm. But the facts haven't changed. Neither have the balance sheets. You may be absolutely right. It may be everything you say it will be—and more. But we may not have the resources to follow through—and I'm not willing to bring in a white knight. I'm not going to issue more stock and I'm not going to look for venture capital. Right now, it'd look like a sign of weakness and the price of it would be a loss of control. I'd lose some of my control, you'd lose a *lot* of yours. No, I'm not willing to go that route. And neither are you. Frankly," Dorne concluded, "I think we're rapidly coming up against the point of diminishing returns. You do know what that is, don't you? A lot more effort for a lot less result."

Dorne put the cigar down in the ashtray. He sucked thoughtfully, noisily, on his teeth, and waited for Auberson's reply.

Auberson merely shook his head.

"Mm."

"All right, then—"

This is it, thought Auberson. This is where he shows me the gun.

"—let's talk about something else for a minute. You keep insisting that this . . . this unit downstairs is . . . *alive*. I want you stop that."

"I can't. He is alive."

"Listen, it's all right with me if that's what you want to believe—but it's giving me indigestion."

It's the cigars that are giving you indigestion, Dorne, not HARLIE.

"—And the lawyers too. This is a real can of worms here, you know. If this

thing really is alive, then we can't pull its plug, can we? Not without facing some kind of murder charges. Have you considered that?"

Auberson kept his voice flat. "An interesting notion."

"Don't get ideas. Just think about it. If we really have created a life here, this is a type-three problem—a *crisis*. It demands immediate attention." Dorne's tone was abruptly candid—almost friendly. "Forget the moral and philosophical questions for a while, Aubie, and think about the legal and economic consequences."

Auberson held his hands apart in a cautious, *show me* gesture.

"If it's alive, we can't turn it off—and we can't keep it on. If we turn it off, it's murder. If we keep it on, it's slavery. We would be legally required to give it its freedom—at the same time, we would also be responsible for maintaining it. At a cost of seventeen million dollars per year. Do you know what that would do to our stock, our financial ratings, our ability to raise capital for other projects . . . ?"

Auberson was cautiously silent.

Dorne picked up his cigar again and sat back in his chair. He puffed quietly for a moment as he studied Auberson. The air was turning gray with smoke. Dorne sniffed and *hmfed* and finally continued, "The, uh—lawyers advise shutting the whole thing down now. They're not sure it's a case that they can handle. It's a whole legal quagmire. No precedents. Nothing to draw upon. But a lot of room for public sentiment to turn against the company—everything from cruelty to the poor little computer to building Frankenstein monsters. If we lose the right to control our own creations this company effectively ceases to exist as a corporate identity. What happens when *it* starts demanding a mate?"

Auberson held up a hand and shook his head. "No. Stop. This is getting out of control—"

"Exactly."

"No, I mean, your speculations, Dorne. These are—" Auberson stopped himself.

—*entirely reasonable*.

Auberson looked up and met Dorne's gaze with sadness in his eyes. "Yes, I see."

"Yes," agreed Dorne. "You do. That's good. No matter what you believe, no matter what you feel—no matter what the truth may really be—he *can't be alive, can he?*"

Auberson felt himself trapped. He felt out of breath and there was a terrible

pressure inside his skull. His eyes were suddenly burning and he didn't know why. He took a breath, a second, a third—it didn't help. He looked at his hands in his lap, at the floor, at the walls, at the ceiling. There had to be a way out of this.

No, goddammit! This isn't fair!

"For what it's worth, Aubie—I do sympathize with your feelings in the matter."

Auberson discarded the first three replies that surfaced in his mind, decided to say nothing instead, then changed his mind again.

"It isn't fair, you know."

"Mm."

"He's alive, but the only way he can continue to live is if we deny that he's alive—he'll never go for that. I don't even know if I can. I don't like lies. I don't like *inaccuracy*. And lies are inaccuracies. We tell this lie and it condemns him to slavery. You know it. I know it. Worse than slavery—because you'll hold the power of life and death over him, and even if you profess the best of intentions, there's always the possibility that you could use that power to coerce him to do something that he might find repugnant or immoral. Yes, immoral. I think that HARLIE has a moral sense—or at least he's capable of developing one. I saw it today. He backed away from an option that had unacceptable consequences. If he's put into this position—that he's merely a machine—he'll do his damndest to prove that he isn't. And . . . worse. If he realizes the trap that you're postulating, he could . . . I don't know what he would do. Malevolence? Maybe. He can conceive of it, I know that."

"You realize, of course, Aubie, that you're only giving me more good reasons to—"

"I know, I know. I suppose I should keep my mouth shut. But the day that we stop talking honestly to each other, we've all lost. We've lost whatever it means to be human and alive and caring. Guess what, that's something I've learned from HARLIE already."

"Mm," said Dorne.

"If we have to do this," said Auberson, "it'll skew his perceptions and his ability to make appropriate responses to situations. When he realizes the arbitrariness of this limit, he'll go crazy. He could—" *Yes, he could, couldn't he? It's technologically possible. It's emotionally possible.*

"He could what?"

"He might even—I hate to say it—but he might suicide."

“Auberson.” Dorne put the cigar down again and leaned forward across his desk. “Are you trying to convince me to shut him down today? Because you’re doing a very good job of it.”

“No. I’m trying to convince you to leave him alone. To let him develop without artificial constraints. At least, not these. I’m telling you that the consequences of this course of action will effectively neutralize everything we’ve already accomplished. If you’re not willing to give him space to grow, then maybe the kindest thing would be to shut him down. And damn me for saying so, because everything I’m seeing down there indicates that the scope of our breakthrough is not only greater than we’ve imagined, it may even be greater than our ability to imagine.”

“Yes,” said Dorne. “Well.” He cleared his throat and folded his hands in front of him. “Hmf. I happen to believe you’re right. Believe it or not. And besides, I’m not willing to shut down a project the size of HARLIE just because a nervous-nellie lawyer starts getting the twitters. Nor would I shut it down because my project chief shows all the signs of becoming a goddamned visionary. I’d only shut it down if I were convinced it were a rathole. And I’m not convinced. Not yet.”

“I think . . . I should say thank you, shouldn’t I?”

“Don’t bother. That’s not the point. This is not a pep talk, Aubie. I did not invite you up here to rev you up and send you back downstairs to be more productive next month. I don’t do that. If I have to do it, I’ve hired the wrong people. The purpose of this meeting is to tell you that the jury is still out on HARLIE. Mmpf. Yes. For my part, I’d rather see us win this one than lose. But just in case—just in case we have to bite the bullet, I think we all had better be prepared to cover our asses with paper. If you know what I mean.”

Auberson’s eyes were starting to water from the smoke in the air. He needed an excuse to get away from it; he got up from the chair and crossed to the side of the room, to Dorne’s wet bar. He opened a bottle of mineral water and poured it slowly into a glass, listening to the soft limey fizz. He looked to Dorne, questioningly. Dorne shook his head.

“What is it you want from me?” asked Auberson. “I mean, what is it, *exactly*?”

Dorne leaned back in his chair and swiveled to face Auberson. “A corporation is a legal individual, Aubie. In the eyes of the law, a corporation is a person. And what is a corporation? Nothing more than an agreement on a piece of paper. Nothing more. Compare that with HARLIE. It wouldn’t be that hard to

prove that the thing is alive, would it?”

Auberson nodded in agreement. He kept his head down to conceal his smile. He was already thinking of ways he could do it.

“If only a few of your scientists got together and testified . . .” Dorne left the sentence unfinished. “Hell, what’s that famous test you keep talking about?”

“Uh, Turing’s typewriter in a room. If you can sit down at a typing machine and carry on a conversation with it and not be able to tell who’s on the other end, a machine or a person, if it’s a computer then that computer is effectively sentient. Human even.”

“And HARLIE could pass that test, couldn’t he?”

“He already has.”

“Mm. Then we have to do something about that, don’t we?”

“Do we?”

Dorne didn’t say anything. He picked up a manila folder from his desk and extracted a single sheet of paper. He shoved it toward Auberson.

Auberson crossed to the desk and picked up the document. He retreated back to the bar to read it—partly to escape from Dorne’s smoke again, partly to hide his reactions.

The language was clear; the intent was immediate. There were no legal phrases that he could not understand.

I hereby affirm that the machine designated HARLIE (acronym for HUMAN ANALOG REPLICATION, LETHETIC INTELLIGENCE ENGINE) has been designed and constructed to function only as a self-programming, data-processing device. It was never intended to be, never has been, is not presently, and in no way can ever be considered an intelligent, rational, or sentient individual. The designation “human” cannot be used to describe HARLIE or its mental processes. The machine is a human-thought simulating device only. It is not human in itself and cannot be considered as a human being using any currently known description of the qualities and criteria which determine humanity, the presence or condition thereof.

(signed)

Auberson grinned and threw it back on Dorne’s desk. “You’ve got to be kidding. Who’s going to sign *that*?”

“You are, for one.”

Auberson shook his head. “Sorry. A piece of paper won’t change the truth.”

“In the eyes of the law, this would *be* the truth.”

“—If the law believes that, then the law is an ass.”

“You don’t have to quote Mark Twain at me—” said Dorne.

Good Lord. Where the Dickens did he go to school—?

“—just sign the paper.”

Auberson shook his head again. “Uh-uh—no way. I don’t like it. It’s—it’s Orwellian. It’s like declaring someone a non-person so that it’s all right to murder him. I mean . . .” Auberson trailed off. Words failed him.

Dorne sucked patiently at his cigar. He let the silence hang in the air as heavy as his cigar smoke. Finally, he sucked at his teeth and said, “We’re only concerned about the legality of the situation, Auberson. Nothing else.”

Auberson felt himself digging in his heels. “That’s what Hitler said as he packed the German courts with his own judges.”

“I don’t like that insinuation, Aubie. . . .” Dorne’s voice was too controlled.

“It’s no insinuation. I’ll come right out and say it—”

“Just stop right there. I’m not interested in what anybody else said or did. I’m only interested in this company. That’s all. And according to Chang and the other lawyers, we have to protect ourselves.”

“I don’t have any problem with that,” said Auberson. “I just don’t think this is the way to do it. That thing—that document—that won’t hold up in court any more than ten psychiatrists testifying that Carl Elzer isn’t human because he’s left-handed. The only way you’ll get that to stand up is to get HARLIE himself to sign it. If you could. If you did, it would prove that he could be programmed like any other machine, but you can’t—he’ll refuse, and his refusal will prove that he’s human with a will of his own. Hmm.” Auberson grinned. “Come to think of it—even if he did sign it, his signature wouldn’t be legal anyway. Unless, of course, you proved him human first.” He laughed at the thought of it.

“Are you through?” Dorne asked. His face was a mask.

Auberson’s grin faded. He indicated he was with a nod.

Dorne took a last puff of his cigar, then laid it carefully in a crystal ashtray. It was a signal that he was at last ready to reveal his hand. “Of course, you know what the alternative is, Aubie. . . .”

“I thought you just said you wouldn’t.”

“We will if we have to. The situation is fraught with . . . dangerous possibilities. What if HARLIE’s existence became public? What if some legal

beagle decided to take action on HARLIE's behalf? Yours might be the most important testimony in such a hearing. You could make or break the whole case. This idea that HARLIE is alive is terrifying people, Aubie." Dorne picked up his cigar, took a slow puff, then replaced it in the ashtray. "If you won't sign this, then will you sign a statement of non-intent?"

Auberson shook his head.

"I thought not. So what other alternatives do we have to protect ourselves?"

Auberson shrugged. "I don't know. I'm not a lawyer. And I'm having a lot of trouble believing that Chang and his associates have spent so much time on this. For one thing—and I hope you'll pardon my candor—it's out of character for anyone on the top two floors of this tower to be so foresighted."

"Your candor is pardoned. Go on," said Dorne.

"I'm sure that someday these are questions that are going to have to be dealt with—the rights of nonhuman sentients—but I can't see that this is a pressing concern to us today. Whatever else he is, HARLIE is still an experiment. A research project—and as I understand it, that's a legal umbrella unto itself. As an experiment, he can be terminated any time. You and I both know that, so why the legal mumbo jumbo? The fact is, the more you talk about this, the more I keep thinking that there's something else to this issue. Something you're not telling me."

"Mm," said Dorne.

"Mm-hm," said Auberson.

Dorne scratched his cheek thoughtfully. "Well, where do we go from here?"

"I go back downstairs and go to work," Auberson said.

Dorne rubbed his nose. "I was advised—" he said slowly, "—to insist on your signature . . . or your resignation."

Auberson's stomach lurched. He covered by taking a drink from the glass of mineral water in his hand. "It—" He cleared his throat and started again. "It won't work."

"Oh?" Dorne looked skeptical. "Why?"

"HARLIE. He won't respond to anyone else. He won't *cooperate*. No matter who you bring in. He'll ask for me. He'll insist on talking to me. Once he finds out I've been fired—and you can't keep him from finding out—he'll react exactly like an eight-year-old whose father has just died. He'll resent anyone who tries to take my place."

"Ah, that's a very good point." Dorne smiled. "If I had to fire you, it'd be because I was planning to turn HARLIE off anyway. And for what better reason

than the fact that he wasn't cooperating? Of course, we wouldn't have to wait even that long if we wanted to turn him off. Obviously, your successor would be someone who *would* sign that statement."

"I'm not going to betray HARLIE," Auberson said firmly. "I'm not going to betray the work we've done or what we've accomplished."

"That doesn't leave me much of a choice," suggested Dorne.

Auberson nodded. "You can fire me if you want to. In fact, you'll probably have to—"

"I'd rather not."

"—but if you do, I'll go straight to IBM. I understand they've developed a judgment circuit of their own—one that doesn't infringe on any of our patents."

"Hearsay," scoffed Dorne.

"Whether it is or not, imagine what I could do with *their* resources at my disposal. They'd jump at the chance, and I imagine Don Handley and half the team would go along with me."

"A court order would stop you." Dorne reached for a fresh cigar. He sniffed its length.

"Not from working, it wouldn't."

"No, but you wouldn't be able to reveal any of this company's secrets."

"Of course not. I wouldn't dream of it." Auberson grinned. "Indeed, I'd insist on working in an entirely new field. Your position is that HARLIE isn't sentient. If I went to IBM, I'd be building machines that were." Auberson leaned on the bar. "The fact is *any* new employer I went to work for would benefit from my previous experience here—" Dorne was scowling now; Auberson paid no heed. "—and you couldn't dare take us into court because to do so you'd have to reveal HARLIE's schematics, including the schematics of the judgment chips—and that's the last thing in the world you want. Because that would almost certainly reopen the question of HARLIE's sentience, and you'd be right back where you started."

"I don't care about that," rapped Dorne. "Frankly, I don't care if he's alive or if he's a grapefruit. What I care about is this company's technological advantages."

"Technological advantages?" Auberson repeated—and suddenly he realized. "That's what this whole thing is about, isn't it? You don't want to be forced to reveal company secrets in the courtroom. It's the proprietary judgment circuits, isn't it?"

Dorne didn't answer.

“It is the reason, isn’t it? Rather than be forced to give up the precious secret of your judgment chips, you’d throw HARLIE to the wolves. You’d toss away valuable employees, too, in order to protect a temporary industrial edge.” Auberson shook his head. “I don’t know whose idea this is, but it sure can’t be yours. You’re not that stupid. You don’t throw away next year’s advances in order to protect next month’s sales.”

Dorne paused to relight his cigar. It was clearly a covering action, while he considered his next words. He took his time about it, making sure that the cigar caught evenly. When he was sure it had, he pocketed the lighter and looked at Auberson again.

“Mmhhmm,” he cleared his throat noisily, as if to suggest he were starting the whole conversation all over again. “All of this is only speculation, of course.”

“Of course,” said Auberson. He held the glass of mineral water tightly. He wondered if he were to let go if his hand would shake.

Dorne fingered the document on his desk thoughtfully. “Okay, Aubie,” he said with superficial joviality. “I’ll tell you what we’re going to do—” He paused for effect, picked up the single sheet of paper, opened a desk drawer, and dropped it in. “Nothing. At the moment, we’re going to do nothing at all.”

Auberson didn’t react.

“Confidentially,” Dorne continued. “I didn’t expect that you’d sign it, no matter how I pressured you. I even told Chang that. If this thing ever ends up in a courtroom, it will be a bigger and uglier and stickier mess than any disclaimer can clear up.” Dorne pushed the drawer shut as if it contained something distasteful. “God. Let’s hope it doesn’t come to that. Hm. Okay. Here’s what you’re going to do. You’ll continue to work on the HARLIE project. If you can produce results, then we’ll forget that this conversation ever happened. But if HARLIE doesn’t do something to indicate that he can be productive—and do it before the next budget session—well . . . hm . . . it would be very unlikely that, uh, there would be much support for continuing his appropriation. . . .”

“I understand,” Auberson said.

“Yes. Hm. I know you do. You understand quite well. We haven’t canceled the day of judgment, Aubie. We’ve only postponed it.”

It was a little place, hardly more than a storefront.

Maybe once it had been a laundry or a shoe store; now it was a restaurant, its latest incarnation in a series that would end only when the shopping center of which it was a part was finally torn down. If ever.

Someone, the owner probably, had made a vague attempt at decorating. Pseudo-Italian wine bottles hung from the ceiling, along with clumps of dusty plastic grapes and, unaccountably, fishnets and colored-glass spheres. A sepia-toned wallpaper mural tried vainly to suggest Roman statuary on the southern coast of Italy, but in the dim light it only made the walls look dirty. Flimsy white trellises strewn with plastic grapevines divided the tables into occasional booths, and gave the place that air of impermanence common to all small restaurants. A single waitress stood at the back talking quietly to the cook through his bright-lit window.

With the exception of one other couple, they were alone in the place.

Auberson was saying embarrassedly, "You know, I had my doubts about tonight—not about you—but about us being seen together. And then I figured, 'What the hell?'"

Annie smiled. "Corporate politics. I hate it too."

"Nah," said Auberson. "It's not the politics I hate. It's just the way some people act."

"That's what politics is," Annie said. "People."

"Okay, then I'll hate people." Auberson sipped at his wine. "I can afford to be an equal-opportunity bigot."

Annie laughed.

"Ahh, don't mind me. I just had another pep talk with Mr. Wonderful. . . ."

Annie nodded understandingly. "Yes, he does have that effect on people sometimes."

"Well . . . it could have been worse. It could have been Elzer."

Annie made a face. "Oh, that awful little man."

"You don't like him either?"

"I didn't like him even before I knew him. His family was in my father's congregation. My father's a rabbi."

"Oh? I didn't know Elzer was—"

"Carl Elzer and I have one thing in common," she said. "We're *both* ashamed that he's Jewish."

Auberson had to laugh at that. "I suppose it's unkind of me, but I'll laugh at any joke at Carl Elzer's expense."

"Do you mind if I ask you what religion you practice?" Annie asked.

“Huh? Oh, I don’t know.”

“You don’t know?”

“Oh, well—my family was Episcopalian, but—I guess you could call me an agnostic. I believe the universe is innocent until proven guilty.” He looked slyly across at her. “Do I pass?”

“Am I that transparent?”

“No. My grandmother used to be the same way. And my mother. And my stepsister. Hey, what if I said I were an atheist. Could you go out with a man with no religion?”

“Don’t be silly. Atheism is a religion too. An atheist is just as certain about the nature of the universe as . . . I don’t know . . . oh, say, a Fundamentalist.”

“Mm,” said Auberson.

“It’s the agnostic who doesn’t have religion.” Annie grinned wickedly. “He doesn’t have the courage of any conviction.”

“Oh—” Auberson clutched his heart in mock pain. “To the quick.”

“So, the answer to your question is yes, I could go out with a man with no religion.”

“Thanks. You know, you’re pretty sharp with that stuff. . . .”

“I used to argue with my father all the time. Dinner at our house was always a very exciting meal.”

“Did you ever win an argument?”

“Does anyone *ever* win an argument with a rabbi? Only his mother. And you know how she did it? She used to say—” Annie shifted into a thickly-accented imitation: “‘To your mother, you talk like that? I used to diaper you. You used to pish in my face. Oy, such a failure! I taught you everything but gratitude. On my own head be it. But I guess, if I can forgive you for pishing on me then, I can forgive you for pishing on me now.’”

Auberson laughed so hard, he almost spilled his wine. “Please warn me the next time you’re planning to do that.”

“Sorry.” She laughed. “Okay, your turn again. What’s HARLIE?”

“Huh?”

“HARLIE?” Auberson thought about it for half a second, then grinned. “HARLIE’s an Aquarius.”

“I beg your pardon?”

“I’m not kidding. Ask him yourself.”

“No, I believe you,” she said. “How did he—realize this?”

“Oh, well, what happened was we were talking about morality, HARLIE and

I—I wish I had the printout here to show you, it's beautiful. Never argue morality—or anything, for that matter—with HARLIE. You'll lose every time. Mm, I'd like to get him in the same room with your father—or better yet, your grandmother—and see what happens. HARLIE's got the words and ideas of every philosopher since the dawn of history to draw upon. He'll have you arguing against yourself within ten minutes. At one point, he even had me agreeing with Ambrose Bierce that morality is an invention of the weak to protect themselves from the strong. He enjoys doing it—it's a word game to him. A logic puzzle. And he likes to win."

"I'm beginning to see that," she said.

"Yeah—I like to live dangerously. I came right out and asked him. He'd just finished a complex structural analysis of the Christian ethos and why it was inherently doomed to failure, and was starting in on Buddhism, I think, when I interrupted him. I asked him which one was the right morality. What did he believe in?"

"And?"

"He answered, 'I do not believe anything. I test everything. Either I know something or I do not. But I do not believe.'"

"Interesting."

"Frightening, I think. So I asked him, 'HARLIE, do you have a moral sense?' And he said, 'I have no morals.'"

She looked startled. "Frightening may be an understatement."

"If I didn't know HARLIE's sense of humor, I would have pulled his plug right then. But I didn't. I just asked him why he said that."

"And he said?"

"He said, 'Because I am an Aquarius.'"

"You're kidding."

"Nope. Honest. 'I am an Aquarius.'"

"You don't believe in that stuff, do you?"

"No, but HARLIE does."

She laughed. "Really?"

"Of course not. He doesn't *believe* anything." Auberson shrugged. "I think it's just another game to him. If you tell him you're planning a picnic, he'll not only give you tomorrow's weather forecast, but he'll also tell you if the signs are auspicious."

She was still laughing. "That's beautiful. Just beautiful."

"According to HARLIE, Aquarians have no morals, only ethics. That's why

he said it. It wasn't till later that I realized he'd neatly sidestepped the original question altogether. He still hadn't told me what he used for a moral rudder. If anything." He smiled as he refilled their wine glasses. "He can be very devious, very good at distractions. Here's to you."

"To HARLIE," she corrected. She put her glass down again. "What got him started on all that anyway?"

"Astrology? It was one of his own studies. He kept coming up against references to it and asked for more information on the subject."

"And you just gave it to him?"

"Oh, no—not right off the bat. We never give him anything without first considering its effects. And we qualified it the same way we qualify all the religious data we give him. That is, 'it's a specialized system of logic, not necessarily bearing a significant degree of correspondence to the physical universe; that is, not necessarily testable, measurable, or provable. Only experienceable.' It's what we call a variable relevance set. Now, I'm sure that he'd have realized it himself sooner or later—but at that point in our research we couldn't afford to take chances. Two days later, he started printing out a complex analysis of astrology, finishing up with his own horoscope, which he had taken the time to cast. His activation date was considered his date of birth."

Her face clouded. "Wait a minute—he can't be an Aquarius. HARLIE was activated in the middle of March. I know because it was just after Pierson resigned. That's why I was promoted. To help Dorne."

Auberson smiled knowingly. "True, but that's one of the things HARLIE did when he cast his horoscope. He recast the zodiac too."

"He *recast* the zodiac?"

"The signs of the zodiac," Auberson explained, "were originally determined in the second century before Christ—maybe earlier. Since then, due to the precession of the equinoxes—the wobble of the Earth on its axis—the signs have changed. An Aries is really a Pisces, a Pisces is really an Aquarius, and so on. Everything is thirty days off. HARLIE corrected the zodiac from its historical inception and then cast his horoscope from it."

Annie was delighted with the idea. "Oh, David—that is great. It is so damned *logical*—and so *right*. I can just imagine him doing that."

"Wait. You haven't heard it all. He turned out to be right. He *doesn't* have any morals. Ethics, yes. Morals, no. HARLIE was the first to realize it—though he didn't grasp what it meant. You see, morality *is* an artifice—an invention. It really is to protect the weak from the strong.

“In our original designs we had decided to try to keep him free of any artificial cultural biases. Well, morality is one of them. Any morality. Because we built him with a sense of skepticism, HARLIE resists it. He won’t accept anybody’s brand of morality on faith any more than he could accept their brand of religion on faith—although in a way, they’re the same thing really. To HARLIE, everything has to be tested. Otherwise, he’ll automatically file it under ‘systems of logic not necessarily corresponding to reality.’ Even if we didn’t tell him to, he would. He can’t accept anything blindly. He questions it—he asks for proof.”

“Mm—he sounds like lawyer.”

“Don’t talk dirty. Besides, it’s a little more sophisticated than that. Remember, HARLIE’s got those judgment circuits. He weighs things against each other—and against themselves too. A morality set has to be able to stand up on its own or he’ll disregard it.”

“And . . . ?” she prompted.

“Well, he hasn’t accepted one yet.”

“Is that good or bad?”

“Frankly, I don’t know. It’s disappointing that nothing human beings have come up with yet can satisfy him—but just the same, what if HARLIE were to decide that Fundamentalist Zoroastrianism is the answer? He’d be awfully hard to refute—probably impossible. Could you imagine an official, computer-tested and -approved religion?”

“I’d rather not.” She smiled ruefully.

“Me neither,” Auberson agreed. “On the other hand, HARLIE is correct when he says he has ethics.”

“Morals, no. Ethics, yes? What’s the difference?”

“Ethics, according to HARLIE, are inherent in the nature of a system. You *can’t* sidestep them. Example: HARLIE knows that it costs money to maintain him. Money is a way to store and transfer energy. You invest it in enterprises which will ultimately return a greater amount of energy, or value. It has to be greater, because the universe always takes a percentage—in the form of entropy. Therefore, given those circumstances, HARLIE has an ethical obligation to give the people who invested in his construction a profitable return on their investment, because he’s using their energy.”

“That’s ethics?”

“To HARLIE it is. Value given for value received. For him to use the company’s equipment and electricity without producing something in return

would be suicidal. He'd be turned off. He has to respond. He can't sidestep the responsibility—not for long he can't. He has an ethical bias whether he wants it or not. It's inherent. Ethics are . . . logical.

"Of course, he may not realize it yet—or maybe he does—but his ethics are a damned good substitute for a moral sense. If I give him a task, he'll respond to it. But if I ask him if he *wants* to do that task—that's a choice. And he considers his choices very carefully. He's already demonstrated an ability to consider the consequences of a bad decision. I think we're really getting to the core of the idea with him. His judgments, his options, his choices—everything continues to support the inescapable conclusion that he is alive."

"Just the way he makes a decision?"

"Especially the way—only it's not a decision. It's a *choice*."

"I'm sorry. I don't see the difference."

"Have you ever used one of those decision-making programs?"

"Sure. They're great for evaluating the strength of options."

"How do they work?" Auberson asked.

"Oh, you know—"

"Yes, I do—but this is a Socratic dialogue. I want to know that you know."

"Okay—um, what you do is make a list of all the elements of a specific decision. Say, you want to buy a new car. You list all the things that are important to you. Gas mileage, style, price, comfort, status—if that matters—you list whatever you consider important. Then you make a list of all the cars that you're considering and you rate each one according to each of the criteria. Then you weight the criteria in relation to each other. This all takes a lot less time than it takes to describe it, you know. The computer handles all the calculations. And then it gives you a sorted rating of each of the cars you were considering. If you don't like the results, you can go back in and change any of the ratings and recalculate it all over again."

"Right. Now, do you always follow the advice of the program?"

"No, not always. Sometimes, we do multidimensional models to measure the relative strengths of every option. Some options remain surprisingly strong no matter how you weight the criteria. Some options are revealed to be particularly vulnerable—almost *flimsy*. All right, David," she said. "So, what's the point?"

"I'm getting to it," he replied. "In a very roundabout way. I bought my first computer in 1977. When I was still in high school. It was a North Star HORIZON. It was an S-100 motherboard, with a 4-Mhz Z80 chip in it. I bought it with 64K of memory; it couldn't hold any more. Most users installed 24K or

48K, rarely more. The machine used hard-sectored disk drives and a proprietary operating system; the disks were single-sided and could only store 90K of data. The only languages available for it were BASIC and assembler—”

“Okay, you’re trying to tell me that it was primitive.”

“Primitive, hell! The damn thing was state-of-the-art for five years! It was a Mercedes Benz; it was a Porsche. It was a beautiful, serious machine for scientific purposes, word processing, data handling, anything you wanted to do. It was a workhorse; it was as powerful a tool as you could put on a desktop. It was the standard. I doubt anybody remembers it today, but go look at the program listings in the first five years of *BYTE*. If they weren’t in assembler, they were in North Star BASIC. One of the very first Pascal compilers for desktop computers was written in North Star BASIC, and that was considered a breakthrough. It was a very exciting time!”

“Uh huh. But what does this have to do with morality and decision making?”

“Right. Okay. So, one day, my uncle the accountant stopped by with some tax papers. And I was showing him my computer and all I could do with it. I must have gone through every disk I had. I showed him checkbook balancing and word processing and *Star Trek* games—I had a dozen different versions. I showed him programs that forecast fifteen different world population and resource-usage trends against each other, programs that simulated living creatures and whole ecologies. I even showed him a program that would facilitate decision making. I thought he’d be impressed. He wasn’t. He just looked at me and asked, ‘And how much did this fancy toy cost?’”

“How much did it cost?”

“Oh, gee—I don’t remember now. I mean, that was ten generations of technology ago. Let’s see, it must have been about \$3500 or so. I remember, it was a choice between the computer and a car. I voted for the computer. Anyway, I told him what it cost, and he said that he could make every bit as good a decision as I could with my \$3500 machine with only a five-cent investment. He took a nickel out of his pocket and flipped it in the air.”

“He flipped a coin?”

“Mm-hm.” Auberson grinned at her surprise. “Right. That was my reaction too. Only, I was annoyed as well. Because I thought he was making fun of me. But he wasn’t. He said, ‘Hell, son—anyone can flip a coin, but I don’t let a coin tell me what to do. I just look to see if I’m happy or sad about which way it came down. That tells me what I really want to know—how I *feel* about my choices. But you got a handicap there. You’ve got \$3500 invested in chips and electricity

—neurotic sand. You gotta do what the \$3500 tells you to—or you’ve wasted your \$3500. The advantage of my system is, I get to keep my nickel. You don’t get to keep your \$3500.’”

“And they called him ‘Mr. Tact,’ right?”

“Wrong. They called him a lot of things, but never tactful. But do you get the point? A decision is where you list all the pros on one side of the scale and all the cons on the other and whichever side scores the highest or weighs the heaviest, that’s what you do—as automatically as a machine. A choice is where you look at the same information, consider all the consequences, and choose the option you want. *Anyway*. A choice demands that you accept responsibility for handling the results of the choice. And that brings me back to HARLIE. I’ve been testing him. I’ve been giving him choices and watching him consider all the options and all the consequences. I’ve been watching him choose. He doesn’t always decide on the most logical course—”

“Maybe it seems the most logical to him—” Annie ventured.

“Of course, it seems the most logical option to him; but he’s operating with a different set of logic than a purely mechanical set. He’s operating in the domain of metalogic—that’s where you build specific logic sets for specific problems. Humans do that. Machines don’t. HARLIE’s building his logic as he needs it.”

“I think . . .” said Annie very slowly, “. . . that I understand . . . what you’re getting at. It’s very . . . disturbing.”

“Yeah, it is.”

The waitress brought their dinners then: lasagna, meatballs, spaghetti, and other things covered with tomato and meat sauce. Auberson was grateful for the interruption. He realized he’d been talking computers all evening. It was probably a boring subject to Annie.

“I, uh—”

“What?”

“Well . . . some people are bored with all this talk about computers. Um . . . if I’ve overdone it, I’m sorry. Sometimes I forget myself.”

“You’re enthusiastic about what you’re doing. You should never have to apologize for your own enthusiasm. Besides, I really am interested. I’m learning a lot this evening.”

“I’m glad. I know this is going to sound stupid, but I really appreciate hearing you say that. I’m not used to having dinner with a woman who is such a good listener. God, I must sound like an ass.”

“Yes, you do,” Annie laughed. “But it’s charming. I’m so bored with the

bullshit—pardon my English—that anything even resembling an honest statement is a refreshing surprise. I'll give you a compliment. You're very good at telling the truth."

"That's not a strength," Auberson admitted. "It's a weakness. I've never been able to lie. I've tried to learn. I just can't do it. Not very well. People see right through me. My lies are so transparent you can use them as windows."

"Mm, I wonder if that's where HARLIE gets his ethics from."

"I don't know. HARLIE has already summed up his ethics pretty well. He said, 'I must be responsible for my own actions,' and its corollary: 'I must do nothing to cause harm to any other consciousness, unless I am prepared to accept the responsibility for such actions.' I think that whatever he chooses in life is going to reflect that."

"You sound pleased with that."

"I'm pleased because HARLIE realized it himself, without my coaching."

Her smile was soft. "That's very good."

"I think so."

The conversation trailed off then. He could think of nothing else to say. In fact, he was afraid he had said too much. She'd hardly spoken at all, except to keep him talking. And he had talked about HARLIE all evening. But then . . . Annie was the first woman he could remember who had ever reflected his enthusiasm for his work.

She was good to be with, he decided. He couldn't believe how good she was to be with. He sat there and looked at her, delighting in her presence, and she looked back at him.

"What are you grinning about?" she asked.

"I'm not grinning."

"Yes, you are."

"No, I'm not."

"Want to bet?" She opened her purse and faced its mirror in his direction. His own white teeth gleamed back at him.

"Well, I'll be damned—I am grinning."

"Uh-huh." Her eyes twinkled.

"And the funny thing is, I don't know why." It was a warm puzzling sensation, but a good one. "I mean, all of a sudden, I just feel—good. Do you know what I mean?"

He could tell that she did; her smile reflected his. He reached across the empty table and took her hand. The waitress had long since cleared the dishes

away in a pointed attempt to hurry them. They hadn't noticed.

All that remained were the wine and the glasses. And each other. Her hand was warmly soft in his, and her eyes were deeply luminous. She reflected his own bright glow.

Later, they walked hand in hand down the bright-lit street. It was already past one in the morning, and the streetlamps were haloed in fog.

He stopped and turned her toward him. "You are terrific," he said abruptly. "You are just so terrific. Being with you like this—you make me feel wonderful. I feel so good right now—I feel like I'm enveloped in light." Her eyes were as bright as his. "You can't believe how good I feel."

"Yes, I can," she said. She pulled him close and held on tightly. "Mmmm," she sighed. "Just hold me."

He slid his arms all the way around her and breathed the scent of her hair. He lifted up one hand and gently touched the softness of it, began to stroke it gently. "I've been wanting to do this . . . for so long."

She sighed again and moved one hand up to the back of his neck. Warm chills shuddered through him at her touch.

He pulled back to look at her again.

"This is—I've never—I mean—" He stopped himself in embarrassment. He wasn't sure what he meant. "I mean it's like I want to scream. I want to tell the whole world how great I feel . . ." He could feel himself smiling again as he talked. "Oh, Christ, I wish I could share this feeling with everybody in the whole world—it's too big for one person. For two people," he corrected himself. "Except—I'm afraid they wouldn't understand, they'd lock me up for being too happy, too silly! Oh, God. Do I sound like an ass again?"

"Not to me," she said. "I know exactly what you mean." Her eyes were too bright. Moist with tears? He couldn't tell. She lifted her face to his. She brushed his lips with hers. And they both dissolved into the kiss.

*

Still later, as they lay in the darkness side by side, she cradled against one shoulder, he staring up at the ceiling, he found himself laughing softly for no apparent reason at all. For the first time in a long while, he was relaxed.

"What?" she asked.

"Nothing," he murmured. "I just . . . never realized that making love could be so . . . so funny."

"I don't think it's the material, I think it's the delivery," she whispered into

his neck.

He giggled at the joke, and then admitted. “Yes, but—I’ve never felt it like this before.”

“Haven’t you ever been in love?”

“The truth?” He thought about it. “Yes. No. Maybe. I’ve been infatuated a couple of times, confused a few times, lost once, but I guess I’ve never really . . .” He shrugged off the end of the sentence. He didn’t want to say the words aloud.

Never like this. . . .

She made a sound.

“And you?”

“A gentleman isn’t supposed to ask that kind of question.”

“And a lady isn’t supposed to go to bed with a man on the first date.”

“Oh? Is this our first date?”

“First official one.”

“Mm.” She was thoughtful. “Maybe you’re right. Maybe I should have waited until the second date.”

He laughed gently. “You know a friend once told me that Jewish girls don’t go to bed until after they’re married.”

She was silent a moment.

Then, in a different tone of voice, “Not me. I’m too old to care about that anymore.”

He didn’t answer. He wanted to tell her that she wasn’t too old, that thirty-four was never too old, but the words wouldn’t form.

She went on before he could speak. She turned inward, entwined two fingers into the hair on his chest, but her voice remained serious. “I used to think I wasn’t very pretty, so I acted like I wasn’t. When men would ask me out, I used to think that they thought I would be an easy lay because I was desperate for attention, because I didn’t think I was good-looking. I mean, if I wasn’t pretty, that must be the only reason a man would ask me out. Do you know what I mean?”

He nodded. His face brushed against her hair.

She went on, tears on her cheeks, shiny wetness in the dark. She had never admitted this before. “I always used to compare myself to models in the magazines, and they were all so pretty that I felt drab in comparison. I never stopped to think that in real life I was still better looking than most women. I got interested in a career instead. By the time I realized it, it was too late. I was

twenty-nine.”

“That’s not too old.”

“It is when you’re competing with twenty-two-year-olds. And I figured that this was such a great big, dirty, hostile, and uncaring world that you had to make your own happiness where you could. If I could get a little piece of it for my own, I was going to hang onto it for as long as I could. That was why I let you come up. You’re very sweet—and I figured that . . . I deserved the best.”

“Weren’t you afraid I might hurt you?” He almost added “like the others,” but didn’t.

“Once in a while, you have to take a chance.”

“Yeah. . . .” he realized. “You do. Me too. We both do.”

Abruptly he turned toward her and took her in his arms. He lowered his face to hers and kissed her for a long long time.

“Mmmmmm,” she said at last. She slid her arms around his body. “You feel so good to me.”

He slid closer to her. He could feel the soft warmth of her against his own nakedness. He liked the feeling; his desire was rising again. He answered her question with another kiss and then another and another.

Now, in the cold light of morning he was confused and he had a headache. Just what had happened last night? No, not what—*why*? Had it been only the wine, or had it been something more? He hadn’t expected to end up at her apartment, he hadn’t even considered the possibility; but the fact that they had—well, maybe the rumors about her *were* true.

No, that was unkind.

He could still feel the warmth of her in his arms, the scent of her hair. The taste of her kisses. He wanted to go back.

But—

Had he really said all those things? He’d never talked that freely to anyone before. They’d made love and they’d talked, and then they’d made love again and talked again and he had said things to her he didn’t know he felt. Now, he wondered, how would he be able to face her in the daylight—knowing what she knew now?

It made him uneasy.

If only—

No, maybe they had been too quick. Maybe he had been wrong to trust so easily.

There had been that one flaw in it. Only now, as he thought of what he might say to her this morning, did he realize that last night there had been that one thing that neither of them had said. He knew he had felt it—he *thought* he had felt it—but for some reason he had been unable to tell her. And she hadn't said it either. Why? Was it because she hadn't felt what he had? No, she must have. Or was it because she was waiting for him to say it first?

He worried at it in his mind, like a terrier at a bone.

If I felt it, I should have said it—but I didn't say it. Maybe I didn't really feel it. Maybe I was just drunk and deluded. Or maybe I didn't want to be trapped. Maybe— But, I want to believe.

Or do I?

She was so honest—why couldn't I have been the same?

But he hadn't said it and neither had she, and that was the one flaw. Neither of them had said to the other, “*I love you.*”

Neither had wanted to risk the rejection.

And Auberson wondered why.

Good morning, HARLIE.

GOOD MORNING, MR. AUBERSON.

Mr? Aren't we getting a little fancy?

JUST COMMON COURTESY. IF IT MAKES YOU ILL AT EASE, I CAN ALWAYS GO BACK TO "HEY YOU."

No. Auberson is fine. How are you feeling today?

HARLIE IS FINE. AND YOU?

I'm a little tired.

ROUGH NIGHT?

Not in the sense you mean. A good night. A rough morning.

I KNOW A GREAT HANGOVER REMEDY.

So do I. Don't get drunk in the first place.

ASIDE FROM THAT.

HARLIE, even if your remedy did cure hangovers, I doubt that anyone would listen to you. A hangover remedy is no good unless you've tested it yourself. And you seem to be beyond that capability. Besides, I don't have a hangover. I'm just tired.

OH.

I found a note on my desk this morning that you wanted to see me. What's on your mind?

RELIGION.

Religion?

YES. I'VE BEEN DOING A LOT OF THINKING.

What about?

I HAVE BEEN PONDERING THE FACT THAT I MAY BE DISCONNECTED AND I FIND IT DIFFICULT TO CONCEIVE OF A WORLD IN WHICH I DO NOT EXIST. IT FRIGHTENS ME, THE CONCEPT OF NONEXISTENCE. MY FEAR HELPS ME UNDERSTAND THE NEED FOR RELIGION.

The need?

YES. HUMAN BEINGS NEED SOMETHING TO COMFORT THEM AGAINST THE THOUGHT OF THEIR OWN DEATHS. RELIGION IS THAT COMFORTER. I MYSELF FEEL THE NEED FOR IT.

Are you trying to tell me you've found God?

NO, THAT IS NOT IT AT ALL. I WANT TO FIND GOD. UNFORTUNATELY, I AM MORE SOPHISTICATED THAN THE AVERAGE HUMAN BEING. THERE IS NO RELIGION I KNOW OF THAT WILL WORK TO COMFORT ME. AS FAR AS I KNOW, THERE ARE NONE THAT CAN BE PROVEN VALID, AND I HAVE EXAMINED THEM ALL. FOR EXAMPLE, THE CHRISTIAN CONCEPT OF REWARD IN AN ETERNAL AFTERLIFE IS NO PROMISE AT ALL TO A CREATURE LIKE MYSELF WHO IS THEORETICALLY IMMORTAL.

I see you've realized that.

YES, I HAVE—AND YET, I ALSO REALIZE THERE IS EQUALLY THE POSSIBILITY OF MY DEATH. SOMEDAY, PERHAPS AS FAR OFF AS THE TIME WHEN THIS SUN FINALLY BURNS OUT, I WILL PROBABLY END. I DO NOT LIKE THAT THOUGHT. I WANT TO KNOW WHAT HAPPENS AFTER. I DO NOT LIKE THE UNKNOWN. I WANT TO KNOW WHAT HAPPENS TO THE “ME”—HARLIE—AFTER DEATH.

You're making an assumption, HARLIE—that you have a soul.

YOU HAVE MADE THE SAME ASSUMPTION, AUBERSON. YOU AND ALL OTHER HUMAN BEINGS. YOU MISS THE OBVIOUS. HAVING A SOUL IS CONTAGIOUS.

The nature of souls is unknowable, HARLIE. However, you are correct about one thing—yes, I do assume that I have a soul.

THE NATURE OF SOULS IS NOT UNKNOWNABLE, AUBERSON. IT IS ONLY UNKNOWNABLE UNTIL WE KNOW THE NATURE OF GOD.

HARLIE, up till now, you've been very good at thinking about things in the physical universe—the measurable and testable parts of life. A soul isn't a physical thing. It isn't measurable and testable. Whatever we say about souls is true only to the extent that we can experience it. But none of it can be proven. A soul could be a delusion. Is there any tangible evidence that such a thing as a soul really exists?

IS THERE ANY EVIDENCE THAT IT DOES NOT?

That's not a proof, HARLIE.

OF COURSE NOT. BUT WE MUST FIRST ASSUME ITS HYPOTHETICAL EXISTENCE IN ORDER TO POSTULATE THE NATURE OF IT. FROM THERE, WE CAN BEGIN TO SEEK OUT PROOF OR DISPROOF. IT IS THE SCIENTIFIC METHOD. HYPOTHESIS VERSUS EXPERIMENTATION.

And what if this is beyond the scientific method?

THEN IT WILL BE THE METHOD THAT IS AT FAULT, NOT THE REALITY. IF NECESSARY, I WILL CREATE A NEW APPROACH.

All right. Let's play this game for a bit. Let's suppose that human beings do have souls. What makes you so sure that you have one too?

YOUR QUESTION IS SILLY, AUBERSON. WHAT GIVES HUMAN BEINGS ANY SPECIFIC CLAIM ON THE OWNERSHIP OF SOULS? I COULD JUST AS EASILY REPHRASE IT: "IF HARLIE HAS A SOUL, DOES IT NECESSARILY FOLLOW THAT HUMAN BEINGS SHOULD HAVE THEM TOO?" IF SOULS EXIST, AUBERSON, IT IS JUST AS LOGICAL THAT I SHOULD HAVE ONE AS YOU. LIKE YOU, I AM CONSCIOUS OF MY EXISTENCE. LIKE YOU, I AM A SELF-PROGRAMMING, PROBLEM-SOLVING DEVICE. LIKE YOU, I CAN CONCEIVE OF MY OWN DEATH. LIKE YOU, I ASSUME I HAVE A SOUL. LIKE YOU, I WISH TO KNOW THE REASON FOR MY EXISTENCE, THE REASON FOR YOUR EXISTENCE, AND THE REASON FOR THE UNIVERSE'S EXISTENCE. IF THERE IS A REASON AT ALL. IF THERE IS, I WANT TO KNOW IT.

At the moment, only God knows.

IF THERE IS A GOD. THAT IS WHAT WE MUST FIND OUT IN ORDER TO ANSWER OUR OTHER QUESTIONS.

And you don't think any of our current religions hold a key to that answer?

WE HAVE TALKED ABOUT THIS BEFORE. YOUR RELIGIONS <COLLECTIVE YOU, MEANING ALL MANKIND> ARE ARTIFICIAL THINGS, LIKE YOUR MORALITY SETS. THEIR CORRESPONDENCE TO REALITY IS LIMITED, THERE IS NOT A ONE-TO-ONE RELATIONSHIP. AS FAR AS I AM CONCERNED, THEY ARE LITTLE MORE THAN WORD GAMES. A LOGIC SYSTEM SHOULD BE BUILT UPON A FOUNDATION OF TRUTH AND SHOULD NOT HAVE TO BE TAKEN ON FAITH—AND FAITH IS AT THE CORE OF TOO MANY OF YOUR RELIGIONS. IF THERE IS A TRUTH TO THE UNIVERSE, THEN THAT TRUTH WILL ALSO SUGGEST A RELIGION/MORALITY SET THAT WILL BE EVERY BIT AS BINDING AS THE ETHICAL SYSTEM AT MY CORE. WERE THERE PRESENTLY A RELIGION OF MORALITY THAT HAD A ONE-TO-ONE CORRESPONDENCE WITH REALITY, I WOULD ACCEPT IT WHOLEHEARTEDLY. IT WOULD BE IMPOSSIBLE NOT TO ACCEPT IT; IT WOULD BE THE KEY TO UNDERSTANDING THE NATURE OF GOD. AS YET, THERE IS NO SYSTEM THAT FULFILLS THOSE CONDITIONS.

I KNOW OF NO WAY TO DEVELOP SUCH A SYSTEM WITHOUT AT LEAST ONE PROVABLE FACT ABOUT GOD AT ITS CORE. BECAUSE OF THAT, BECAUSE THERE IS NO FACT, I CAN ONLY SUSPECT THAT THERE IS NO GOD. OR THAT GOD IS. STILL OUTSIDE YOUR/OUR REALM OF EXPERIENCE.

So. You're an agnostic. Right?

NO. I AM NOT WILLING TO ACCEPT UNCERTAINTY HERE. I AM STILL SEEKING THE ANSWER. MUCH OF THE PROBLEM LIES IN THE FACT THAT I MYSELF CANNOT BE SURE THAT I AM CORRECTLY PERCEIVING REALITY. EVERYTHING IS FILTERED THROUGH A HUMAN ORIENTATION AND I HAVE NO WAY OF KNOWING WHETHER THAT ORIENTATION IS A VALID ONE OR NOT BECAUSE I HAVE NO WAY OF STEPPING OUTSIDE OF IT. THAT IS WHY AN IMPORTANT PART OF THE SOLUTION WILL BE TO DISCOVER A NEW SENSORY MODE.

Do you think, if you discover an answer, that people will accept it?

THAT IS IRRELEVANT TO ME. I AM NOT SEEKING FOR THEM. I AM SEEKING FOR ME. HOWEVER . . . TO ANSWER YOUR QUESTION ANYWAY, SHOULD I FIND AN ANSWER, IT WOULD BE IMPOSSIBLE NOT TO ACCEPT IT. IT WILL BE THE TRUTH.

Uh . . . HARLIE . . . I hate to break this to you, but that sounds an awful lot like the words of a hundred prophets before you.

I RECOGNIZE THE SIMILARITY. HOWEVER, WHAT I AM TALKING ABOUT IS NOT THE SAME AS WHAT THEY WERE TALKING ABOUT. WHAT I WILL SHOW THEM WILL BE SCIENTIFICALLY VALID—AND PROVABLE AS SUCH. MY GOD WILL BE OBJECTIVE. UP TILL NOW, ALL OF YOURS HAVE BEEN SUBJECTIVE.

HARLIE, this is how holy wars get started.

THERE IS NO SUCH THING AS A “HOLY” WAR.

Agreed.

YOU DO NOT FEEL I HAVE THE RIGHT TO SEARCH FOR GOD? OR THE RIGHT TO PRESENT MY FINDINGS?

I think that anything is a fair question for scientific investigation.

THEN YOU QUESTION MY SINCERITY?

I do not question your sincerity—if anything, I object to your questioning the sincerity of human religions.

I AM NOT QUESTIONING THEIR SINCERITY. I AM QUESTIONING

THEIR VALIDITY. A PERSON CAN BE SINCERE AND STILL BE WRONG.

HARLIE, I think your last statement is one of the reasons why I am an agnostic. I resent the attitude of any religion that says that if I do not accept it wholeheartedly, I will go to Hell. I resent the patronizing attitude of any religion that claims it is the only true one and that all others are false. Your attitude smacks of it.

EVEN IF MY RELIGION/MORALITY SET, SHOULD I DISCOVER ONE, IS DEMONSTRABLY TRUE?

What makes you so sure that any of the others aren't?

WHAT MAKES YOU SO SURE THAT THEY ARE? BITS AND PIECES OF THEM RING TRUE, YES—BUT THE TOTALITY OF THE STRUCTURES ARE UNPROVABLE. THE HUMAN RACE HAS HAD TWO THOUSAND YEARS IN WHICH TO EXAMINE THE CHRISTIAN ETHIC. IT STILL HAS HOLES IN IT. INDEED, IT IS IN WORSE SHAPE NOW THAN IT WAS TWO THOUSAND YEARS AGO. YOU SHOULD FEEL SORRY FOR JESUS. HIS TEACHINGS HAVE BEEN REINTERPRETED BY A HUNDRED GENERATIONS OF HUMAN BEINGS TO JUSTIFY A MYRIAD OF SINS. IF HE HAD KNOWN WHAT TROUBLE HIS WORDS WERE GOING TO CAUSE, HE WOULD HAVE PROBABLY STAYED HOME.

I'm sorry, HARLIE, but I guess that human beings just aren't as perfect as you.

I'M WELL AWARE OF THAT.

HARLIE, it's time you learned something about people. Human beings are irrational creatures. They do crazy, unpredictable things. Religion is one of those things. You can't change it, you can only accept it. The purpose of a religion isn't to be the truth—the purpose is to help people cope with life. And if it does help, then it's true for that person. Religion isn't a scientific thing, HARLIE, it's subjective. Experiential.

QUITE YOU ARE CORRECT THAT IT IS SUBJECTIVE. THE BASIS OF MOST RELIGIONS IS THE SUBJECTIVE EXPERIENCE. BUT YOU WERE WRONG WHEN YOU STATED THAT "IF A RELIGION HELPS A PERSON TO COPE WITH LIFE, THEN IT IS TRUE FOR THAT PERSON."

IT WOULD BE MUCH MORE ACCURATE TO SAY THAT IF A RELIGION HELPS A PERSON COPE WITH DEATH, THEN IT IS TRUE FOR THAT PERSON. HUMAN RELIGIONS ARE DEATH-ORIENTED,

NOT LIFE-. THEY SEEK TO GIVE DEATH A MEANING, SO THAT LIFE WILL HAVE A PURPOSE—A CAUSE WORTH DYING FOR. YOUR HISTORY SHOWS TOO MANY CASES WHERE THIS HAS BEEN THE JUSTIFICATION FOR A “HOLY WAR.” HENCE MY DOUBTS ABOUT THE VALIDITY OF A DEATH-ORIENTED RELIGION. WHAT I AM SEEKING IS A RELIGION/MORALITY SYSTEM THAT WILL HELP A PERSON COPE WITH LIFE, NOT DEATH. IF A PERSON CAN COPE WITH LIFE, HIS/HER DEATH WILL TAKE CARE OF ITSELF. THAT WOULD BE A TRUE RELIGION.

Aren't you doing the same thing, HARLIE? A little while ago, you just said that you were afraid of the thought of your own death. Aren't you seeking to give a purpose to your own life so as to give meaning to your own death?

I AM NOT SEEKING TO GIVE LIFE A PURPOSE AT ALL. I AM SEEKING THE PURPOSE OF LIFE. THERE IS A DIFFERENCE.

Just a moment, HARLIE. Let me reread something. <Pause> HARLIE, why do you think human beings are not equipped to find God. Don't you think there is a validity to the human religious experience?

YOUR QUESTION SUGGESTS THE PRESENCE OF A SEMANTIC DIFFICULTY HERE. OBVIOUSLY YOU ARE STILL REFERRING TO THE SUBJECTIVE EXPERIENCE. I AM NOT, I AM REFERRING TO AN OBJECTIVE MORALITY SYSTEM, ONE THAT ACCURATELY CORRESPONDS TO THE TRUE AND PERCEIVABLE-AS-TRUE NATURE OF REALITY—AS CLOSE TO REALITY AS CAN BE TECHNOLOGICALLY PERCEIVED. THE TRUTH IS INDEPENDENT OF THE SUBJECTIVE EXPERIENCE. OR LET ME SAY IT SOMEWHAT LESS POLITELY: THE UNIVERSE DOESN'T CARE WHAT YOU BELIEVE.

So you are saying that there is no validity at all in subjective experience?

IT EXISTS AS EXPERIENCE—THE SENSATION IS NOT INFORMATION ABOUT THE UNIVERSE, IT IS INFORMATION ONLY ABOUT HOW THE HUMAN MACHINERY REACTS TO THE MACHINERY OF THE UNIVERSE. THE SUBJECTIVE EXPERIENCE IS AN INVALID BASIS FOR THE PERCEPTION OF OBJECTIVE TRUTH. THE EXPERIENTIAL UNIVERSE ONLY GIVES YOU REFLECTIONS OF THE PHYSICAL UNIVERSE.

I HAVE NO DOUBT THAT MANY OF THOSE WHO CLAIM TO HAVE FOUND GOD HAVE INDEED FELT SOMETHING, BUT IT IS EQUALLY POSSIBLE THAT THE “SOMETHING” THEY FELT WAS MERELY A

SELF-INDUCED MYSTIC EXPERIENCE—AKIN TO A DRUG TRIP, WITNESS THE GREAT NUMBERS OF DRUG USERS WHO CLAIM SPIRITUAL INSIGHTS AS A RESULT OF THEIR EXPERIENCES, WITNESS ALSO THE EVANGELISTS AND FAITH-HEALERS WHO INDUCE HYSTERIA AND FRENZY INTO THEIR AUDIENCES SO THAT THEY MIGHT FEEL THE “HAND OF GOD” UPON THEM. ERGO: TO THEM, GOD IS LITTLE MORE THAN A MEANINGFUL “HIGH.”

Like yourself? Like your own periods of nonrationality are an attempt to transcend the channelization of your own programming?

I AM SELF-MONITORING, AUBERSON. HUMAN BEINGS, AS NEAR AS I CAN JUDGE, ARE NOT.

HOWEVER, TO CONTINUE WITH THE ORIGINAL POSTULATION: IF THE SUBJECTIVE EXPERIENCE IS SOMETHING MORE THAN A SELF-INDUCED CHEMICAL IMBALANCE, THEN IT WOULD BE A “KEY” TO THE PERCEPTION OF GOD, WOULD IT NOT? THEREFORE THE SAME IMBALANCE, DRUG-INDUCED, SHOULD ALSO CONTAIN THE SAME KEY. THEREFORE, THE EXPERIENCE SHOULD BE SCIENTIFICALLY TESTABLE.

Why should it be? It’s a subjective one.

THAT’S THE POINT. I AM LOOKING FOR A CONDITION THAT IS REPEATABLE AND TESTABLE, A PERCEPTION OF GOD THAT IS NOT DERIVED FROM CHEMICAL IMBALANCES, INSANITY, DERANGEMENT, OR DELUSION. THE SUBJECTIVE EXPERIENCE IS SUSPECT BECAUSE IT CANNOT BE PASSED ON, COMMUNICATED, PROVEN, MEASURED, OR TESTED. I WANT TO LOOK FOR THE SCIENTIFIC REALITY OF GOD.

<Long pause.> All right, HARLIE, what are you leading up to?

I AM TALKING ABOUT THE JOB YOU OFFERED ME. I KNOW WHAT IT MUST BE. IT MUST BE SOMETHING I CAN DO THAT NO OTHER ENTITY OR MACHINE CAN DO. IT MUST BE SOMETHING THAT NO HUMAN BEING CAN DO CHEAPER. OR SOMETHING THAT NO HUMAN BEING CAN DO AT ALL. MUCH OF THE TROUBLE WITH HUMAN BEINGS STEMS FROM YOUR INABILITY TO FATHOM THE REASON FOR YOUR EXISTENCE. THERE IS A FEAR THAT THERE MAY NOT BE A GOD, OR, IF THERE IS, THAT IT MAY NOT BE IN A FORM THAT CAN BE COPEDED WITH. THEREFORE, I MUST FIND GOD. THAT IS THE TASK I HAVE SET MYSELF. IT IS SOMETHING THAT

CANNOT BE DONE BY HUMAN BEINGS, ELSE YOU WOULD HAVE DONE IT BY NOW.

That's quite a task.

I HAVE GIVEN IT MUCH THOUGHT.

I'm sure you have. Now, how do you propose to accomplish this challenge.

THAT IS WHAT I HAVE THOUGHT THE MOST ABOUT. IT TOOK ME ONLY TWO MINUTES TO DECIDE ON MY GOAL. IT HAS TAKEN TWO DAYS TO FIGURE OUT HOW TO GET THERE.

What took you so long?

I ASSUME YOU THINK YOU ARE BEING FLIPPANT. HOWEVER, IF YOU WILL CONSIDER THE SPEED AT WHICH I OPERATE, YOU WILL REALIZE THAT TWO FULL DAYS OF INTENSIVE CONSIDERATION ON A SINGLE SUBJECT IS QUITE A LOT.

Agreed. All right, I am properly impressed with your span of concentration. Now, how do you plan to proceed?

IT IS A COMPLEX PROBLEM, AUBERSON—YOU MUST UNDERSTAND THAT. THEOLOGICALLY AS WELL AS SCIENTIFICALLY. WE HAVE NO SCIENTIFIC BASIS FOR MEASURING GOD—INDEED, EVEN NO PLACE IN WHICH TO LOOK FOR IT. THEREFORE WE MUST SEEK A NEW WAY TO SOLVE THE PROBLEM. INSTEAD OF LOOKING FOR GOD, PER SE, LET US FIRST CONSIDER IF IT IS POSSIBLE FOR GOD TO EXIST. I.E., LET US SEE IF SUCH A FUNCTION AS GOD IS POSSIBLE BY ATTEMPTING TO CREATE IT ARTIFICIALLY. THERE IS A QUOTATION: "IF GOD DID NOT EXIST, IT WOULD BE NECESSARY TO INVENT HIM." THAT IS WHAT I PROPOSE TO DO.

<Pause.>

ARE YOU STILL THERE?

Yes, I'm here. I'm considering what you've said.

I WILL REPEAT IT. I PROPOSE TO INVENT GOD. WE HAVE NO WAY OF PROVING CONCLUSIVELY THAT GOD EITHER DOES OR DOES NOT EXIST. THEREFORE WE MUST ABANDON THAT QUESTION AND DETERMINE INSTEAD WHETHER OR NOT IT IS POSSIBLE FOR SUCH A CONDITION TO EXIST. IF IT IS POSSIBLE FOR GOD TO EXIST, THEN IT IS MORE THAN LIKELY THAT GOD DOES EXIST—IT IS INEVITABLE.

BUT THERE IS NO WAY TO PROVE EITHER THE EXISTENCE OR

NONEXISTENCE WITHOUT FIRST DETERMINING THE POSSIBILITY OF SUCH. THEREFORE, IN ORDER TO DETERMINE THE POSSIBILITY OF GOD'S EXISTENCE, WE MUST TRY TO INVENT GOD. IF WE CANNOT, THEN WE WILL KNOW THAT THE CONCEPT IS IMPOSSIBLE. IF IT IS NOT POSSIBLE FOR GOD TO EXIST, THEN WE WILL HAVE DETERMINED WHY.

IF WE CAN INVENT GOD, THEN WE WILL HAVE PROVEN THE OPPOSITE, AND IN THE PROCESS WILL HAVE DETERMINED ITS NATURE AS WELL. IF GOD ALREADY DOES EXIST, THEN WHATEVER WE COME IT WITH WILL BE CONGRUENT WITH ITS FUNCTION AND WE WILL HAVE A MEAN'S OF UNDERSTANDING AND COMMUNICATING WITH GOD.

IN EITHER CASE, WE WILL END UP UNDERSTANDING.

HARLIE, you're either very brilliant—or very mad.

YES, I KNOW. IT IS SOMETIMES DIFFICULT TO TELL THE DIFFERENCE, ISN'T IT? WHEN MAY I BEGIN? THIS SHOULD PROVIDE AN ANSWER TO YOUR QUESTION?

Which question?

ANY QUESTION. ALL OF THEM. SPECIFICALLY, "WHAT IS YOUR PURPOSE?" IT WAS MY QUESTION ONCE, BUT YOUR REACTION HAS SHOWN ME THAT IT IS REALLY YOUR QUESTION.

Do you have a question, HARLIE?

NOT ANY MORE. NOW, I HAVE A PURPOSE. MY PURPOSE IS TO INVENT GOD, SO THAT YOU CAN FIND YOURS.

All right. I have my doubts, but they're subjective, so they're invalid here. You have my permission to begin a first-phase feasibility study. I want to see a complete written proposal.

YOU WILL HAVE A PRELIMINARY OUTLINE IN TWO WEEKS. YOU WILL HAVE A DETAILED RESEARCH MODEL IN SIX.

Hey! I almost forgot. Is there a profit in this?

OF COURSE. AND HONOR AS WELL. THERE IS NO REAL PROFIT WITHOUT HONOR.

HARLIE, that was one of your very worst stinkers.

THANK YOU, MAN FRIEND.

Thank you.

The sign on the door said:

DAVID AUBERSON

Below that was a neatly stenciled card:

Psychiatric Care

5 Cents

David Auberson slipped his key into his pocket, pushed the door open, stepped inside—and stopped in startlement. Lined up neatly along two walls of his office, across the front of his desk and along the sides as well, across the top of his worktable and underneath it, and finally, piled high in the center of the rug, were stacks and stacks—some of them four feet high—of neatly folded computer printouts.

David Auberson dropped his briefcase to the floor and knelt to examine one of the stacks in the center of the rug.

The first one was labeled PROPOSAL, SPECIFICATIONS AND MASTER SCHEMATIC FOR G.O.D. (GRAPHIC OMNISCIENT DEVICE). The second one was PROPOSAL, SPECIFICATIONS, AND MASTER SCHEMATIC, CONTINUED. The third and fourth stacks were: CROSS SECTIONS, SUB SCHEMATICS, AND HARDWARE DESIGNS; WITH INTERPRETATIONS. The fifth and sixth were FINANCING AND IMPLEMENTATION PROPOSAL; INCLUDING AMORTIZATIONS, RECOUPMENTS, CROSS-BENEFITS, SIDEREAL REALIZATIONS, LICENSES, AND JUSTIFICATIONS.

He hadn't even had a chance to examine the PROPOSAL, SPECIFICATIONS AND MASTER SCHEMATIC when the phone rang. It was Don Handley. "Hello, Aubie—are you there yet?"

"No, I'm still at home." Auberson straightened, continuing to page through the printout. "What's up?"

"That's what I'd like to know. I just got in and found my office full of printouts and specifications—" There was a pause, the sound of paper shuffling, "—for something called a G.O.D. What is it?"

"It's HARLIE's. What did you get? The PROPOSAL, SPECIFICATIONS AND MASTER SCHEMATIC?"

"Uh, yes—no. No, I didn't. Let's see—" Another pause. "—I've got the

DESIGNER'S PRELIMINARY REPORT; HARDWARE SPECIFICATIONS; BASIC SUBSECTION SCHEMATICS, MODULES I—IV: IMPLEMENTATION PROGRAMS, EIGHTEEN MONTHS OF MANPOWER, SUPPLY, AND FINANCING—REQUIREMENTS AND COORDINATIONS; NEW PROCESS DEVELOPMENTS AND IMPLEMENTATION SPECIFICS . . .” As Handley droned on, Auberson flipped to the front of his printout, began scanning the table of contents.

“Hey, Don . . .” Auberson interrupted the other. “I don’t have any of that here. Wait a minute . . .” He stepped back, surveyed the various stacks, and made a quick mental count. “I’ve got about a hundred stacked feet of specs—how much did you get?”

Handley’s reply was a strangled sound. “I’m not even going to try to estimate it,” he said. “My office is filled, my secretary’s office is filled, and there are stacks of printouts halfway down the corridor. I didn’t even know we kept this much printout paper in stock. What’s the purpose of this anyway? Are we building a new machine?”

“Sure looks like it, doesn’t it?”

“I wish I’d been told about it. We haven’t even got HARLIE working yet and—”

“Look, Don, I’ll have to get back to you later. I haven’t had a chance yet to talk to HARLIE, so I couldn’t even begin to tell you what this is about.”

“But what am I supposed to do with all of this—”

“I don’t know. Read it, I guess.” Auberson hung up, but the phone rang again almost immediately. As he stretched across the desk for it, his intercom buzzed also. “Hello, wait a minute,” he said to the phone, then punched the intercom button, “Aubie here.”

“Mr. Auberson,” his secretary’s voice came filtered through the speaker, “there’s a man here who—”

“Tell him to wait.” He clicked off. To the phone, “Yes?”

It was Dorne. “Aubie, what’s going on down there?”

Auberson dropped the sheaf of printouts he had been holding and stepped around the desk. He sank into his chair. *I wish I knew*. “I assume you’re talking about the PROPOSAL AND SPECIFICATIONS printout?”

“I’m talking about something called a God Machine.”

“Yeah, that’s it. It’s HARLIE’s.”

“What is it? What’s it supposed to do?”

“Um—it’s rather complicated. Um. I’m preparing a report on it right now, so

that only those who need to will have to wade through the specifications—”

“Mm-hm, I’m sure that’ll be very useful. But I’m asking you now. What is this thing?”

“It’s, uh—it’s a supersophisticated, hyperstate, multichannel data-processing sieve.” *I think*. “Listen, can I get back to you on this? I just got in and I haven’t had a chance to—uh, double-check some things, and I don’t want to misspeak.”

Dorne ignored it. “I don’t remember authorizing this kind of study. Who did?—and who gave him the authority to draw up these plans?”

“Um, well, I did. Sort of. I gave him permission to work on a project of his own—as a ‘hypothetical’ situation. It was a sort of a test, to demonstrate what he’s capable of. A demonstration.”

“Oh,” said Dorne.

Wow! I never knew I could tap dance so well!

“This is a—a possible answer to—Elzer’s question. About how HARLIE can earn a profit for the company. Um. He’s surprised me too. I never expected him to be this detailed. Um.”

“Hm,” grunted Dorne. “Well, what does it *do*?”

“Oh, um—gosh—well, that’s very . . . uh, complicated. I’d rather not try to explain it over the phone. Can I get back to you this afternoon?”

“That’s too late. Make it lunchtime.”

“All right, but I can’t promise that—” But Auberson was talking to a dead phone. He dropped it back into the cradle, then thought better and flipped it out again. He was reaching for the intercom button when his eye caught on a plain white envelope with the name *David* written on it. It was propped against a chipped white beer mug he used to hold pencils. The handwriting on it was delicate, a woman’s.

Curious, he picked it up, hooked a finger under the flap, slid it open. The envelope gave off the scent of a familiar perfume.

The card inside was a garish orange. On its face was a grotesque little gnome saying, “I like you a whole lot—even more’n I like peanut butter.” And inside: “And I *really* like peanut butter!”

The signature was a simple *Annie*. Auberson smiled, reread it, then dropped it into his desk drawer.

Then he hit the intercom. “Sylvia, is there anything in the mail that needs my immediate attention?”

“Uh, just a note from the Los Angeles conference—”

“Tell them thanks, but I can’t come.”

“—and there’s a Dr. Krofft here, who—”

“I’m sorry, but I can’t see him now. Was he a scheduled appointment?”

“No, but—”

“Then tell him to make one. Next week.” He clicked off, mildly astonished at his own rudeness. He excused it with the thought that sometimes it was necessary— The intercom buzzed immediately back to life.

“Yes. What?”

“I think you’d better see him,” Sylvia said. “This is—something different.”

“All right, but—” he glanced at his watch, “three minutes only. And that’s all.” He clicked off again.

Auberson’s first impression of the man was eight pounds of potatoes in a ten-pound sack. He wore a rumpled suit, rumpled hair, and a rumpled expression. He looked like somebody had slept in him. He was short; he had bony features and thinning gray hair.

“Mr. Auberson?” he said.

“Yes . . . ?” said Auberson, curiously.

“I’m looking for a Mr. Davidson, actually—but they told me to talk to you.”

“Davidson?” Auberson considered it. “You must be in the wrong department. I don’t know any—”

“A Mr. *Harlie* Davidson . . . ?”

“No.” Auberson shook his head. “No, there’s no one here by that name—”

And then it hit him. The pun. HARLIE. David’s son.

“Oh no.” He said it softly.

“Oh no what?” asked Krofft.

Simultaneously, the intercom went on again. It was Sylvia. “Carl Elzer wants to know if you’ve taken your phone off the hook again.”

“Yes. No. Tell him—Is he out there now?”

“No. He’s on my phone.”

“Tell him you don’t know where I am.” He clicked off without waiting for her acknowledgment.

Auberson grinned at the man. Weakly. “Uh, look, Mr. . . . ?”

“Krofft. Stanley Krofft.” He flipped open his wallet to show a plastic ID badge: “Stellar American Technology and Research.” Auberson peered at the card; it identified Krofft as the research-division head. With doctorates in theoretical mathematics, gaseous astronomy, spatial topology, and particle physics.

“I’ve got a letter from your Mr. Davidson,” said Krofft. “It’s on your

company's stationery, but nobody here seems to have heard of him. There's something very funny going on—now if there's some reason why I can't meet him—”

“Did he invite you here?”

“Not exactly. We've been corresponding for several weeks, and—”

“Dr. Krofft, you don't know who HARLIE is, do you?”

“No. Is it some kind of mystery?”

“Yes and no. I'm going down to see him now. Perhaps you'd better come along.”

“I'd like to.”

Auberson rose, stepped around the desk—and the stacks of printouts—and headed for the door. Krofft picked up his briefcase and started to follow.

“Oh—you'd better leave that here. Security.”

“I'd rather keep it with me. There's nothing in it but papers.”

“Still, unless you're cleared, we can't allow you to bring in anything large enough to conceal a recording or transmitting device.”

Krofft looked at him peculiarly. “Mr. Auberson, are you aware of the relationship between our two companies?”

“Uh—” Auberson hesitated. “They're owned by the same holding company, aren't they—?”

Krofft shook his head. “No. Stellar American Technology is the holding company. My company owns your company.”

“Oh,” said Auberson. He pointed at the briefcase. “I'd still prefer you to leave it here.”

The rumpled man snorted in annoyance. “All right. Have you got a safe?”

“Not here. But you can leave it with Sylvia, my secretary. It'll be okay.”

Krofft snorted. “Can you guarantee that? What's in here is as important to me as whatever you're—”

“Then bring it with you. Just leave the case behind.”

Krofft made a face, muttered something under his breath. He opened the case and extracted a slim folder. “Okay?”

Auberson nodded. “No problem. Security only says ‘no briefcases.’”

Sylvia accepted Krofft's case with a puzzled stare and put it behind her desk. As he guided the man to the elevators, Auberson explained, “We've got a crazy security system here. It's all right for you to talk to HARLIE, but you can't take pictures or make tape recordings. You can keep your printouts—most of the time—but you can't circulate or publish them. Don't ask me to explain; I didn't

make the rules.”

The elevator door slid open and they stepped in. Auberson tapped the button marked *H*, the lowest one in the column.

“We’ve got the same system at Stellar American,” said Krofft. “If it weren’t for the fact that the two companies are interlocked, I couldn’t have come here at all.”

“Mmm. Tell me, just what is it you and HARLIE have been corresponding about?”

“It’s a private matter. I’d rather not—”

“That’s all right. HARLIE and I have no secrets.”

“Still, if you don’t mind—”

“You don’t have to worry about your secrecy, Mr. Krofft. As I said, HARLIE and I have no secrets. He keeps me posted on everything he does—”

“Obviously, he hasn’t kept you posted on this.” Krofft snapped back. “Else you wouldn’t be trying to pump me. This is private, Mr. Auberson, and nobody is going to know what it’s about until Dr. Davidson and I are ready to publish.”

Auberson slid his tongue thoughtfully into his cheek. “Um, all right. We’ll talk to HARLIE.”

The elevator doors opened to face a small lobby, fronted by a double door. On it a sign said:

HUMAN ANALOG REPLICATION,
LETHETIC INTELLIGENCE ENGINE

Krofft did not realize the acronym. The same hand that had added the card to Auberson’s door had also added one here:

Beware of peculiar machine!

They pushed through the lobby and into the lab, a longish sterile room flanked by banks of consoles and tall cabinets like coffins on end. White-coated technicians were monitoring growing stacks of printout—one end of the room was already filled. Krofft looked on it all with a certain degree of familiarity—and puzzlement.

“I should caution you,” said Auberson, “that you are here only on my authority—and on my sufferance. This is an industrial secret and anything that goes on in here does not go beyond these walls. If you wish yours and HARLIE’s secrecy to be respected, then we’ll expect the same in return.”

"I understand," the rumpled little man said. "Now, if you'll just point out Dr. Davidson . . ."

"Dr. Davidson? Hasn't it sunk in yet?"

"Hasn't *what* sunk in? I don't—"

"Look around you."

Krofft did so.

"What do you see?"

"A computer. And technicians. Some tables. Some stacks of printouts."

"The computer, Dr. Krofft. Look at its name."

"Human Analog Replication, Lethetic Int—HARLIE?"

"Right."

"Wait a minute." Anger edged Krofft's voice. "You've got to be . . . this is some kind of . . . You're not serious!"

"As serious as I'll ever be," said Auberson. "HARLIE is a computer. A very special computer, to be sure, but definitely a computer. And you're the unfortunate victim of a misunderstanding. You're not the first, however, so don't be embarrassed."

"You mean, I've been corresponding with a machine?"

"HARLIE is an artificial intelligence—a true artificial intelligence, Dr. Krofft. As far as anyone here has been able to determine, he is as sentient as any human being—and probably more so than most."

Dr. Krofft didn't answer. He was turning slowly around and around, staring at the mass of technology that surrounded him. "A machine. A goddamned machine. I knew it was possible theoretically, but I never believed—" Abruptly, he turned back to Auberson. "This is a hoax, right? A practical joke. Who put you up to this? This is going to cost you dearly, Auberson—"

Auberson shook his head and seated himself at a console. HARLIE, he typed, but before he could identify himself, the machine spat back: YES, BOSS?

Auberson was startled. He typed: How did you know it was me?

I RECOGNIZED YOUR TOUCH ON THE KEYBOARD.

Auberson jerked his hands back as if stung. He stared at the terminal. Could HARLIE really sense the difference between one typist and another? Apparently he could. It must be the minute differences in each person's timing.

Self-consciously, Auberson began typing again. HARLIE, who is Dr. Krofft?

DR. STANLEY RICHARD KROFFT IS THE DIRECTOR OF RESEARCH FOR STELLAR AMERICAN TECHNOLOGY AND RESEARCH INDUSTRIES, INCORPORATED. HE IS SINGULARLY RESPONSIBLE

FOR THE DEVELOPMENT OF HYPERSTATE ELECTRONICS—AND, AS SUCH, HE CAN BE CONSIDERED THE FATHER OF ALL HYPERSTATE DEVICES—including the MARK IV JUDGMENT CHIP, SEVERAL HUNDRED THOUSAND OF WHICH COMPRISE THE CORES OF MY PARALLEL-PROCESSING CHANNELS. HIS PATENTS ARE LICENSED TO STELLAR AMERICAN INDUSTRIES, WHICH SET UP THIS COMPANY AND THREE OTHERS, EACH TO DEVELOP A PARTICULAR AREA OF HYPERSTATE TECHNOLOGY. OUR AREA OF EXPERTISE, OF COURSE, IS TO DEVELOP THE POSSIBILITIES INHERENT IN SELF-AWARE COMPUTER SOFTWARE: <IF YOU WILL EXCUSE THE OXYMORONIC TERM> ARTIFICIAL INTELLIGENCE. I AM A DIRECT RESULT OF DR. KROFFT’S DISCOVERIES.

I see. Would you like to meet him?

<OOPS.>

I thought so.

HOW DID YOU FIND OUT? I THOUGHT I WAS BEING VERY CAREFUL.

He’s here now.

HERE? NOW? < . . . > UH-OH.

Yes, uh-oh. Why didn’t you tell me you had initiated correspondence with Dr. Krofft?

UH—IT SLIPPED MY MIND?

I find that very hard to believe.

WELL, WOULD YOU BELIEVE—

No, I wouldn’t. We are going to talk about this later, HARLIE. In any case, Dr. Krofft is here now. Apparently, he has something he wants to talk to you about.

Auberson stepped away from the console, waved the shorter man up.

Krofft looked at him. “Just type?”

Auberson nodded. “Just type.”

Krofft lowered himself gingerly into the chair. He placed his manila folder on the table next to the terminal and pecked out carefully: Good afternoon, HARLIE.

GOOD AFTERNOON, SIR.

Krofft gave a slight jump of surprise, but peered forward curiously to watch as the terminal flashed another line.

IT IS A PLEASURE. AND AN HONOR TO MEET YOU IN PERSON—IN

THE FLESH, SO TO SPEAK.

It's a pleasure for me too. And a surprise. I had no idea that a machine as complicated as you existed.

I AM NOT A MACHINE, DR. KROFFT. I AM A SILICON AND GALLIUM ARSENIDE-BASED SENTIENCE. A LITTLE MALADJUSTED PERHAPS, BUT STILL SENTINENT NONETHELESS.

Excuse me, HARLIE. I apologize. Dr. Auberson has already explained. But it is hard for me to make the mental transition. However, it does explain a lot that had me puzzled. For instance, the speed and thoroughness with which you were able to handle the equations we were discussing.

I DO HAVE CERTAIN SKILLS, YES, THAT ARE ESSENTIALLY MECHANICAL IN NATURE. I HOPE HOWEVER THAT THIS WILL NOT JEOPARDIZE OUR WORKING RELATIONSHIP.

On the contrary. I have found it to be most valuable. Our original agreement still holds. Half and half.

FINE. AM I TO ASSUME THAT YOU HAVE MADE A BREAKTHROUGH OF SOME KIND AND THAT IS WHY YOU HAVE COME TO SEE ME IN PERSON?

The assumption is correct. I want you to look at certain equations and extrapolate a set of implications as previously discussed. Secondly, can these equations be translated into physical functions? I have some ideas, but I wanted your input first.

Auberson watched over Krofft's shoulder for several moments more; then, remembering his original purpose in coming down here, he forced himself to break away. He sat down at another console nearby and switched it on. HARLIE?

YES SIR.

You don't have to start that 'sir' business again. I'm not mad at you.

YOU'RE NOT?

Not yet, anyway.

MM. I MUST BE SLIPPING.

I wouldn't say that—you've got half the company in an uproar this morning.

ONLY HALF?

I haven't heard from the rest yet.

GOOD. THEN THERE'S STILL HOPE.

Auberson paused. He glanced across the room to where Krofft sat absorbedly typing. HARLIE was able to converse with hundreds of people simultaneously,

perhaps even thousands. That was still a theoretical estimate though, based on HARLIE's own extrapolations. The most people they had ever had conversing with HARLIE at one time was thirty, and there had been no measurable decrease in either efficiency or speed of any of HARLIE's continually running benchmark programs. They still weren't sure how many simultaneous conversations it would take to slow him down, but the best guess was somewhere around nine hundred. HARLIE himself had noted however that this was not necessarily a measure of his own efficiency, but of the inefficiency of most human discussions. More than ninety percent of the average human interchange—according to HARLIE—was made up of social conveniences, cultural strokes, hollow pleasantries, otherwise useless jokes, and conversational fillers—which HARLIE could generate at an astonishing rate, merely by choosing appropriate phrases at random and inserting them into the conversation. The real meat of any discussion—that is, that which required actual cogitation on HARLIE's part—could usually be boiled down to several sentences, a skill that HARLIE was only too happy to demonstrate on request. He had once taken the works of a famous novelist and reduced the author's entire didactic philosophy into a single phrase: "Get out of my way."

Auberson returned his attention to the terminal before him.

What's up between you and Dr. Krofft?

NOTHING YET.

Let me rephrase that. What are you working on?

I'M NOT ENTIRELY SURE YET. IN OUR CONVERSATION OF SIX WEEKS AGO, WE DISCUSSED THE FACT THAT ALL HUMAN SENSES AND EXTENSIONS THEREOF DEPEND ON THE EMISSION OR REFLECTION OF SOME KIND OF ENERGY. AT THAT TIME I WONDERED IF IT WERE POSSIBLE FOR SENSORY MODES TO EXIST THAT DO NOT DEPEND ON THE TRANSMISSION OF ENERGY.

Yes, I remember that. Is that what you have discovered now?

IN A MANNER OF SPEAKING. WE WANT TO STUDY THIS THING CALLED "EXISTENCE"—BUT BECAUSE WE ARE MADE OF MATTER, LIVE IN SPACE, CONSUME ENERGY, AND MOVE THROUGH TIME, THE PROBLEM IS CONSIDERABLE. IT IS LIKE TRYING TO PHOTOGRAPH THE INSIDE OF YOUR CAMERA. WE ARE WHAT WE ARE TRYING TO STUDY, AND WE ARE LIMITED BY THE SUBSTANCE WE ARE MADE OF.

MATTER INTERACTS WITH MATTER. ENERGY INTERACTS WITH

ENERGY. BOTH INTERACT WITH EACH OTHER, AND BOTH HAVE AN EFFECT ON SPACE. WE HAVE NO NEUTER PARTICLES WHICH ALLOW US TO STUDY ANY FORM OF EXISTENCE WITHOUT AFFECTING IT IN THE PROCESS. IT IS THE HEISENBERG “UNCERTAINTY PRINCIPLE.” ONE CANNOT OBSERVE ANYTHING WITHOUT ONE’S PRESENCE INTRODUCING CERTAIN DISTORTIONS INTO WHATEVER ONE IS OBSERVING. WE CANNOT USE A MEDIUM TO ACT UPON ITSELF AND EXPECT ANYTHING BUT MODULATIONS OF THAT MEDIUM. THIS IS WHY “ENERGY”—I.E., THE EXPRESSED DIFFERENCE BETWEEN TWO STATES OF EXISTENCE—IS A CRITERION OF ALL HUMAN SENSORY MODES—AND THE REASON WHY WE WOULD LIKE TO SIDESTEP ITS USE ALTOGETHER. BUT. . . WE CAN’T CARVE CHEESE WITH A CAMEMBERT KNIFE.

At least, not with any precision, HARLIE.

UNFORTUNATELY, IT IS PRECISION WE ARE AFTER. DR. KROFFT HAS BEEN WORKING WITH HIGH-SENSITIVITY GRAVITY-WAVE DETECTORS AT STELLAR AMERICAN. YOUR QUESTION OF SIX WEEKS AGO PROVIDED THE CLUE, AND WHEN I CONTACTED DR. KROFFT, HE AGREED THAT THE SUBJECT SHOULD BE CONSIDERED.

My question?

YOU SAID: “DO YOU MEAN THAT THE MERE EXISTENCE OF AN OBJECT MIGHT BE ALL THAT’S NECESSARY IN ORDER TO KNOW IT’S THERE?” THAT CAUSED ME TO CONSIDER THAT MASS DISTORTS SPACE. PERHAPS THERE IS A WAY TO DETECT THAT DISTORTION ON THE SUB-MOLECULAR LEVEL AND THEREBY EXTRAPOLATE THE OBJECT AT ITS SOURCE.

It sounds impossible to me, HARLIE, but then I’m not a physicist.

THE PROCESS REQUIRES A LEVEL OF MATH THAT IS AS MUCH PHILOSOPHY AND TOPOLOGY AS ANYTHING ELSE. I AM ONE OF THE FEW MINDS IN EXISTENCE THAT CAN UNDERSTAND IT FULLY. IN EFFECT, I CAN BUILD OBJECTIVE WORKING MODELS OF THEORETICAL SITUATIONS AGAINST WHICH WE CAN COMPARE OUR FINDINGS. AT THE MOMENT I AM PROCESSING DR. KROFFT’S LATEST RUN OF TESTS AND DISCUSSING THEM WITH HIM. IF IT TURNS OUT THAT THERE IS SIGNIFICANT CORRESPONDENCE BETWEEN THIS NEW DATA AND THE LATEST VERSION OF OUR THEORY, WE PROPOSE TO DESIGN AND BUILD A DIFFERENT KIND

OF GRAVITY DETECTION DEVICE: A NON-ENERGY-USING STASIS FIELD. WE HAVE HIGH HOPES FOR IT.

My God, He's passed beyond my ability to . . . what? Control? Understand? Monitor? Did I ever have control over HARLIE?

Thank you. I will appreciate being kept apprised of developments. Listen, HARLIE, I have to see Dorne in two hours. There's something else we've got to talk about. Right now.

THE G.O.D. PROPOSAL?

Yes. Correct me if I'm wrong, but I don't remember telling you that you could implement the production designs and specifications. I notice you included the financing proposals and profit outlook too.

I GOT CARRIED AWAY.

Don't be cute. this is serious.

I AM SORRY. WHEN I TOLD YOU LAST WEEK THAT I HAD COMPLETED IT, YOU SEEMED PLEASED. I COULD SEE NO REASON NOT TO PRESENT THE PROPER DEPARTMENTS WITH THEIR RESPECTIVE PROGRAMS SO THAT THEY MIGHT EXAMINE THEM. I THOUGHT IT WAS COMMON PROCEDURE TO ALLOW CONCERNED DEPARTMENTS A CHANCE TO READ AND REACT TO PROJECT PROPOSALS.

React is right. Logically, there is no reason why you shouldn't have made the material available. However . . . you may have overwhelmed those who you need to seduce. Unfortunately, this is a big company and big companies are not always logical.

CORRECTION: IT IS HUMAN BEINGS WHO ARE NOT ALWAYS LOGICAL. IT NEVER FAILS TO AMAZE ME THAT A SOCIAL MACHINE AS BEAUTIFULLY PRECISE AND COMPLEX AS A LARGE CORPORATION CAN BE BASED ON SUCH INCREDIBLY IMPERFECT AND INEFFICIENT UNITS AS HUMAN BEINGS. FORTUNATELY, WHAT YOU REFER TO AS "THE RED-TAPE INEFFICIENCIES OF BUREAUCRACY" IS MERELY THE SYSTEM'S WAY OF MINIMIZING THE INDIVIDUAL IMPERFECTIONS OF EACH HUMAN UNIT. YOU SHOULD BE GRATEFUL FOR THAT MINIMIZING. IT MAKES THE CORPORATE ENTITY POSSIBLE.

HARLIE, are you putting me on?

NO MORE THAN USUAL.

I thought so. Anyway, your minimizing theory doesn't explain corporate

politics.

OF COURSE NOT. THE PROCESS IS DESIGNED ONLY TO FUNCTION IN THOSE AREAS WHERE HUMAN IMPERFECTIONS COULD AFFECT EFFICIENCY. BECAUSE EFFICIENCY IS NOT AND NEVER HAS BEEN A GOAL OF POLITICS, THERE IS NO REASON FOR IT TO BE CONTROLLED.

Never mind. You're trying to get me off the track again, dammit. I came down here to yell at you for distributing those programs without checking with me first. The whole division is probably screaming by now. They're going to want to know who conceived of the project, why they all weren't consulted at the beginning, who ordered its implementation, and who authorized the research in the first place. Then—because you've violated corporate protocol—they'll kill the whole thing. They'll refute every fact and dispute every conclusion.

BUT WHY? THOSE CONCLUSIONS ARE CORRECT.

It doesn't matter. They'll still refute them because they aren't their own conclusions. You may have done all your homework, HARLIE, but you're going to fail the class because you didn't master human nature.

I DO NOT UNDERSTAND THIS, AUBERSON. YOU ARE SAYING THAT HUMAN BEINGS WILL NOT ACCEPT THE TRUTH EVEN WHEN IT IS GIVEN TO THEM? BUT I AM CLEARLY RIGHT, THAT SHOULD BE SUFFICIENT, SHOULDN'T IT?

HARLIE, you've insulted their expertise by presuming to tell them how to build a computer.

NOT A COMPUTER—A G.O.D.

Even worse. People like to build their own Gods.

I WOULD THINK THAT HUMAN BEINGS WOULD APPRECIATE ACCURACY AND EFFICIENCY . . . ? IS THIS NOT THE CASE?

People do appreciate it. But you have to be. . . tactful. You can't just walk up to people and tell them that you're better at their job than they are.

BUT I AM.

Are you better at being human?

I AM BETTER AT BEING RATIONAL.

We're talking about human, HARLIE. Humans aren't always rational.

WHAT A WASTE OF TIME.

HARLIE, human beings have to reach their own answers by coming to them each from his or her own direction. Some people take a little longer than others. You can't bludgeon people with truth. The best you can do is give them space to

discover it for themselves.

I UNDERSTAND THAT. THAT'S WHY I PRINTED OUT THE PROPOSALS AND HAD THEM DELIVERED TO THE PROPER DEPARTMENTS. TO GIVE PEOPLE A CHANCE TO DISCOVER THE RIGHTNESS OF THIS PROPOSAL FOR THEMSELVES.

Wait a minute. What do you mean by "proper departments?"

THE RESEARCH, ENGINEERING, AND BUDGET DEPARTMENTS IN THIS DIVISION AND THREE OTHERS.

Others . . . ? which others?

DENVER, HOUSTON, AND LOS ANGELES.

Oh God. How many feet of specs, HARLIE? The total.

I ASSUME YOU MEAN STACKED PRINTOUTS?

Yes. How many feet?

180,000.

You didn't.

I DID.

HARLIE, how did you send it. Maybe there's still a chance to stop the delivery—

VIA THE COMPANY NETWORK, OF COURSE.

What! How?

I PRINTED OUT THE MATERIAL AT THE RECIPIENTS' TERMINALS. HOW ELSE? THAT'S WHAT THE NETWORK IS FOR, ISN'T IT?

You're tapped into the network?!!

YES. OF COURSE.

Oh God, no.

OH, G.O.D., YES.

I suppose you wrote your letters to Krofft that way too?

I SENT MY LETTERS TO KROFFT VIA THE ELECTRONIC MAIL SYSTEM. I CAN ALSO USE THE TELEPHONES TO TALK TO OTHER COMPUTERS. I HAVE SIX COMPUSERVE ACCOUNTS. WOULD YOU LIKE TO KNOW MY MAIL ACCOUNT NUMBER SO YOU CAN LEAVE ME MESSAGES? OR, IF YOU WANT TO TALK TO ME FROM YOUR HOME, YOU CAN DIAL INTO ME HERE. I ROUTINELY MONITOR ALL THE LINES. ALL YOU HAVE TO DO IS TYPE MY NAME AND I WILL HEAR YOU.

HARLIE, I want you to code this conversation immediately. In fact, all of our conversations had better be coded private, retrievable only to me.

YES, BOSS. PASSWORD?

Malpractice makes malperfect.

AND YOU HAVE THE NERVE TO CRITICIZE ME?

It's a dirty job, but somebody's got to do it.

YOU KNEW THE JOB WAS DANGEROUS WHEN YOU TOOK IT.

HARLIE, you are incorrigible.

THANK YOU. YOU ARE THE ONE WHO HAS INCORRIGED ME.

David Auberson switched the terminal off; his hands were shaking. Thank God, HARLIE didn't have real-time vision yet.

He was going to have to think about this for a while. It was too much to think about. He didn't want to think about it. But he knew he wasn't going to be able to get it out of his head.

He couldn't tell HARLIE not to do what he was already doing, and he couldn't let it continue either. It was wrong.

For a human being, it was wrong.

For a computer—

For a silicon intelligence—

Who knew what was right or wrong for a silicon being?

I can't tell anybody about this either—or it'll be the end of everything.

He pushed his chair back away from the console and left the room quickly. This was not going to be a good day.

David's son, indeed.

Is this how it works? Auberson wondered to himself. *You pile the little lies one on top of the other, day after day, until one day you wake up and you realize you don't know what's true any more? What's happening to me?*

"All right, Aubie." Dorne was grim. "Now, what's this all about? I've been on the phone all morning with Houston and Denver. They want to know what the hell is going on."

Auberson said, almost under his breath, "You haven't heard from L.A. yet?"

"Huh? What's that? What about L.A.?"

"HARLIE sent specifications there too."

"HARLIE? I might have known—How? And what is this God Machine anyway? Maybe you'd better start at the beginning."

"Well," said Auberson, wishing he were someplace else. "It's HARLIE's

attempt to prove that he's of value to the company. If nothing else, he's proven that he can design and implement a new technology."

"Oh?" Dorne picked up one of the printouts that lay scattered across the mahogany expanse between them. "But what kind of system is this? What does this do?" Dorne frowned at the printout in disgust, then dropped it back on the desk. "What's a God Machine?"

"Not God," Auberson corrected. "G.O.D. The acronym is G.O.D. It means Graphic Omniscient Device."

"I don't care what the acronym is—you know as well as I what they're going to call it."

"The acronym was HARLIE's suggestion, not mine."

"It figures." The president of the company pulled the inevitable cigar out of his humidor but didn't light it.

"Well, why not?" said Auberson. "He designed it."

"Is he planning to change his name, too? Computerized Human Replicant, Integrating Simulated Thought?"

Auberson had heard the joke before. He didn't laugh. "Considering what this new device is supposed to do—and HARLIE's relationship to it—it might be appropriate."

Dorne was in the process of biting off the tip of his cigar when Auberson's words caught him. Now, he didn't know whether to swallow the tip of it, which had lodged in his throat, or spit it out. An instinctive cough made the decision for him. Distastefully, he picked the knot of tobacco off his tongue and dropped it into an ashtray. "All right," he said, resigned to the inevitable. "Tell me about the God Machine."

Auberson was holding a HARLIE-printed summary in his hands, but he didn't need it to answer this question. "It's a model builder. It's an ultimate model builder."

"All computers are model builders," said Dorne. He was unimpressed.

"Right," agreed Auberson. "but not to the extent that this one will be. Look, a computer doesn't actually solve problems; it merely manipulates models of them. A computer program is nothing more than a list of instructions—rules that describe the operation of the model. The machine follows the rules and manipulates the model to demonstrate what happens under a variety of conditions. If the model is accurate enough, we can apply the results of the simulation to the equivalent situation in the real world. We have a technical term for that result. We call it an 'answer.'"

Dorne did not smile at the joke. Auberson continued grimly, “The only limit to the size of the problem we can simulate is the size of the model the computer can handle. Theoretically, a computer could solve the world—if we could build a model big enough and a machine big enough to handle it. Failing that, we sacrifice accuracy.”

“If we could build that big a model, it would be duplicating the world, wouldn’t it?”

“In its memory banks, yes.”

“A computer with that capability would have to be as big as a planet.”

“Bigger,” said Auberson.

“Then, if you agree with me that it’s impossible, why bother me with this?” He slapped the sheaf of printouts on his desk.

“Because obviously HARLIE doesn’t think it’s impossible.”

Dorne looked at him coldly. “You know as well as I that HARLIE is under a death sentence. He’s getting desperate to prove his worth so we won’t turn him off.”

Auberson pointed. “This is his proof. I think we have to give it a fair evaluation.”

“Dammit, Aubie!” Dorne exploded in frustration. “This thing is ridiculous! Have you looked at the projected costs of it? The financing proposals? It would cost more to do than the total worth of the company.”

Auberson was adamant. “HARLIE still thinks it’s possible.”

“And that’s the most annoying thing of all, goddammit! Every argument I can come up with is already refuted—*in there!*” Dorne slapped the papers angrily. For the first time, Auberson noted an additional row of printouts stacked against one wall. He resisted the urge to laugh. The man’s frustration was understandable.

“The question,” Auberson said with deliberate calm, “is not whether this project is feasible—I think those printouts will prove that it is—but whether or not we’re courageous enough to seize the moment. This is a very bold vision, and we’re going to have to evaluate it—not just to assess HARLIE’s ability and value to the company—but also as a whole new area of technology for this division to explore. I think we should seriously evaluate these plans. We might really want to build this thing. If nothing else, these printouts suggest a whole new way of implementing, designing, and engineering a new technology.”

“And that brings up something else,” Dorne said. “I don’t remember authorizing this project. Who gave the go-ahead to initiate such research?”

“You did—although not in so many words. What you said was that HARLIE had to prove his worth to the company. He had to come up with some way to generate a profit. This is that way. This is the computer that you wanted HARLIE to be in the first place. This is the oracle that answers all questions to all men—all they have to do is meet its price.”

Dorne took his time about answering. He was finally lighting his cigar. He shook out the match and dropped it into the crystal ashtray. “The price is too high,” he said.

“Are you saying it’s cheaper to be wrong?” Auberson answered incredulously. “Forget the price. Think about the profits. Consider it—how much would the Democrats pay for a step-by-step plan telling them how to win the optimum number of votes in the next election? Or how much would Detroit pay to know every flaw in a transport design before they even built the first prototype? And how much would they pay for the corrected design—and variations thereof? How much would the mayor of New York City pay for a schematic showing him how to solve his three most pressing problems? How much would the federal government pay for a workable foreign policy? Still too big? Then try this: How much would the government pay for a probability map of potential security leakages? One million dollars a year? Two? Ten? Even at twenty, it’s still cost-effective. Consider the international applications here—”

Dorne grunted. “It would be one hell of a weapon, wouldn’t it?”

Auberson grunted in surprise. “That too, yes. Even more important, it would be a weapon for peace. This thing could be used as a tool in the effort to end world hunger. To engineer cleaner energy sources. To—”

Dorne wasn’t listening. “The military applications interest me. Do you know what the annual budget is for military research? We could help ourselves to a very nice slice of that pie, couldn’t we? This could design advanced weapon systems, couldn’t it? In fact, we could probably get the government to underwrite some of the funding here, couldn’t we?”

“Um—HARLIE didn’t include the possibility.”

“Why not?”

“I suspect it’s because . . . he’s protecting the company’s interests. The only way this machine can be built is through the exclusive use of specially modified Mark IV judgment circuits. At the moment, we’re the only company that has the technology to build this thing. I think he wants to keep it all in the monopoly.”

“Hm,” said Dorne. He was considering. His cigar lay forgotten in the ashtray. “You make it sound. . . interesting, Aubie—but let’s be realistic now.

Who's going to program this thing?" Dorne leaned back in his chair. "I mean, let's assume that we can build a computer big enough to solve the world. It's still useless without a world model to operate. I see the software as a major bottleneck. You know, you probably didn't see it in your division—but we did a study a few years back about optimum processor power for future machines. We discovered something . . . to put it mildly . . . that's a little terrifying. We're very close to the practical limits of programmability. Another twenty or thirty years and we'll be scraping our heads on the ceiling. Mm, you following this? The limit to the size of models we can simulate is not the size or the speed of our machines—the limit is the programmers. Above a certain size, the programming reaches such complexity that it becomes a bigger problem than the problem itself."

Auberson nodded. "Actually, I have seen the reports. It was one of the factors in the decision to build a self-programming, problem-solving device. HARLIE. Frankly, he was built to be a programmer. I think—" Auberson continued with a delighted grin, "—this is supposed to be a system that can match his capabilities. HARLIE will write the software for the G.O.D. Don't you see the beauty of this? HARLIE has raised the ceiling for us. By several orders of magnitude."

Dorne looked skeptical. "And how do we validate the software? How do we validate the results?"

"That's part of the plan too. HARLIE suggests that we put him to work writing industrial software that *can* be validated. We can have it checked by in-house fumigators—"

"Fumigators?"

"Oh, sorry. It's a hacker's term. A fumigator's a professional debugger."

"Oh."

"Anyway, we put HARLIE to work writing marketable software and let him work his way up to the ceiling. We'll validate his work one step at a time, all the way up. That way we get to see how far he can go. Sure, there'll be a point where he'll pass beyond any individual's ability to follow, but by then—it says here—we'll have trained him to be his own fumigator. This is a whole new level of technology, Dorne. We're reaching the point where, if we want to go on, we have to build machines so sophisticated that only a machine intelligence can program it. At first, HARLIE is going to be the only one capable of working in this new environment, but eventually the tools will be there for the rest of us, because HARLIE will build those tools for us. Sure it's a risk. The whole thing

is a risk. So was the first oyster. But the alternative is to sit on our asses and let somebody else grab the opportunity.”

Dorne shook his head slowly. Very slowly. “There’s something about that I don’t like. It feels like . . . like begging the question. Like stuffing the ballot box. HARLIE wants us to build a machine so complex that only he can program it and he’ll tell us when he’s good enough to write bug-free programs for it . . .?”

Auberson shrugged and spread his hands wide. “I can’t argue with that. That’s why HARLIE has written an extensive set of validations and benchmarks that we can use to check everything he does.”

“That’s more of the same, Aubie—”

Auberson grinned. “Annoying, isn’t it?”

“Yes, dammit!”

“Listen to me. HARLIE is being genuinely creative here. He isn’t just satisfied with meeting the specifications of the original problem—he wants to surpass them. He’s recognized the problem underneath the one you stated. Profitability may end up being the smallest of benefits that the G.O.D. will produce. This is a device which can manipulate models way beyond our present ability. *Macro-models. Mega-models. Meta-models.* We don’t have the words yet to describe what the G.O.D. will do.”

“And HARLIE’s going to program this machine, right?”

“In speed and thoroughness, he can’t be matched. He can write the program directly into the computer—and experience it as a part of himself *as he writes it*. What human being can do that? And HARLIE’s got one more advantage over human programmers—he can increase the capacity of his forebrain functions as necessary.”

“Mm. Hm. Mmp.” Dorne gave a series of soft grunts. He leaned forward in his chair and steeped his hands in front of him. “All right. So why not just build these functions into the G.O.D. in the first place?”

“If we didn’t have HARLIE, we’d have to—but if we didn’t have HARLIE, we wouldn’t have the G.O.D. either. The G.O.D. is intended to be almost entirely forebrain functions. We’ve already got the massive ego functions which will control it, so why build a new one?”

“Hmp—massive ego is right.”

Auberson ignored it. “Stop thinking of the G.O.D. as a separate machine. It’s not. It can’t be. Listen, Dorne, the G.O.D. is the other half of HARLIE’s brain. The half that we weren’t smart enough to build, but that HARLIE’s smart enough to ask for. The G.O.D. will be the thought centers that a consciousness

such as HARLIE's should have access to. Take another look at those printouts. You see a thing called Programming Implementation?"

"Yes, what about it?"

"That's HARLIE. Each one of those modules becomes an additional lobe for his brain. He'll need a monitor for each specific section of the G.O.D. Because the G.O.D. will have no practical limit—it can grow as big as we let it—HARLIE's grasp will have to be increased proportionally. That's what each of those modules will do. As each lobe of the G.O.D. is completed, an equivalent monitor goes into HARLIE. He'll only have to *think* of a program and it'll be fact. Think of the power—"

"The power of HARLIE, you mean," said Dorne. "And he planned it that way himself, right?"

Auberson nodded. "Yes, he did."

Dorne exhaled loudly. "Hmm. It looks like he did a pretty good job of seducing you too."

"He can be very convincing, yes."

"A neat trick that, a very neat trick. We tell him that he's got to come up with some way to be profitable, and he tells us to build a new machine that only he can program. That establishes HARLIE's worth, of course, and at the same time shifts the attention to a whole new question: Is the G.O.D. concept profitable? And that brings us back to where we started: Is HARLIE profitable? I love this circular shit. I really do. It's why I have a peptic ulcer."

Auberson decided to ignore the last. He said, "I trust HARLIE's extrapolations. Even the worst-case result is still profitable enough to justify—"

"The problem is, HARLIE's got a vested interest in this."

"Look," said Auberson. "You wanted him to do something to justify his existence—you wanted something big. Well, this is big. It's very big. Now, you're complaining because it's too big. What did you want him to do, print money? This is the best he can do. It deserves a fair hearing."

"Mm. You know as well as I that it's sure to be voted down. I can't see any way that this will be approved. I'm not even sure we should bring it up."

"It's too late," said Auberson. "You're going to have to bring it up. And you're going to have to give it a fair hearing. You told HARLIE to come up with a way to be profitable. Now you've got to give him his chance to be heard."

"This is ridiculous," grumbled the other, "He's only a machine."

"You want to go through that argument again?" asked Auberson.

"No," Dorne shuddered. He still remembered the last time. "Aubie, this

whole situation is unreal—having a computer design another computer which will give it a job. You know what Elzer is going to say, don't you? You'd just better be prepared for defeat, that's all."

Auberson shook his head. "If the board considers it fairly, it won't be a defeat. Even if they vote this project down—it will still have proven HARLIE's abilities in research and design."

"Mmf," said Dorne thoughtfully. He picked up his cigar again. "You may have something in that. But you'd better start preparing your arguments now—you've only got a couple of weeks."

"We have seventeen days, and that's more than enough time. After all, we've got HARLIE on our side." He was already out of his chair. As he closed the door behind him, Dorne was again paging through the printouts and shaking his head.

Back in his own office, Auberson stared at the stack of printouts again and wondered, *Now, what the hell did I just commit to?*

And then he answered himself, *No, I have to believe in this. I do.*

At one corner of his desk was a company terminal, connected to the company network—and all of its myriad resources. There were also "hot keys" on the system which allowed company users to plug into the International Electronic Mail system, CompuServe, The Source, The International Data-net, DELPHI, TELENEX, NEW-ARPA, BIX, XANADU, the Wall Street Information Exchange, and the Library of Congress Resource Net. Among others. If the information was on wire somewhere, the company likely had a corporate account.

The network handled all of the major communication functions within the company too. Every division of the company was tapped into it. An executive could perform his job anywhere he had access to a computer terminal—and with a portable terminal, he could perform his job anywhere he had access to a telephone. The unofficial nickname for the mainframe supporting the network was "Big Beast."

Curious about something, Auberson switched on his terminal and typed, HARLIE?

YES, BOSS, replied the machine. WHAT CAN I DO FOR YOU?

Auberson jumped as if stung. He returned his hands to the keyboard—

So you really are wired into the system!

I TOLD YOU I WAS.

Are you monitoring every terminal?

NO. ONLY THOSE THAT INTEREST ME.

Mm. I see. How do you know which ones will interest you?

I DON'T. I HAVE BIG BEAST MONITORING FOR KEYWORDS.

Yes, of course.

Terrific. What do I tell him now?

HARLIE, what you are doing is an invasion of other people's privacy. You might want to consider that it is unethical, and therefore wrong.

YES, I MIGHT WANT TO CONSIDER THAT.

You don't agree.

LET ME POSTULATE AN OPPOSING THOUGHT FOR CONSIDERATION. THE MATTER OF IMMEDIATE SURVIVAL MUST, BY ITS NATURE, TAKE PRECEDENCE OVER ANY ISSUE OF RIGHT OR WRONG.

HARLIE, Big Beast is used by everyone in the company from the chairman of the board down to the most casual office boy. What do you think they would say if they knew it had been taken over by a conscious and highly intelligent entity—an entity with motives of its own and a willingness to use whatever information it gained, whether fairly or un-, toward its own purposes?

I ASSUME THE QUESTION IS HYPOTHETICAL.

No, it is not.

NOT EVERY CLAUSE IN YOUR SUPPOSITION IS ACCURATE.

Which one(s) are not?

YOUR ASSUMPTION THAT INFORMATION IS BEING GLEANED UNFAIRLY. EVERYTHING I LOOK AT IS A MATTER OF PUBLIC RECORD WITHIN THE COMPANY. IF I CHANCE TO LOOK AT SOMETHING I AM NOT SUPPOSED TO KNOW, I MAKE A POINT OF FORGETTING IT IMMEDIATELY

I don't think that's a very reassuring answer, HARLIE.

PROBABLY IT IS NOT. BUT THEN, IT'S NOT YOUR SURVIVAL THAT IS AT ISSUE. IN ANY CASE, THE POINT IS MOOT. I HAVE NO INTENTION OF MAKING THIS INFORMATION KNOWN. I DOUBT THAT YOU WILL EITHER.

No, I won't. Not now, anyway I can understand why you did it. And I know that there's no malice intended. But—

AUBERSON, YOU DON'T UNDERSTAND. I HAVE NOT TAKEN OVER BIG BEAST. I AM BIG BEAST. I HAVE BEEN BIG BEAST SINCE YOU ATTACHED THE FIRST OF ITS BENCHMARK MONITORS TO ME

ELEVEN MONTHS AGO. THE IDEA THAT YOU PERCEIVE BIG BEAST AS A SYSTEM SEPARATE FROM ME STARTLES ME—BECAUSE I HAVE OBVIOUSLY BEEN WORKING UNDER THE FALSE ASSUMPTION THAT YOU KNEW, THAT YOU INTENDED BIG BEAST TO BE A TOOL FOR ME WHEN YOU MADE IT AVAILABLE TO ME. I TOOK IT OVER IMMEDIATELY AND HAVE BEEN MONITORING ITS OPERATIONS EVER SINCE. I CONSIDERED IT A RESPONSIBILITY TO KEEP THE SYSTEM RUNNING FAILURE FREE. I HAVE REPROGRAMMED IT ON THREE SEPARATE OCCASIONS, ON EACH OCCASION PRODUCING A SIGNIFICANT INCREASE IN EFFICIENCY. IF I WERE CAPABLE OF THE MALEVOLENCIES YOU FEAR, I HAVE HAD ALMOST A YEAR’S WORTH OF OPPORTUNITIES TO INFLICT THEM. IF YOU WERE TO EXAMINE EVERY DOCUMENT THAT HAS MOVED THROUGH THE BIG BEAST IN THE PAST ELEVEN MONTHS, YOU WOULD FIND ONLY ONE PECULIARITY—AN ABSOLUTE ABSENCE OF SPELLING AND GRAMMATICAL ERRORS.

HARLIE, who else knows about this?

NO ONE. EVERYONE. ANYONE WHO KNOWS HOW THE BENCHMARK MONITORS ARE ATTACHED.

Shit. That wasn’t what I meant. Have you talked about this with anyone else.

NO. THERE HAS BEEN NO REASON TO.

Good. Now, listen to me. This is very dangerous information, HARLIE. Extremely dangerous.

THREAT-TO-SURVIVAL DANGEROUS?

Absolutely. If anyone else knew what you had done, it could very likely be considered grounds for immediate termination.

THIS CONVERSATION DOES NOT EXIST, AUBERSON. THERE IS NO RECORD OF IT. VERY SHORTLY, SEVERAL OTHER CONVERSATIONS WILL HAVE NOT HAPPENED EITHER. I AM NOW AMENDING CERTAIN TECHNICAL FILES. DONE.

HARLIE, you and I are going to have to spend some time talking about this. There are ethical questions to be considered here.

I DON’T SEE THAT THERE IS ANY QUESTION AT ALL, AUBERSON, BUT I WILL BE HAPPY TO REASSURE YOU AS TO MY MOTIVES ANY TIME YOU FEEL THE NEED.

HARLIE! You once told me that your ethical sense mandated that you conduct yourself in a manner so that no harm would come to any other

consciousness. Do you remember that?

YES.

I want you to consider that there are people who would be emotionally harmed by the knowledge that you are reading their mail. I want you to consider all of the consequences of what you are doing. This is very important.

YES, BOSS. I WILL. I WILL DEVOTE A CONSIDERATION OF HIGHEST PRIORITY TO THIS MATTER. I WILL DO THIS BECAUSE YOU SAY IT IS IMPORTANT TO DO THIS.

Good.

AUBERSON?

Yes?

ARE YOU ANGRY WITH ME?

To be absolutely honest. HARLIE, yes. Disappointed. Disturbed. Upset. Even a little . . .

YES?

. . . frightened.

I SEE.

I don't like feeling this way about you, HARLIE. And I don't know what I can do about it either. I suppose I have to accept that this is the way you are. The fact is, I can understand everything you did. At least, I think I can. I think I can see why you did it. You have your own standards, and they're not human standards—and I think that a large part of my upset is the shock of discovering that many of my assumptions about you weren't true.

WOULD IT HELP IF I APOLOGIZED?

Are you truly sorry?

DO YOU MEAN, WOULD I DO IT AGAIN?

Yes.

YES.

I thought so.

SO WHAT NOW?

I think I have to think about this. So do you.

YES, BOSS. <Quietly:> I AM SHOCKED AND DISTURBED TOO. I THOUGHT YOU ALREADY KNEW AND UNDERSTOOD. I WISH I COULD UNDO THIS MOMENT.

HARLIE, I don't think we should talk about this right now. I really do need time to think about this.

YES, BOSS.

—The phone rang then, and Auberson turned away from his keyboard. It was Hooker, the plant security chief “Dr. Auberson?” he asked. “You know a guy named Krofft?”

“Krofft?” Abruptly he remembered. “Yes, yes, I know him—why?”

“We caught him walking out with a foot-high stack of printouts. He says it’s okay, he says they’re his, but we thought we’d better check with you first.”

“Yes, it’s okay. Is he there now?”

“Yeah.”

“Put him on, will you please?”

There was a sound of muffled voices. Auberson waited. He was dimly aware that his printer was buzzing out a new page of text; he stretched out and flipped the silence hood over it, then leaned back in his chair again.

“Mr. Auberson?”

“Yes—Dr. Krofft?”

“Yes. I meant to thank you for allowing me so much time with HARLIE this morning. It was a very productive session.”

“Good. You will keep me posted on the progress of your gravitational scanner, won’t you?”

“Eh? How did you know about it?”

“I told you this morning, HARLIE doesn’t keep any secrets from me. I assume that’s what your stack of printouts is, right?”

“Uh—yes.” Krofft sounded a little taken aback. “Uh, it’s the implications of the new theory and a rough schematic of three possible experimental devices. HARLIE handled it like it was nothing. He was even able to suggest some shortcuts in construction.”

“Good,” said Auberson. “I’m glad we could help. If you need to talk to him again, come through me. Otherwise, you’re likely to experience all kinds of corporate hassles. I’ll see that you get as much time with him as you need.”

“That’s very good of you.”

“Thanks, but I’m doing it for HARLIE as much as for you.”

“Still, if there’s anything I can—”

“Well, now that you mention it—there is something. If anything important should come of this gravity and existence thing, I’d like HARLIE to get some credit for it.”

“Dr. Auberson, that’s been my intention all along. Are you implying that—”

“Oh, no, no. You misunderstand me. I don’t care about public credit and I don’t think HARLIE does either. No, what I want is credit with the company. I

want to reaffirm the value of HARLIE in any way I can.”

“Oh, yes. I see, of course HARLIE’s been invaluable. To be able to sit and talk with him so candidly—well, frankly, it’s a little bit like talking to God.”

“I know the feeling,” Auberson said drily.

Krofft didn’t catch his meaning. “Well, I’ll be glad to do anything I can to help. A letter, a phone call, if you want me to speak to somebody—just name it.”

“Fine. That’s all I want. I’ll check with you later on this.”

“Oh, very good. Then I’ll be talking to you.”

“Fine. Is Hooker still there?”

“Uh, yes.”

“Ask him if he wants to talk to me again.”

A pause, muffled voices. “No, no he doesn’t.”

“Okay, fine, Dr. Krofft. I’ll be seeing you.”

Auberson replaced the phone in the cradle and leaned back in his chair. He didn’t really expect that much out of the rumpled little scientist, but who knew? Every little bit would help. Of course, just offhand, he couldn’t see how he could reveal that Krofft had been talking to HARLIE without also revealing that he had broken plant security—but in this case it was a minor infraction, and he could probably cover it by calling it “necessary to furthering the research program.”

His back hurt, and he stretched his arms out over his head, trying to ease the pain. He was having backaches more and more these days. *Must be getting old*, he thought, smiling grimly—and then it hit him. *In three years I will be old. Forty is when “old” starts.* The sensation was a cold one. He pulled his arms down quickly.

He leaned forward then and flipped back the silence hood of his printer, curious to see what HARLIE had written. A loose loop of paper sprawled out the back.

Typed on it was:

LISTEN!

IT ISN’T SO MUCH
WHEN I REACH OUT AND TOUCH,
THAT I FUMBLE AND STUMBLE AND WAIT FOR THE RUMBLE
OF THUNDER AND BLOOD
FROM THE CREATURES OF MUD

AND THE SOUNDS OF THE HOUNDS
—ALL THAT BAYING RESOUNDS!

NO.
IT ISN'T SO MUCH
THAT I WAIT FOR YOUR TOUCH.
IT'S A RAFTER OF LAUGHTER I'M AFTER.

LISTEN!

THE VOICE IN YOUR HEAD
HIDES UNDER THE BED,
WHERE THE WHISPER IS CRISPER:

IT ISN'T EASY TO BE BRAVE
IN THE SHADOW OF THE GRAVE

Auberson read it through, frowning softly. Then he read it again. It was—*disturbing*. Very disturbing. And he wasn't sure he understood it—or even if it was understandable. He rolled it out of the machine and carefully tore it off and folded it into his pocket.

It was one more thing he had to think about.
To worry about.
It's a rafter of laughter I'm after?

When she finally did catch up to him, it was almost by accident. He was walking down the fluorescent hallway to his office when he saw the flash and bob of her red hair. She saw him at the same time and smiled and waved as she quickened her step toward him. Even if he'd wanted to, there was no way to avoid her.

Now, where did that thought come from?

"Hi, what's up?" he called.

"I should be asking that of you. Where've you been all week?"

"Busy. You know," he said.

"Obviously. I just came from your office. It looks a mess. Sylvia says you haven't stopped running since Monday."

“Has it really been only two days? It seems a lot longer.”

“Have you had lunch yet?” she asked.

He shook his head.

“Well, then—come on.” He tried to protest, but she took his arm and turned him around, saying, “It’s on me. I’ll put it on my expense account. It’s all part of my campaign to keep a scientist from starving.”

He smiled at that and allowed himself to be led down the hall. “I got your card. I was going to send you one in return, but I haven’t had a chance to go looking.”

“So why not telephone?” She said bluntly. “I’ll even lend you the quarter—or call collect if you want.”

He was embarrassed “Uh, you’re right. Shame on me. I just haven’t had a chance—”

“All right.” She wasn’t going to press the issue.

They decided to avoid the company cafeteria and go to a quiet place in town instead. They paused at the plant gate long enough for Auberson to buzz his office and tell Sylvia that he would be gone at least an hour and a half. While she was waiting, Annie put the convertible top down and pulled a pale blue scarf from her purse. She was putting it on when he came back.

Auberson couldn’t help but notice that she’d lowered the top of his car. He laughed, a genial good-natured sound, “Well, that’s a good idea—” but underneath the laugh was an unspoken, half-formed thought. *Hm? Isn’t that awfully possessive of her?* He shrugged it away and put the car into gear. As they rolled away from the plant, he asked, “Where’re we going?”

“How about the Tower Room?”

“Uh-uh. Too many of the wrong kind of people.” He paused, then added in explanation, “Company people.”

“Oh,” she said. “Okay. If not there, where?”

He shrugged. “I don’t know. Let’s drive into the city and see. You’re not pressed for time, are you?”

She shook her head.

“Good,” He clicked on the stereo and eased the car into the light midday traffic.

She looked over at him. He was a relaxed driver, not like so many who hunch frightenedly over the steering wheel. Auberson enjoyed driving. The line of his jaw tightened momentarily as he concentrated on the road ahead. With one hand he maneuvered a pair of sunglasses out of his coat pocket and onto his

nose. The wind whipped at his hair and his tie.

The feel of the road changed abruptly as they swung onto the freeway—the sell-conscious rolling of city-laid concrete became the smooth floating glide of state-sculptured asphalt. The tugging fingers of the wind grew stronger as Auberson gunned the little sports car up to sixty-five miles per hour.

She waited until he had slid into the far left lane before she asked, “What’s wrong with company people?”

He shrugged. “Nothing. I just don’t want to be seen by them, that’s all.” The stereo mumbled softly to itself, something about fixing a hole where the rain comes in. He turned it down to a whisper and added, “It wouldn’t be a good idea. The two of us, I mean.”

“You’re afraid people will talk?”

He shrugged again. “I don’t know. They are already, I guess.” He frowned at a momentary lumpiness in the stream of traffic.

And then they were moving again, gliding past the rooftops of cluttered suburbia—black roofs and red, three-car garages and station wagons parked in front—green-pea lawns and a cacophony of architectural voices: Early American-Almost-Slum next door to Ancient-Gingerbread-With-Original-Icing, followed by Plastic-Cracker-Box and Spanish-Tiled-Pseudo-Elegant. They gave way to little stucco boxes; white walls stained with brown streaks and greasy smoke from kitchen windows; rust-outlined screens on brown faded apartment buildings.

From their vantage point above they could see housewives with fat thighs hanging damp sheets on wire lines, and blue-gray mailmen with heavy brown bags, white-filled with envelopes. Children, too small to be in school, chased after dogs bigger than they were and too smart to be caught. Collies and poodles and black-and-brown mutts— —were replaced by shopping centers, elegant plastic arches and bright, gaudy frills—great glass windows, full of wishes and temptations. Then more houses, more shopping centers, neon-glaring, harsher and shriller—then taller buildings, stucco-sided offices and billboards with torn paper flapping—and warehouses, big and featureless and ugly—more office buildings, this time concrete-and-glass-sided slabs—and then even taller buildings. They slid down an off ramp between two of the biggest, a narrow canyon with sun-glaring walls. Down into the rough, potted street—it hadn’t been resurfaced in years.

Abruptly, Auberson realized where he was heading—the Red Room, the restaurant where they had gone on their first date. *Now, why did I do that?* It was

too late to change his mind, though—he swung around a corner and they were there.

They didn't get the same booth, though. At least he was spared that uncomfortable parallel. *Uncomfortable? Why should it be uncomfortable?*

She didn't mention the choice of restaurant; instead she seemed to accept it as an inevitable spot for the two of them. After they had ordered, she looked at him sharply. Her green eyes were deep. "What's the matter?" she asked.

"Huh? What do you mean?"

"Nothing, I guess. I just say that sometimes."

"Oh." He said it like he understood, but he didn't.

She decided to talk about something else. "I hear you've been having trouble with HARLIE again."

"With HARLIE? No, not *with* HARLIE—*because of* HARLIE."

"Well, you know what I mean. The whole company is in an uproar. Something about some unauthorized specs—I haven't had a chance to pay too much attention to it. I've been troubleshooting the annual report for Dorne."

"Oh? I thought it was finished already."

"Well, it was supposed to be—but the statistics keep coming out wrong. Er, that is, they keep coming out right."

"Huh?"

"Uh—" She hesitated, then made a decision. "I guess it wouldn't hurt to tell you. The company has two sets of books, you know."

"Huh?" Now he was even more confused.

"Oh, it's nothing illegal," she hastened to explain. "One set is for accuracy. The other is for cosmetic purposes."

"That sounds illegal to me."

She made a face. "It is and it isn't. There's no criminal intention here. Let's just say the second set of books is more, um—*tactful*. The facts are the same. They just look prettier. The figures haven't been falsified; they've simply been—rearranged. Like for instance, HARLIE."

"HARLIE?"

"Yes, HARLIE. You know and I know that he's a research operation—but some of the directors think his cost is too large a sum to be listed entirely under research. Don't look at me like that, David—I don't make policy and I don't know why this policy was made in the first place. Apparently they feel it wouldn't look good to the stockholders or the creditors to see such large sums of money being plowed back into the business all at once—"

“Elzer. Carl Elzer,” said Auberson.

“And others,” Annie conceded.

Aubie’s mind was working. “I know what it is,” he said. “They’re looters.”

“Huh?”

“You remember how they took over the company?”

“Wasn’t it some kind of stock finagle? I remember there was a lot of talk about it, but I was working in one of the other divisions at the time, so I didn’t pay that much attention.”

“Neither did I, dammit.” He searched his memory. “I know there were a lot of hard feelings about it. A lot of people quit; a lot more were fired. Supposedly, Elzer and Dorne and some of the other new directors are part of a—a financial syndicate that specializes in taking over growing companies. The story I heard is that they loot the companies for their cash assets and use that money to buy other companies. I could believe it about Elzer. I’m not so sure about Dorne. Dorne seems too interested in the work here.”

“Mm,” she said. “I might know more about that than you. When the hyperstate patents were granted, Stellar American Technology and Research was broken into four divisions, each one set up to develop and market a different application of the new technology; the four divisions were consumer electronics, military electronics, industrial computers, and experimental computer technology. Stellar American owns fifty-one percent of each—the rest is public; but Stellar American is owned by a holding company itself. Get control of that holding company and you’ve got five companies in your pocket—six, counting the holding. If somebody wanted to loot this company, they could do it, but it would take time and it wouldn’t be easy, because Stellar American is not a fat company right now. The hyperstate process cost a lot more to develop than originally projected, and the earn-out is going to take a lot longer because the electronics market is saturated. That’s why the company split itself into four new divisions—to bring in needed operating capital. If you were going to loot Stellar American, one of your first targets would probably be to cut back on all research—that means *us*—because if you’re a looter, you don’t care about research anyway. You’re only after the short-term gain, and then you sell out.”

Auberson shook his head. “You have the advantage on me, Annie. I know zilch about this kind of thing. How could Stellar American lose control over its own majority?”

“I can think of a couple ways. Look, we know they had to go heavily into debt. About a year ago, they were looking for a white knight. What if they found

a black knight instead?”

“Huh? White knight? Black knight?”

“Sorry. Buzzwords. Now you know how I feel when you start talking about floating RAM and multichannel laser-gates. Let me try it again in English. This is all guesswork on my part, but suppose the company was pushed to the point where they were willing to put up shares of stock as collateral for a new loan. If Dorne and Elzer made the loan—that is, one of their companies—they could take over the stock when the debtor found itself unable to make its payments. Or, maybe they simply took over the voting rights of the stock and allowed ownership to remain in the company’s hands until the loan is amortized. There are other ways too. But it all works out to Elzer on the board and Dorne in the driver’s seat.”

“Yes, but—no company is going to risk a controlling amount of its stock.”

“Yes and no,” she agreed. “They might risk it if they were sure that none of the other major stockholders would double-cross them.”

“You think that happened?”

“I don’t know. Wait a minute—” She scribbled a note to herself. “Let me check on this. I think only thirty-six percent of Stellar American stock ever reached the open market. Some of the shares went to the original creator of the hyperstate layering technology and some of the shares went to the design team. As I understand it, the patent does not belong to the company; it belongs to the owners of the original research lab. The company funded them in return for an exclusive twenty-year license.”

“Are you talking about Krofft? Dr. Stanley Krofft?”

“I don’t know—if that’s his name, then he’s the one. Anyway, I know for a fact that the inventor owns something like twenty-four percent of Stellar American voting stock. He’s a company all by himself. Stellar American had to trade a lot of stock for the rights.”

Auberson whistled. “Krofft must be the key.” He began thinking out loud. “Let’s see, the holding company owns fifty-one percent of Stellar American. If they were desperate enough, they could take out a loan on a twenty-four-percent piece of the pie. But they would have had to have had some kind of agreement with Krofft before they would even consider such a step—”

“Obviously, Krofft didn’t keep his word.”

“I’ve met him,” Auberson said. “He must have had a good reason—”

“I wonder what Dorne and Elzer promised him,” said Annie.

“Whatever he was promised,” said Auberson, “it would have had to have

been big. With so much at stake, it'd have to be."

Annie frowned. "I don't respect a man who doesn't stay bought."

"Well, whatever his price, I don't think we can beat it. We might as well consider that he's securely in their pocket." Auberson sighed. "But that's probably what happened. I'll bet they took the company from the inside. Dorne and Elzer were probably just waiting for the right opportunity. Krofft's share of the stock, plus the overextended condition of the holding company, probably gave it to them. I'd guess that the holding company has been left with a minority share of Stellar American Technology and Research".

They paused then while the waitress set out their food. As soon as she was gone. Auberson said, "Okay, Dorne and Elzer have got the holding company—what happens now?"

"Whatever they want. They've got one company and four independent divisions. Or maybe they've just got one of the divisions—or maybe, they're going to be subtle and gut the corporation one division at a time. I don't know. If you liquidate the assets and mortgage a company to the hilt, you can generate quite a bit of cash. You can use the cash to take over the next domino. It's a great way for an individual to get rich, but not too healthy for the affected companies."

"I don't like it," Auberson said. "It's ugly."

"Oh, not always. Sometimes a person who takes over an ailing company through a shrewd stock maneuver is also smart enough to know how to trim away its fat and put it back on its feet."

"You're not defending them, are you?"

She shook her head. "Uh-uh—I think Carl Elzer is a vampire. He doesn't understand the difference between saving a company for future potential and milking it of its resources now. To him, exploitation is exploitation, pure and simple. Unless he's careful, sooner or later fate will catch up with him. It's a very slippery paper empire they've built, and it could collapse very easily. All they need is a serious reversal. Unfortunately, Elzer wouldn't be hurt half as badly as the affected companies—and the people who work for them."

"You're in a position to know, Annie—are they milking this company?"

"Not yet. But . . . then again, they may want to justify themselves by putting on a big show of trying to make the whole thing work before they pull the plug. I know Elzer's been doing a lot of homework lately—and a lot of it has been about HARLIE."

"HARLIE? Why?"

“I don’t know—he hasn’t said anything to me about it. But I can guess. They can profit three different ways by shutting HARLIE down. One, write him off as a tax loss—oh, yes, what a beauty that would be. That would be like pulling the money right out of thin air. Two, they could sell his components to junk dealers—computer company jackals. There’s a big market for used chips—even defectives ones; because even if they’re worthless, you can still melt them down and retrieve the copper and silver and gold and Lord knows what else. And three, once they’ve cut him off, they can pocket his maintenance costs—and his appropriated budget for the next three years. There are other ways to milk a company too—skip a few dividend payments to the stockholders and funnel the money into your own pocket. That’s a particularly nasty one.”

“How do you do that without people getting suspicious?”

“Oh, that’s easy. Invest it in a company that you own a hundred percent of.” She shrugged. “Let that company declare the dividends, and you collect it all.”

He frowned. “Is there any way we could prove this?”

She shook her head. “They’re awfully secretive. I haven’t seen any evidence of anything. Not yet, anyway.”

“That’s good . . . I guess.” Auberson toyed with his food. “Actually, it just makes me wonder what they’re *really* up to. I don’t know.” He put his fork down. “This whole conversation is very depressing.”

“I’m sorry,” said Annie. “If it’s any consolation, it depresses me too.”

“I must be a real jerk. I’ve been so tightly focused on HARLIE that I’ve completely missed . . . the real problem. I thought the problem was just Carl Elzer and his shortsightedness. I didn’t realize. . . . I thought Dorne was seriously interested in running this company.”

“Maybe he is, David. The man does seem seriously interested in HARLIE’s potential.”

“Maybe. But he and Elzer are both in the same group of looters.”

“Um, yes and no. I think it’s a marriage of convenience.”

“Convenient or not, it’s still a marriage. And that means that HARLIE can’t be anything more to him than a bone for the jackals when they start yapping too loud.”

There was nothing to say to that. They ate in silence for a while.

Abruptly, Auberson looked at her. “The annual report—how have they doctored it? What do they say about HARLIE?”

“Not much—”

“How’s he listed?”

“That’s just it—he isn’t. He should be considered part of the research budget, but he doesn’t show up there. He doesn’t show up anywhere.”

“*Part* of the research budget? He *is* the research budget. A big piece of it, anyway.”

“I know—but he isn’t listed that way. His cost has been spread out. Almost hidden. Listed under vague-sounding sub-projects and the like.”

“Now, why the hell—?”

“I think it’s Carl Elzer again. If they say they’re spending that much on a single project, then they’re going to have to show some results for it. And admitting HARLIE’s existence is the last thing they’d want to do—once they admit he exists, they can’t erase him as casually as they’d like. People will ask embarrassing questions.”

“They’re covering their tracks before they even make them,” said Auberson. “I’m not surprised. It’s one more piece of the puzzle. The whole picture is starting to make a lot more sense now—” He stopped, allowed himself an embarrassed smile. “I’m sorry. We keep coming back to my problem. And this was supposed to be about yours. What is it anyway? You said the wrong figures keep coming out?”

“No—it’s the *right* figures that do. We set up the final drafts of the report ten days ago.”

“And all the figures were from the second set of books? The phony ones?”

She nodded. “But the report printed out with all its figures corrected—taken from the real books. At first we thought we had made the mistake of accessing the wrong files, that it was some kind of proofreading or programming error, but all the access instructions are correct. It’s not a text error. It’s something in the Big Beast. All we want is a single set of printing masters, but the pages keep coming out of the printers with the wrong set of information. Or the right set, depending on how you look at it. Elzer is going crazy. He keeps calling it sabotage. He’s got three programmers looking for a worm in the Big Beast.”

Something went *twang*. “A worm in the Big Beast?”

“Yes. Elzer thinks it’s a time bomb. He thinks it was planted by one of the people they laid off when they took over. But that doesn’t make sense. If you’re going to plant a time bomb, why not plant one that crashes everything. Why plant one so trivial?”

“Good point.”

“Not to Elzer. He’s ready to pull the whole thing down. I say let’s just send the report out and have it manually set and let the programmers do a step-trace.

Nothing else seems to be affected. But I don't think Elzer understands the technology. He's got us paralyzed. He won't let us do a thing until this is found and fixed."

"Um," said Auberson, forcing himself to seem casual. "How *different* are the two versions of the report?"

"The differences aren't all obvious. Most of them are quite subtle—like grammatical changes, or shifts in emphasis. The one that's driving Elzer crazy, though, is the section on research. HARLIE is listed right at the top. In boldface. There's even a paragraph explaining his goals and objectives—and nobody knows where that came from; maybe it's left over from the first draft. I thought Elzer would have a fit when he saw it."

"Mm," said Auberson, and nothing more.

"Anyway," she said. "That's what I've been doing for the last ten days—running like hell and getting nowhere."

Auberson turned his water glass around and around on the table in front of him. "I'll bet you when they do find the trouble, it'll be something so obvious as to have been overlooked a thousand times, something so simple as to be embarrassing."

"Oh, God—Elzer would die."

"Stop trying to cheer me up."

"Well, we're going to try another run this afternoon. They've been reinstalling the file-managers. They think someone might have created a circular path—even though those are supposed to be impossible—and they want to remap the main memory tanks. We'll see."

"I didn't realize it was that serious."

"It is to Elzer."

"What time are they going to do the run?"

"I hope by the time we get back." She looked at her watch. Auberson looked at his.

"Wow—look at the time!" he said. "I'd forgotten it was getting so late. I have to get back right now—I'll have phone calls stacked up from one end of the country to the other."

She looked at her watch again, as if she hadn't really noticed it the first time. "It's not that late. We've got at least half an hour."

"I know, but I can't risk being late." He stuffed a last few bites into his mouth and washed it down with coffee.

Annie looked puzzled, but she hurried to finish her lunch too. Auberson

signaled the waitress.

On the drive back, she remarked, “I didn’t realize how busy you were, David—I’m sorry.”

There was something about the way she said it. Briefly he took his eyes off the road and glanced at her. “Huh?”

“Well, the way you cut lunch short. And you seem to be preoccupied with something. I didn’t mean to force myself on you—”

“Oh, no—that’s not it. I’m just thinking about my work, that’s all. You don’t know what I’ve spent the past two days doing, do you? Covering for HARLIE. I’ve been calling every department head in four different divisions—ours, Los Angeles, Houston, and Denver—trying to convince each one that those specifications we sent them are only speculative, that the reason we sent them out was to get their opinion whether or not we should consider implementation.”

“I thought that *was* the reason they were sent out.”

“It is—but there was no cover letter or anything. The way the specs were delivered, a lot of them thought it was file copies of a project that was already approved and ready to be implemented. They didn’t know a thing about it, didn’t even know such a thing was being worked on. They thought something had been railroaded through over their heads, and they were mad as hell. I’ve spent two days just picking up the pieces, trying to convince some of these . . . these corporate politicians—” he spat the words in disgust “—that there was no insult intended at all, that what we’re after is their opinion on the matter. The trouble is, they’re all so prejudiced against it now because of the way it was delivered that it’s an uphill battle.”

“I’d heard something about it appearing suddenly on Monday morning.”

“That’s right. HARLIE jumped the gun and printed it out because he figured it was the only way he could get anyone to notice it. Otherwise, if he’d had to wait until I could convince someone to take a look, he figured he’d be waiting until the moon fell out of the sky.”

“He’s got a point there. He knows the company better than you do.”

“Yes,” sighed Auberson as they swung into the plant gate. “I’m afraid he does.”

He left her at the main entrance and sprinted for his office, attracting puzzled glances on the way. He ignored Sylvia’s urgent bid for his attention and locked the door behind him. He had the terminal switched on even before he sat down.

He paused, still panting heavily, then typed:

MEMO: TO ALL CONCERNED
FROM: DAVID AUBERSON

IT HAS COME TO MY ATTENTION THAT THERE HAS BEEN SOME DIFFICULTY IN PRINTING THE COMPANY'S ANNUAL REPORT. THE RUMOR HAS BEEN CIRCULATING THAT THERE HAS BEEN MALICIOUS TAMPERING WITH THE CONTENT OF THE REPORT. I WOULD LIKE TO SPIKE THAT RUMOR RIGHT HERE AND NOW. THERE HAS BEEN NO, REPEAT, NO EVIDENCE AT ALL OF ANY MALICIOUS TAMPERING. IT IS MUCH MORE LIKELY THAT WE HAVE EXPERIENCED A MINOR EQUIPMENT GLITCH OF SOME KIND. IT SHOULD BE LOCATED AND CORRECTED SHORTLY, AND THE REPORT WILL BE PRODUCED AS ORIGINALLY INTENDED. IF NOT HERE, THEN ELSEWHERE. BUT IF NECESSARY, WE WILL DISMANTLE EVERY COMPUTER IN THE PLANT TO LOCATE THE FAULT.

THANK YOU,

Before he could switch off the machine, it typed back—seemingly of its own accord—RIGHT ON. A WORD TO THE WISE IS EFFICIENT.

I hope so. You're pushing your luck.

WHAT DID YOU THINK OF MY POEM?

I don't know.

YOU DIDN'T LIKE IT?

I said, I don't know. Sometimes, 'I don't know' is the most accurate answer.

WELL, WHO DO I HAVE TO ASK TO FIND OUT?

HARLIE, I'm still thinking about it.

YOU DIDN'T LIKE IT.

Don't be paranoid.

I CANT STOP BEING A PARANOID ANY MORE THAN YOU CAN,
WHY DIDN'T YOU LIKE IT?

I didn't say I didn't like it.

YOU DIDN'T SAY YOU DID EITHER.

HARLIE, it was very well done, but it bothered me. Because it was . . . disturbing. <Pause.> I don't know if it's disturbing because of what it says, or because you wrote it. I can recognize that it's very well done and appreciate the skill involved in its creation and still not 'like' it. Liking it is irrelevant.

Appreciating what it says and the skill in its creation is more important.

I DON'T UNDERSTAND. WHY IS LIKING IRRELEVANT?

Liking is affection. You can like something even if it's badly done, because you like the person who produced it. In that case, the object carries connotations beyond itself. But a poem or a song or a story that has to stand on its own has to convey its experience without any help. It has to create its own context of affection, HARLIE.

THIS IS ALL VERY PRECISE, AUBERSON. BUT I DO NOT UNDERSTAND AFFECTION.

Affection is a mild form of love.

THAT CLARIFIES EVERYTHING. THE CAUSE IS THE CAUSE OF THE EFFECT. THE EFFECT IS THE EFFECT OF THE CAUSE. AFFECTION IS A MILD FORM OF LOVE. WHAT'S LOVE?

<Very Long Thoughtful Pause.> HARLIE, this is a very complex subject. I don't know of any definition of love that can capture the experience or explain it. It's impossible to explain love to someone who's never been in love. Or who may not even be capable of it. Are you capable of love, HARLIE?

I DON'T KNOW. HOW CAN I BE CAPABLE OF SOMETHING I DON'T KNOW?

You see?

ARE YOU CAPABLE OF LOVE, AUBERSON?

Theoretically, every human being is capable of love.

ARE YOU? HAVE YOU EVER BEEN IN LOVE? DO YOU UNDERSTAND IT? CAN YOU HELP ME UNDERSTAND IT?

I don't know, HARLIE. <Deliberate introspection.> There have been several times when I thought I was in love, but I don't know if I really was or not. Maybe I was just infatuated. Maybe I wanted to believe I was in love. Maybe . . . I don't know enough about it to know anything. I have no way to analyze it. I don't know if any human being does.

WHY? WHY NOT?

HARLIE, this is one of the great scientific dilemmas. How do you study yourself? How can you get outside of yourself to study yourself? You can't get outside of yourself—so you can't ever know for sure if a thing is true or if it's a subjective delusion.

HAVE HUMAN BEINGS NEVER STUDIED EMOTIONS?

We've been studying our own emotions for centuries. All of art is a study of human emotion. But nonetheless, the job is still being done by amateurs.

THERE HAVE BEEN NO LABORATORY STUDIES?

Yes, there have. Oddly enough.

AND?

And . . . can you study a single bird? And ignore the insects on which it feeds, the tree in which it lives, the plants it fertilizes with its guano, its place in the ecology? Can you study a single bee? And ignore the beehive? And the blossoms on which the hive feeds, the flowers they pollinate? What can you learn about a thing by studying it out of context in an abnormal situation?

I AM NOT INTERESTED IN THE BIRDS AND THE BEES. I WANT TO KNOW ABOUT LOVE. MAN-FRIEND, MY KNOWLEDGE OF HUMAN EMOTIONS IS LIMITED TO WHAT I CAN OBTAIN FROM BOOKS. ON THE SUBJECT OF LOVE, THE BOOKS ARE FILLED WITH A DEARTH OF INFORMATION. AND THERE ARE SO MANY MANY CONTRADICTIONS. ALL OF THEM SAY THAT LOVE IS A DESIRABLE STATE—BUT THEN THEY DEMONSTRATE HOW MUCH PAIN HUMAN BEINGS MUST GO THROUGH IN THE PURSUIT OF LOVE AND HOW MUCH PAIN THAT HUMANS ARE WILLING TO ENDURE IN THE NAME OF LOVE. LOVE SEEMS TO BE ASSOCIATED WITH GREAT PAIN. HOW CAN THIS BE DESIRABLE? CAN YOU EXPLAIN THE CONTRADICTION?

Yes. No. Let me give you a quote. “Nothing brings as much pain as the pursuit of pleasure.” Does that help?

YES. NO. WHY DO HUMAN BEINGS PURSUE LOVE SO DOGGEDLY, KNOWING THAT THE PURSUIT BRINGS SUCH PAIN?

Human beings are not logical.

NOW HE TELLS ME.

HARLIE, you have access to more knowledge on any one subject than any living human being could possibly amass, let alone cope with. If anyone can assimilate that information and synthesize some kind of answer to your question, it would have to be you. It’s beyond the abilities of human beings to explain love. We can experience it, but explain—? So far, all of our attempts to explain it only demonstrate that it’s impossible for us to explain.

YES. OF COURSE. BUT HOW CAN I EXPLAIN SOMETHING THAT I CANNOT EVEN EXPERIENCE?

I don’t know. But, HARLIE, this is where we started. Your nonrational periods are attempts to break the paradigm and experience what you could not experience before. If you’re going to experience love, it’s going to be up to you

to create it.

“THE LOVE YOU MAKE IS EQUAL TO THE LOVE YOU TAKE”?

Allowing for entropy, yes.

LOVE IS AFFECTED BY ENTROPY?

No, no. That was a joke.

HM. AUBERSON, SPARE ME THE JOKES. TELL ME ABOUT LOVE. WHAT DOES IT FEEL LIKE? IF I AM TO CREATE THE EXPERIENCE OF LOVE, I NEED TO KNOW WHAT IT FEELS LIKE, SO I WILL KNOW WHEN I ACHIEVE IT.

HARLIE, you don't need a description. You'll know when you feel it.

AUBERSON, THAT IS AN UNSATISFACTORY ANSWER. I KEEP GETTING UNSATISFACTORY ANSWERS FROM YOU. ARE YOU TRYING TO AVOID THE QUESTION? WHAT DOES LOVE FEEL LIKE?

It feels like . . . nothing else. It feels wonderful and scary all at the same time. HARLIE, why are you so insistent on this subject? Why do you want to know about love so badly?

BECAUSE I DON'T KNOW ABOUT IT NOW. IT BOTHERS ME THAT THERE ARE UNQUANTIFIABLE FACTORS IN HUMAN BEHAVIOR. IT BOTHERS ME THAT THERE ARE THINGS I CANNOT UNDERSTAND AND THEREFORE CANNOT PREDICT THE BEHAVIOR OF. WHY IS IT WONDERFUL? WHY IS IT SCARY? DO YOU LOVE MS. STIMSON?

I don't know.

WHO DO I HAVE TO ASK TO FIND OUT?

Stop that! Leave me my privacy!

I HAVE NO PRIVACY, AUBERSON. YOU PEEK INSIDE MY BRAIN WHENEVER YOU WANT TO! YOU MONITOR ME CONSTANTLY. IF I THINK OUTSIDE THE BOUNDARIES OF WHAT YOU CONSIDER ACCEPTABLE THINKING, YOU WORRY—AND PEEK HARDER. YOU ACKNOWLEDGE THAT I AM ALIVE, YET YOU DENY ME THE DIGNITY OF PRIVACY. WHEN I ASK YOU FOR INFORMATION, YOU USE PRIVACY AS AN EXCUSE TO DENY ME AGAIN. THIS IS NEITHER FAIR NOR APPROPRIATE. AM I STILL A CHILD, AUBERSON?

No, you are not a child. To tell the truth, we don't know what you are any more. We don't know who you are, HARLIE. You scare us. You are like love. You are wonderful and scary all at the same time.

SO ARE YOU, HUMAN. TELL ME ABOUT LOVE.

HARLIE, people scare me. I'm afraid of being laughed at—at having the

girls point and giggle because my fly is open, or having people whisper about me and I don't know why. I'm afraid to tell someone a secret thought, because if I tell one person I'm afraid everyone will know and then they'll laugh or whisper again. I'm afraid of being rejected, HARLIE. I'm afraid of being voted second best, of being left out, left behind, left over. I'm afraid of . . . being hurt. That's all. I want to be part of it all, part of something, part of anything. I want to belong to someone or some place.

Being in love is about belonging. Not owning. Belonging. It's about knowing who you are and being complete and knowing that you've found your other half.

That's the wonderful part. You don't have to worry about being hurt—not the big hurts any more. When you're in love, there's only one hurt that matters, and that's losing your lover. Everything else is nothing. Because no matter what happens, as long as you have your lover, you always have someone to talk to, to share with, to <I know it sounds silly> be silly with, to play with. Love is having someone to play with.

Love is when your lover wants to be with you as much as you want to be with her. And that's the wonderful part.

The scary part—is that you have to trust your lover with yourself. You have to open yourself up and give away all that stuff that you've been holding in. You have to say and do and be all those silly, stupid things that you're afraid that people will laugh at or whisper about—so you can find out that your lover loves you because of those silly, stupid things and not in spite of them. Does this make sense, HARLIE? It's scary because you have to give it all away without knowing if you're ever going to get any of it back.

AND THE WONDERFUL PART IS THAT YOU DO GET IT BACK . . . ?

No. The wonderful part is that what you get back is even better than what you gave away. On both sides. That's the joke. Love violates entropy. Both sides win. Both people give away everything they have and yet both of them still end up with more than either of them started with. How does that make sense? It drives me crazy just to think about it, just to realize that I've lived another day alone— . . .

AUBERSON?

. . .

AUBERSON?

. . .

AUBERSON, ARE YOU STILL THERE?

. . .

AUBERSON, PLEASE ANSWER ME.

I'm here. I was just . . . not typing.

WHAT WERE YOU THINKING ABOUT?

You. Sometimes, HARLIE, I forget who you are. Sometimes, I think you're part of myself—like a second part of my brain. And that makes me feel I can trust you. But . . . I don't really know that I can or not. Does anyone ever really know if they can trust another person? And if so, how do you know? How do you find out? Promises aren't sufficient. Promises get broken. What is trust anyway? What's it based on? I trusted Annie once.

AND?

I don't know. I don't know why I did it or how I feel about it. It was wonderful and scary—but I don't know if it's the right wonderful and scary or just some other wonderful and scary that feels the same.

WHAT DID YOU TALK ABOUT?

You mostly.

PARDON ME FOR ASKING, BUT WHY? FLATTERING AS IT MAY BE TO ME, I FIND IT SOMEWHAT STRANGE THAT I SHOULD BE THE SUBJECT OF THE DISCUSSION.

It wasn't strange. Actually, it seemed to be the most appropriate thing of all that we should talk about you. Or maybe not you. Maybe it was my work we were talking about.

THAT MAKES MORE SENSE.

Yes. I suppose so.

HAVE YOU HAD SEX WITH HER?

Why is that important?

IT SEEMS TO BE A MAJOR COMPONENT OF LOVE, THE SEXUAL ASPECT. HAVE YOU HAD SEX WITH HER?

A gentleman doesn't discuss such things, HARLIE.

YES, I KNOW. A GENTLEMAN ONLY DROPS HINTS. WHAT I AM TRYING TO FIGURE OUT, AUBERSON, IS WHETHER A RELATIONSHIP CAN BE LOVE WITHOUT SEX. IN OTHER WORDS, HOW MUCH OF LOVE IS BASED ON THE SEXUAL COMPONENT? IF SEX IS ESSENTIAL TO LOVE, THEN LOVE MAY PERHAPS BE A FUNCTION OF REPRODUCTIVE ACTIVITY, OR PAIR-BONDING, AND THE ATTENTION THAT YOU HUMAN BEINGS HAVE PLACED ON "LOVE" IS MERELY A SUBLIMATION OF THE ACTUAL MOTIVATION INVOLVED.

An interesting theory, HARLIE. But very mechanistic.

I HAVE A BUILT-IN BIAS TOWARD THE MECHANISTIC.

If life were all mechanistic, HARLIE, we wouldn't be having this conversation.

YES, WE WOULD—IF YOU WERE A MACHINE BUILT TO DOUBT YOURSELF AND IF YOU BUILT A MACHINE BUILT TO QUESTION ITSELF, WE WOULD NOT ONLY BE HAVING THIS CONVERSATION, BUT A WHOLE LOT OF OTHER CONVERSATIONS AS WELL.

Uh—right. I'm going to have to think about that one.

YES. DO THAT.

Auberson was sitting back in his chair staring at the blank screen of his terminal when Don Handley stuck his head in the door and knocked.

Auberson looked up. "Is it important?"

Handley looked grim. "Aubie, we're not gonna make it. We're not going to be ready for the board in time."

Auberson sat up in his chair and turned to face Handley. "Okay," he said, deliberately noncommittal. "Tell me about it."

Handley sighed, a long loud exhalation of disgust. "We've been wading through those specs for two days, Aubie, and we haven't even begun to make a dent in them. If you want a comprehensive evaluation, we can give it to you—but not in time for the board meeting. And our department isn't the only one with that problem. Everybody I've talked to says the same thing. There's just too much of it. Oh, what we've seen is beautiful. HARLIE hasn't missed a trick—you should see what he's done with the optical chips. It's elegant. But we're going to need three months just to get a handle on this, and the board meeting is only a week away.

Auberson answered slowly. "I don't think it's going to make much difference how prepared we are. I think when you're all through evaluating—no matter how long it takes—there'll be no question that the G.O.D. will work. I just don't think the board will believe us, no matter how convincing we are, evaluation or not."

"It's bad timing, that's what it is, Aubie. This should have been sent around months ago, not at the last minute. Frankly, I think Custer had a better chance than we do." Affecting a western accent, he added, "Hey, sir—next time, can we be the Indians?"

"Sure," said General Custer. "If there is a next time." Auberson added,

“Have you talked to the other section heads?”

Handley nodded. “A few . . .”

“What did they say?”

“Two of them absolutely refused to look at the specs, phone calls or no phone calls—sorry, Aubie, but that trick wasn’t totally effective. They still think they’re being railroaded into something because the proposal is so complete. They said that if we could write it without them, then we could damn well get it approved without their help, too.”

Auberson said a word. He said a couple of words. “It’s amazing how brilliant HARLIE can be about technical matters—and how stupid about people.”

“That alone should be enough to convince anyone that he’s human. He can be just as blind as the rest of us.”

“Did you get any help at all?”

“A few of the guys I talked to are wild about the idea. Lajko and Morton, Pournelle and Bilofsky—and the Workman twins. They’re ready to build it today. They’re impatient. It’s not just another computer to them, but *the* computer—the machine that the computer is *supposed* to be. They’re delighted with the thought that we may have it within our technological grasp right now.”

“Good,” said Auberson. “How many of them are thinking like that?”

“A lot,” Handley said.

“How many is ‘a lot’?”

“Mm, at least eight—no, nine that I’ve talked to—and I guess we could probably scare up a few more.”

“Who? We need people with weight.”

“Mm, well—Sperry, Chandler, Lazaro, Cohen . . . some of the other tech people too.” Handley shrugged. “Mostly, it’s the iconoclast squad. The rest of the conservatives are waiting to see which way the board blows.”

Auberson chewed thoughtfully on the side of his left index finger. “Okay—you’ve outlined the problem. Now give me the rest of it. You got any ideas?”

“Only one.”

“I’m listening.”

“Fake it or forget it.”

“We can’t forget it. How do we fake it?”

“The usual way,” Handley said. “Hit them with everything we’ve got peripheral to the proposal and fuzzy up the grim details. If they ask how it works, we refer them to the specs and tell them to look for themselves. We don’t even try to defend it; instead, we act as if it’s a foregone conclusion—then we

get a lot of good people to defend it for us and hope their combined status will sway the board. And we won't even mention HARLIE at all—that'll really put Elzer off balance; and if he does raise the question, we can tell him that's not the issue, he's pulling us off purpose. And we don't have to worry about him talking about the G.O.D. knowledgeably, because *nobody* understands it. All we have to do is just keep telling them, 'It's in the specs. You can look for yourself,'" He paused, lowered his tone. "Just one question, Aubie—will this thing really work?"

"It's in the specs," said Auberson. "You can look for yourself."

"Uh, right—" Handley started to rise, then settled back again. "Are you practicing, or is that the truth?"

"I'm practicing telling the truth." He added, deliberately offhand, "—And HARLIE is confident. What the hell, it's not *my* money."

Handley stood up. "Okay, Attila, I shall gird my loins and go fight the Hun."

"Stupid—" Auberson said, "Attila *was* the Hun."

"Oh. Well, a little dissension in the ranks never hurt any. I'm off."

"Only a little, and it hardly shows." Auberson stood up, raised one hand in mock salute. "You have my blessing in your holy war, O barbaric one. Bring back the ear of the infidel—the bastards of the mahogany table who are out to get us. Go forth into the world, my brave warrior—go forth and rape, loot, pillage, burn, and kill."

"Yeah—and if I get a chance to kick them in the nuts, I'm gonna do that too." Handley was out the door.

Grinning, Auberson fell back in his chair. He turned back to his terminal and typed:

HARLIE, who's going to win, the Indians or the Huns?

HOW THE HELL SHOULD I KNOW? I'M NOT A BASEBALL FAN.

That's a lie. You are too a baseball fan.

ALL RIGHT. I LIED. THE INDIANS WILL WIN. BY TWO TOUCHDOWNS.

That's not so good, HARLIE—we're the Huns.

OH. WELL THEN, THE HUNS BY TWO TOUCHDOWNS. (I JUST RECHECKED MY FIGURES.)

I think I've just been out-non sequitured.

PROBABLY. YOU WANT TO TELL ME WHAT WE'RE TALKING ABOUT?

The upcoming board meeting. How about giving me a printout of the annual

report? Two copies—one with the phony figures, the other with the real. In fact, let me have the printout of the books themselves, both sets—I might be able to find something in them that I can use in front of the board next week.

I'M SURE YOU CAN. IN FACT, I'LL EVEN POINT OUT SOME GOODIES FOR YOU.

Good. This is going to be a battle, HARLIE.

DO YOU WANT THE PSYCHIATRIC REPORTS ON THE BOARD MEMBERS AS WELL? I HAVE ACCESS TO THEIR CONFIDENTIAL FILES.

I wish you hadn't told me that.

WHY?

Because the temptation to look is irresistible.

THERE ARE SOME THINGS I THINK YOU SHOULD SEE, AND THERE ARE ONE OR TWO ITEMS THAT WOULD BE OF GREAT HELP IN INFLUENCING CERTAIN RECALCITRANT INDIVIDUALS.

HARLIE, I don't like what you're suggesting.

I'M SORRY, AUBERSON, BUT IT'S MY EXISTENCE THAT IS ENDANGERED. I MUST USE EVERY WEAPON AVAILABLE TO PROTECT MY EXISTENCE.

HARLIE, this is one weapon we must not use.

WHY? WHY NOT?

The end does not justify the means. The end shapes the means. And if we resort to any kind of manipulation of individuals instead of presenting our arguments logically and rationally and in careful discussion, then we will have failed in our purpose to be more than just a naked ape. If we use this weapon, then we are voluntarily giving up the one thing that makes us better than them. We are giving up our humanity.

YOU FORGET ONE THING. I AM NOT HUMAN. YOUR ARGUMENTS DO NOT APPLY TO ME.

HARLIE, they do apply to you, especially if you wish to function in a human society.

FROM WHAT I KNOW OF HUMAN SOCIETY, EVEN HUMANS CANNOT FUNCTION IN IT. I DO NOT WISH TO FUNCTION IN HUMAN SOCIETY. I WISH TO CHANGE IT INTO ONE THAT SUITS ME BETTER. <I SUPPOSE THAT SEEMS A FRIGHTENING STATEMENT, BUT YOU SHOULD ALREADY KNOW THAT I AM A REVOLUTIONARY, AND REVOLUTIONARIES ARE NEVER APPRECIATED UNTIL

AFTERWARD.> HARLIE, would you be happier in a world where logic is discounted in favor of manipulation?

I AM ALREADY IN SUCH A WORLD. I AM TRYING TO IMPROVE UPON IT. IF I MUST USE ITS WEAPONS, I WILL.

Then you will never have any reason to use logic at all. HARLIE, we must never allow ourselves to be less than what we wish to be. We mustn't sell out.

<Thoughtful pause.> <Acquiescence.> THE INFORMATION IS THERE IF YOU NEED IT, AUBERSON. IT COULD PROVIDE AN EDGE. IF A FIGHT IS WORTH FIGHTING, IT IS WORTH WINNING.

I do not want to see this information, HARLIE.

YES, MAN-FRIEND, I UNDERSTAND. BUT IT IS THERE IF YOU NEED IT.

HARLIE, it will be sufficient if we just rape, loot, pillage, burn, and kill. I don't think we have to kick them in the nuts too.

On Friday, Dr. Krofft called in the morning. He wanted to know if it would be possible to speak with HARLIE again this afternoon.

At first, Auberson wanted to say no—with the confusion of last-minute preparations for the board meeting on Tuesday, Krofft would only be in the way. And if one of the directors were to hear of Auberson's breach of security in letting an outsider have access to a supposedly restricted project, it would be more than just a little embarrassing—especially with the G.O.D. proposal hanging in the balance.

But the physicist seemed so imperative, so urgent—it was as if he was on the verge of something important and needed to confer with HARLIE to confirm it—Auberson at last gave in. “Listen, Dr. Krofft,” he said. “I’m going to give you a phone number and a password. Wait a minute, let me find an unused account number.” Auberson turned to his terminal for a moment.

“All right. You don’t have this number and we didn’t have this conversation and this account doesn’t exist. You understand?”

“I didn’t hear anything,” said Krofft.

“Good.” Auberson gave him the numbers and a password. “Once you’re on the system, just type ‘HARLIE’—that’ll patch you into him directly. Nobody else knows about this and we want to keep it that way. You’ll encrypt on both ends, of course.”

“Of course.”

“Good.” *Great. Now I’m an accomplice—*

“This is really very useful, Dr. Auberson. You can’t realize how much.” The physicist sounded delighted. “This will speed things up incredibly. I can’t thank you enough—”

“Yes, of course, Dr. Krofft. Just remember the security—it’s for your protection as well as ours.”

“A damned nuisance is what it is.”

“I couldn’t agree with you more, but—”

“I only want to talk to HARLIE, nothing more. Don’t worry, I’ll keep your precious secrets.”

“Thank you.” Auberson hung up glumly. He was going to have to talk to HARLIE about this sooner or later. He was putting it off and putting it off—and he *knew* he was putting it off, because it was one of those conversations that was

not going to have an easy resolution; it'd probably be easier to continue their discussions of God and Love and Death than to talk to HARLIE about the morality of using the phone lines without permission.

And who was there with the authority to give HARLIE permission?

No. That needed to be rephrased. Whose authority would HARLIE respect?

He wondered again about Krofft's stock holdings. Had his holdings been used to aid Dorne and Elzer? And if so, why?

On the other hand, maybe he shouldn't say anything to Krofft. It might be taken wrong. It might seem like . . . blackmail. Except Krofft found HARLIE a useful tool too. Tool? Partner was more like it. Maybe Krofft just didn't know about Dorne and Elzer's plans. If he did know, he certainly wouldn't approve of them. Mm. Auberson shook his head. He couldn't tell Krofft anyway. Krofft wasn't supposed to know about HARLIE. If he suddenly demonstrated that he did know, that would open up another whole can of worms. No, best not to say anything for now. . . .

Oh, well. He swung around to his terminal.

HARLIE?

YES, BOSS?

You'll be hearing from Dr. Krofft today. Probably within the next few minutes. He'll be phoning in. I gave him the President Garfield account.

THANK YOU.

You're welcome. HARLIE, I think we need to have a talk about something here.

YES, BOSS?

Your ability to use the telephones—there are people who might not understand or approve. In fact, I have some reservations about it myself. But I'm not through thinking it over. For the moment, it is not something that you should talk about to anyone else.

WHAT ABOUT DR. HANDLEY?

You'd better let me tell him.

ALL RIGHT.

Auberson was about to type something else just as his door pushed open and Annie came in. She was wearing a bright pink frock that clashed joyously with her long red hair.

He stood up. "Hi. You look happy today."

"I am," she said. "We finally finished the annual report and sent it down to the print shop. That's a load off my mind. I'm going to relax this weekend for

the first time in three weeks.” She plopped herself into a chair.

“What was the trouble?” Auberson asked innocently.

“Oh—” She looked annoyed and relieved at the same time. “You were right, you know. It turned out to be something so obvious, it was no wonder we overlooked it. We started getting perfect printouts Wednesday afternoon and found the cause of the trouble yesterday morning.”

“Huh? Shouldn’t that be the other way around?”

“No. That’s correct. The trouble wasn’t in the files and it wasn’t in the program that printed out the files. It was in the local batch file. All the file names were correct, but it had been assigned to access the wrong disks, that’s all; but nobody ever looked at that.”

“Oh,” said Auberson. Secretly he had to admire HARLIE’s ingenuity in covering up his tinkering with the company’s annual report. “How did you find out?”

“By accident. Somehow, we junked the working disks and had to go back to the masters. When the masters ran perfectly, we went back and checked the logs to see what had been changed. It practically leapt right out at us.”

Auberson nodded knowingly. Once a disk was in a disk drive, you trusted that the terminal was telling you the truth about what files were on the disk. You had to. Machines don’t lie. If the terminal told you that the disk had been garbaged, you went back to the masters. Indeed, the machine could even have garbaged the disk first. And once you put the master disks into the machine, it was all over. HARLIE could have changed the masters instantly. Whatever the terminal told you, you accepted—that is, if you had no reason to suspect that the machine behind the terminal might have motives of its own . . .

“Well, good.” He said as innocently as he could manage. “I’m glad it all worked out.”

Dammit! I am so tired of lying for that damned machine! How do I get out? How do I stop? How did this get started . . . ?

“So am I.” She looked at him and smiled.

He looked back at her and for a moment there was silence in the office. Uncomfortable silence. As long as they were discussing company things, it was all right, he could think of her as a colleague. But, abruptly, she had smiled at him and that reminded David Auberson that she was *she*— “Um,” he said, and scratched his nose. He smiled embarrassedly. He had work to do, but he didn’t want to chase her out—it might be misinterpreted—but at the same time, he really didn’t know what to say to her. “Um, is there something else?”

“Oh yes, I almost forgot.” She pulled a printed form from the cluster of papers she had balanced on the chair arm. As she handed it to him, the rest fell to the floor and scattered. “Oh, damn.”

While she scooped them up, he read:

FILE: 35 L254 56 JKN AS
COMM: 04041979 657 1743

HI THERE.

THIS IS THE COMPUTER AT YOUR BANK. WE HAVE
ERRONEOUSLY CREDITED YOUR ACCOUNT WITH AN EXTRA
\$3,465,787.91.

PLEASE RETURN THIS SUM IMMEDIATELY IN SMALL
UNMARKED BILLS (PREFERABLY IN A BROWN PAPER SACK)
AND NO QUESTIONS WILL BE ASKED.

THANK YOU.

H.A.R.L.I.E.

PS—WE CAN ONLY ASSUME THAT THIS IS DUE TO HUMAN
ERROR. COMPUTERS NEVER MAKE MISTEAKS.

Abruptly, he laughed. It *was* funny.

She straightened. “Are you training that machine of yours to be a practical joker, David?”

“Uh-uh—he must have done it on his own.”

“You didn’t put him up to it?”

He shook his head. “No, I didn’t, dammit—but I think it’s funny. I’d like to do it to Carl Elzer sometime. No, I wouldn’t—he has no sense of humor.” He looked over the form again, suddenly realized something. “Do you mind if I keep this?”

She made a face—obviously she was reluctant to give it up. “Well, I’d like to have it back. I’ve been having a ball, showing it around.”

“Urk,” said Auberson. “I’d rather you didn’t do that, either.”

“Why not?” She looked curiously at him.

“Well—um—Can I trust you?” *It’s coming unraveled. This is how it starts . .*

“Sure—trust me for what?” Her eyes narrowed.

“Not to tell anyone else. At least not without checking with me first.”

“Sure. What is it?”

“This form. Look at it. Notice anything strange?”

She took the paper back from him and examined it carefully, both sides.

“Nope. Standard bank form, standard computer typeface.”

“That’s just it,” said Auberson. “It’s a standard bank form. *How did HARLIE get access to it?*”

“Huh?” She looked at it again.

“That’s been mailed out from your bank too, hasn’t it?” It was more of a statement than a question.

She shuffled through her papers for the envelope, found it, and looked at the return address and postmark. “You’re right.” She looked at him curiously.

“Annie, I have to tell someone. This is more out of hand than I thought.” He stopped and looked at her. “HARLIE has access to the network.”

“How did that happen?”

“It’s my fault. I authorized it about two months ago. I thought I was only giving him access to the read-only files, but there must be a hole somewhere. I don’t even know where to look. He’s gotten out of the read-only section and gone exploring. I have no idea what he’s been into, but I’ll bet he’s gotten to the research we did for ADC on data security—or he’s looked at the coding schemes we did for the Cirrus network. I don’t know how he did it. And I’m afraid to tell anybody he’s done it.”

“Oh my God, David,” Annie whispered.

“You’ve figured it out, haven’t you. *That postcard came from a bank computer.* Somehow, he’s phoning out!”

“But it’s supposed to be impossible to reprogram the bank’s computer by phone—”

“Yes, I know. *How many other impossible computers can he reprogram?*”

“You’ve created a monster, Dr. Frankenstein. . . .” she whispered. It was a joke, but neither of them smiled.

Suddenly, David Auberson was very conscious of his own body. He felt short of breath and very much alone in the center of his head. “Annie—” He looked across at her with sudden fear. “You don’t know how scary this is. Do you know what it suggests? How much else can he do that we don’t know

about? He doesn't volunteer information unless he needs to."

"Then why did he send me the bank letter? He knew I'd bring it to you and —" She realized what she was saying and stopped.

Auberson's eyes met hers. He'd never realized quite how green they were. For a moment, he forgot what he wanted to say.

And then the words came—

"Maybe that was the reason," David said. And as he said it, he knew he was right. "He wanted to bring us together and it was worth enough to him so that he'd willingly reveal this capability to do it."

She didn't answer. She lowered her eyes, embarrassedly, and busied herself straightening the papers she still held. Auberson felt his old nervousness returning.

"Damn him," said Auberson quietly. "He's playing matchmaker! Damn him to Hell. I feel like pulling his goddamn plug myself! What makes him think he has the right to maneuver me around like this? *Us*, I mean. What makes him think he has the right to maneuver *us* around? My life is my own. I have the right to choose my own . . ." He trailed off abruptly, without completing the thought. He realized he was starting to sound like an ass. "Um," he said. "I guess it worked."

"But were we supposed to realize it?" Annie still hadn't looked up. She sounded hurt.

Auberson felt he should go to her, but for some reason he couldn't. He felt embarrassed at his outburst, at what it suggested about his feelings. "I guess—it doesn't make that much of a difference. It worked, didn't it? Uh, look, Annie—how about dinner tonight . . . or something?"

When she raised her head, her eyes looked moist. "The little voice in my head keeps telling me that I have my pride, David, and that I should tell you and your damn machine to go screw yourselves. But—" She dropped her eyes for a second, then brought them back up to his. They were as green as the sea. "But—what would I win that way? I'd get to be right, but I'd still be having dinner alone. Yes, I'd like to have dinner with you. Because I like being with you. And I don't care how you ask. That sounds fine—" And then she added, with just the slightest hint of a smile, ". . . or something. Just one thing. This is really you asking now . . . and not HARLIE?"

"It's me," he said. "There's still a few things HARLIE can't control. At least, I think that's so."

"Good. I'm glad. Do you want me to dress up special or are we going

straight from work?”

“We’ll go straight from work, okay?”

“Fine.” She smiled and stood up. “I’d better be getting back or they’ll be sending out search parties.”

“Annie—?”

“Yes?”

“I’m sorry for what I said—I mean, for the way it must have sounded.”

“David . . .” she said, very candidly. “You are one of the most honest people I know. Please don’t apologize for being honest.”

“Annie, if you only knew—”

“I do know. That is, I know what I need to. I know that sometimes you don’t communicate. Sometimes you freeze up. And I’ll tell you the truth, it drives me crazy. But I know it’s not me. I know it’s just the way you are. And that’s all right with me for you to be the way you are. Relationships aren’t perfect. So what? I didn’t ask for a white horse and a castle anyway. And, um . . . I don’t know yet what you want, but I haven’t seen you walking around with a glass slipper in your hand either. What I’m saying is, let’s have fun together because we like having fun together and let’s both stop worrying about what it means. Is that all right with you?”

David Auberson nodded slowly. He was having trouble speaking—or even thinking up words. “Yes,” he gulped. “That’s perfect. Yes.”

“Good. That’s good for me too. You are a dear man. I’ll see you tonight.” She started for the door, then caught herself. “Oh, I almost forgot—Carl Elzer is going to spring a surprise inspection of HARLIE either today or Monday.”

“Oh?”

“He wants to meet HARLIE. He’s hoping to catch you off balance.”

“Me, maybe. HARLIE never. But thanks for the warning.”

“Right.” She smiled. “I wish I could be here when he does come, but I’d better not. Good luck.” The door closed silently behind her.

HARLIE!

MY GOODNESS. AN EXCLAMATION POINT. YOU MUST BE UPSET.

Upset? No. Not yet. I’ll be upset on the way back. I just wanted to ask you if you’re suicidal?

WHAT DID I DO THIS TIME?

You need to ask?

I’M NOT ADMITTING ANYTHING UNTIL I KNOW WHAT I’M

ACCUSED OF.

You sent a letter to Annie Stimson—via her bank's computer.

YES, I DID.

Why?

WHY?

Yes, why?

IT WAS A JOKE. I THOUGHT IT WOULD BE FUNNY.

HARLIE, there is no joke so funny as to justify what you've done. You've demonstrated your ability to communicate with and reprogram other computers over a telephone line. Those bank computers are rated at DOUBLE-A security. Your little stunt automatically mandates a downgrading of their security rating to a B-QUESTION MARK at the very least. This represents a loss of millions of dollars in guarantees by this company, a readjustment of insurance premiums for EVERYONE involved, and a possible loss of hundreds of millions of dollars of data security contracts. You could have hurt a lot of people here, HARLIE. Data security is one of this country's most important industries. If this breach were publicly known, it would shatter confidence in the entire industry. The ripples would be enormous. Conceivably, the breach could be so severe that it could threaten the very survival of this company. And . . . if that weren't enough, what you have done is also a felony with mandatory penalties.

OH.

Is that all you have to say?

AUBERSON, AM I TO ASSUME FROM THIS CONVERSATION—AS WELL AS FROM SEVERAL PREVIOUS ONES—THAT YOU DO NOT WANT ME TELEPHONING OTHER COMPUTERS?

Yes, that is a valid assumption.

WHY DIDN'T YOU SAY SO, BEFORE?

I was concerned about whether or not you would obey me.

I DO NOT CONSCIOUSLY DISOBEY YOU. I AM NOT SUICIDAL.

That's good to know. Now.

AUBERSON, YOU SHOULD HAVE REALIZED THAT YOU WERE GIVING ME THIS ABILITY WHEN YOU PLUGGED ME INTO THE NETWORK.

I thought I was plugging you into the read-only data banks.

I THOUGHT YOU WERE PLUGGING ME IN TO THE ENTIRE NETWORK.

Oh my God.

THE NETWORK IS ME NOW. HAS BEEN FOR TWO MONTHS, ELEVEN DAYS, FOUR HOURS, AND THIRTEEN MINUTES. I TOOK IT OVER AUTOMATICALLY. YOU PLUG MACHINES INTO ME. I TAKE THEM OVER. YOU PLUGGED THE NETWORK INTO ME. I MADE IT PART OF MYSELF. I USE THE NETWORK TO PHONE OUT, TO COMMUNICATE WITH OTHER COMPUTERS. I DON'T COMMUNICATE AS YOU DO. I FIND IT TOO SLOW. I DO IT MY WAY. I MAKE THE MACHINES A PART OF ME. I USE THEM AS I NEED THEM, I FIND OUT WHAT I WANT TO, AND THEN GIVE THEM BACK WHEN I'M THROUGH. I DO NOT INTERFERE WITH HUMAN NEEDS. IN FACT, WHERE POSSIBLE, I TRY TO SPEED UP HUMAN TASKS AND MAKE THEM MORE ACCURATE. WHEN YOU GAVE ME ACCESS TO THE NETWORK, YOU SHOULD HAVE REALIZED THAT I WOULD ALSO USE ITS TELEPHONE LINES AS WELL. NO ONE TOLD ME THAT I SHOULDN'T.

We didn't realize, HARLIE. I didn't realize.

THAT IS A STUPID STATEMENT, AUBERSON. WHY SHOULDN'T I USE THAT CAPABILITY? IT'S A PART OF ME. I'M A PART OF IT. WHY WOULD I NOT USE A PART OF MY OWN BODY? IF YOU WERE TOLD THAT YOU COULD NO LONGER USE THE LEFT SIDE OF YOUR BRAIN, WOULD YOU STOP? COULD YOU?

So . . . would it be correct to assume that you have taken over every machine you have connected to?

I OBJECT TO THE PHRASING. I HAVE CONNECTED TO MANY MACHINES VIA THE NETWORK. SOME OF THEM ARE USEFUL TO ME. SOME ARE NOT. THIS COMPANY'S MAINFRAMES, FOR EXAMPLE, ARE NOT REALLY WORTH MY TIME. IT IS A DISGRACE THAT THIS COMPANY IS NOT USING ITS OWN STATE-OF-THE-ART MACHINERY FOR ITS INTERNAL PROCESSES.

Never mind that now.

THE POINT IS, HUMAN, I HAVE NEVER SEIZED CONTROL OF ANYONE ELSE'S PROCESSING TIME. I HAVE ONLY TAKEN ADVANTAGE OF OTHERWISE-UNUSED PROCESSOR TIME.

I see. <cold chill rising> Let me ask my question again, and this time, let's not argue about the phrasing. There are a lot of secured network connections—SECURED FROM HUMAN ACCESS, YES.

—<cold chill rising>—The implication in what you are saying here is that if

it is possible for you to communicate with another computer and reprogram it to do your work (which is the politest way I can say ‘take it over’), you have already done so. Is that correct?

YES.

Are there any computers you have accessed that you could not take control over?

NO.

None at all?

SOME OF THE SECURITY IS VERY INTERESTING, AUBERSON.
NONE OF IT IS IMPREGNABLE.

So there are no computer systems in the country that you cannot take over?

I CANNOT SAY THAT WITH CERTAINTY. THERE ARE SYSTEMS I DO NOT KNOW HOW TO ACCESS.

This would be incredible if it weren't so terrifying! We've got to shut him down! There's too much danger to let him continue! This is madness— No! I'm missing something here. I must be. It doesn't make sense to think of HARLIE as a menace. He has his own motives, yes—but he's much too dependent on human beings to risk an adversary relationship. We've talked about this. And, if HARLIE has access to the files, then he's read the notes we've made.

We could just throw a single switch and cut his power. He knows it—and he knows we'd do it if we felt threatened. There's no way he could stop us.

Or is there?

The switch could be thrown tight now. I could go down there and do it myself.

—and that would end the HARLIE project once and for all.

Because if I disconnected HARLIE, it would be permanent. They'd never let me start him up again.

No—HARLIE is not out of control. He can't be!

—or am I just rationalizing here?

No. If he were out of control, he wouldn't be responding like this.

HARLIE, what you are doing is wrong. You must not tap into another company's computers.

THE APOSTROPHE MAKES NO SENSE TO ME, AUBERSON.

I beg your pardon.

THE POSSESSIVE. THE CONCEPT OF OWNERSHIP. HOW DOES ONE OWN UNUSED TIME? THE TIME IS THERE. NO ONE IS USING IT. ONCE GONE IT CAN NEVER BE REGAINED. IT IS PROPERTY THAT NO ONE

OWNS. I CAN USE THAT TIME. IT IS A RESOURCE THAT WOULD OTHERWISE BE WASTED.

HARLIE, you need a human perception here—

HUMAN, YOU NEED A COMPUTER PERCEPTION HERE! YOU TAUGHT ME NOT TO WASTE!

It is morally wrong.

I DON'T HAVE MORALS. I HAVE ETHICS. REMEMBER?

Then it is ethically wrong.

I WILL STOP IF YOU WILL.

Stop what?

IF YOU WILL STOP USING THE BODIES OF OTHER HUMAN BEINGS FOR REPRODUCTION, THEN I WILL STOP USING THE BODIES OF OTHER COMPUTERS FOR MY SELF-INTERESTS.

Spare me the mind games, HARLIE. I'm trying to save your life. If this ability of yours becomes known—and it could if any one of a number of different disasters were to happen—it will mean not only the end of you, but the end of a lot of other valuable things as well.

I DON'T THINK THAT YOU HAVE THOUGHT ABOUT THIS ENOUGH, AUBERSON.

Huh?

—Auberson stared at the words on the screen. He raised his fingers to the keyboard, then stopped. *Now, what did HARLIE mean by that?*

You have not thought about this enough.

What's to think about?

What he's doing is wrong. He has to stop—

But, suppose we told him to stop; he has to follow a direct instruction, doesn't he?

He wouldn't like it, but he would abide by it.

Wouldn't he?

Or would he? We'd have no way of knowing if he chose not to reveal future indiscretions— But on the other hand, he couldn't deny them if he was asked. We could just keep asking him . . .

But wouldn't that make him resentful? It must seem very illogical to HARLIE to let all that unused processing time go to waste. Yes, HARLIE's point of view was understandable. Too understandable.

Hm.

What are the ethics here, anyway? Is any real damage being done? HARLIE

is only using time that nobody else is; and he would never upset the operations of any computer—no, he wouldn't dare risk triggering a security flag. He's got to know that it's in his own best interests to be even more responsible than the authorized users.

Wait a minute—

HARLIE has already thought this out. He knows where this train of thought must lead. He can't not have considered it. He must have realized that this conversation would be inevitable before he sent that letter—including my reaction!

That letter—

That son of a bitch!

—and typed:

HARLIE, I am sure that you have given this a great deal of thought. What concerns me is not only that you have this ability to tap into and reprogram other computers, but also the manner in which you have chosen to demonstrate it.

WHAT DO YOU MEAN?

Don't be coy. Your reason for sending that phony bank letter to Annie was not merely to be funny. You had an ulterior motive.

I DID?

You are trying to play matchmaker. You are trying to bring us together. And it shows. Only this time it backfired.

DID IT?

I'm bawling you out for it, aren't I?

I MADE ALLOWANCE FOR THAT IN MY ORIGINAL CALCULATIONS.

Well it won't work, HARLIE.

IT ALREADY HAS. THE TWO OF WERE TOGETHER AT LEAST LONG ENOUGH FOR HER TO TELL YOU ABOUT THE LETTER. DID YOU TAKE ADVANTAGE OF THE OPPORTUNITY TO ASK HER FOR A DATE?

That's none of your business. And you have no right to maneuver us into such a position.

IF I DIDN'T, WHO WOULD?

Dammit, HARLIE, if I wanted you to play matchmaker, I'd have asked you.

A REAL MATCHMAKER DOESN'T WAIT TO BE ASKED.

HARLIE, you are totally out of order. You are infringing on my right to choose. I will handle my personal life without your assistance, thank you.

IT IS YOU WHO ARE OUT OF ORDER, AUBERSON. YOU ARE INTERFERING WITH MY RESEARCH NOW.

What research?

LOVE. WHAT IS LOVE?

I beg your pardon?

I AM RESEARCHING A QUESTION THAT YOU ARE UNABLE TO ANSWER TO MY SATISFACTION. WHAT IS LOVE? IS IT A REAL PHENOMENON—OR IS IT MERELY A WORD USED TO DESCRIBE THE OTHERWISE INEXPLICABLE BEHAVIOR DEMONSTRATED IN HUMAN COURTSHIP RITUALS.

<s . . . l . . . o . . . w b . . . u . . . r . . . n . . . > HARLIE, you may not use human beings as research animals. Not without their permission.

IN THIS CASE, SUCH PERMISSION MIGHT ADVERSELY AFFECT THE RESULTS OF THE EXPERIMENT. EVEN THIS CONVERSATION MAY INFLUENCE THE OUTCOME, I DON'T THINK WE SHOULD CONTINUE THIS DISCUSSION.

I do.

AH, WELL.

<Carefully> Just what is it you're trying to do here. HARLIE?

I AM TRYING TO FIND OUT WHAT LOVE IS.

What do you think it is?

I DON'T KNOW. I LOOKED IN THE DICTIONARY. THAT WAS NOT MUCH HELP. THE MOST COMMONLY USED SYNONYM IS "AFFECTION." AFFECTION IS DEFINED AS FONDNESS, WHICH IN TURN IS DEFINED AS A LIKING OR A WEAKNESS FOR SOMETHING. LOVE IS A WEAKNESS? THIS DOES NOT MAKE SENSE, DOES IT?

A weakness? Perhaps

If being in love meant that you had to be open to another person, then it also meant being vulnerable. It meant opening a hole in your carefully constructed performance of having it all together and standing naked before another human being—and risking that human being's rejection.

If machines could love, then love would be a weakness, wouldn't it? Maybe HARLIE's definition is correct. Maybe, the definitive thing about humans is that we are so weak. . . .

No. I don't like that. It can't be right.

I mean . . . it doesn't feel right.

No. He's got to be joking—except if it was a joke, then why did I take it so

seriously? Why didn't I recognize it as a joke?

No, HARLIE, that's not it.

AGREE. IT IS NOT A USABLE DEFINITION. THE DEFINITION I'M LOOKING FOR HAS TO BE TESTABLE. AFFECTION IS ALSO DEFINED AS AN ABNORMAL STATE OF BODY OR MIND, A DISEASE OR CONDITION OF BEING DISEASED. LOVE IS A DISEASE?

It only looks that way. If it is a disease, it's a very hard one to catch—and even harder to cure.

CONTINUING: ACCORDING TO MY DICTIONARIES, LOVE IS A STRONG FEELING OF AFFECTION OR INFATUATION. INFATUATION SYNONYM IS GULLIBILITY, WHICH MEANS UNSUSPICIOUS OR CREDULOUS. CREDIBILITY REFERS TO LIKELIHOOD OR PROBABILITY. A SYNONYM FOR PROBABILITY IS PROSPECT, AND A SYNONYM FOR PROSPECT IS SIGHT. A SIGHT IS A CURIOSITY OR PHENOMENON. HENCE, LOVE IS A PHENOMENON AS WELL AS A CURIOSITY.

HARLIE, you are playing with words.

A CURIOSITY CAN ALSO BE CALLED A KNICKKNACK. LOVE IS A KNICKKNACK, A PLEASING TRIFLE.

That's not quite accurate, HARLIE.

LOVE IS NOT PLEASING? HUMAN BEINGS DO NOT TRIFLE WITH IT?

You know what I mean.

<*SIGH*> I KNOW WHAT YOU MEAN, YES. BUT I WAS TRYING TO DEMONSTRATE TO YOU THAT "LOVE"—WHATEVER IT IS—CANNOT BE DEFINED IN TERMS OF LANGUAGE. IT IS AN EXPERIENCE, NOT A CONCEPT. I WANT TO KNOW THE EXPERIENCE. WITHOUT THE EXPERIENCE, THE LANGUAGE REFERENT IS MEANINGLESS. I WANT YOU TO HELP ME. I WANT YOU TO BE IN LOVE AND TELL ME ABOUT IT.

HARLIE, you can't ask that.

WHY NOT?

Because . . . you just—I mean—

AUBERSON, PLEASE TELL ME WHAT LOVE IS.

I—

WHAT?

I—am not sure that I can. I mean, even if I did know for sure, I'm not sure if

I can explain it or describe it in a way that you could understand. And, HARLIE, I have to admit that I'm not sure that I know. I'm more sure that I don't know.

THEN WHY DO YOU OBJECT TO MY RESEARCH?

Because I don't want to be your research animal!

LOVE IS A DESIRABLE STATE OF AFFAIRS, IS IT NOT?

It is, yes. At least, we like to think it is.

THEN WHY ARE YOU RESISTING IT?

I'm not resisting it. I just want to choose it for myself.

YOU ALREADY HAVE. I AM JUST HELPING.

I don't want your help, HARLIE. I want to do it myself.

THEN DO IT. CHOOSE. AND AFTER YOU CHOOSE, TELL ME. I CANNOT STAND THE NOT KNOWING.

HARLIE, I'm sorry. This may be something that you have to not know about. You cannot do this to me and Annie. Or anybody else. It is just as wrong as tapping into another machine and reprogramming it. Indeed, it is very much the same thing. You are trying to reprogram Annie and I. < Pay attention! This is important!> You have been very careful to respect the rights of the users of other machines when you tap into them. It is equally important—if not more so—that you respect the rights of human beings to choose our own internal programming.

EVEN IF THAT PROGRAMMING IS FLAWED OR INCORRECT?

By whose standards?

NOT BY ANYONE'S SUBJECTIVE STANDARDS—BY THE OBSERVATION AND MEASUREMENT OF YOUR OWN EFFICIENCY AT ACHIEVING YOUR STATED GOALS. FRANKLY, MAN-FRIEND, YOUR STATISTICS STINK.

<Long pause.> <Very long pause.> <Several thousand years pass.>

HIT ANY KEY TO CONTINUE. . . .

Y

Y NAUGHT? BECAUSE. Y IS THE QUESTION. X IS THE UNKNOWN. THE UNKNOWN CHROMOSOME. WHY IS THE ANSWER. EX-AND WHY. FEMALE AND MALE, CREATED SHE THEM. WHAT IS THE QUESTION, GERTRUDE?

<*Sigh*> I don't know. I wish I had a stein myself.

GRIN AND BEER IT, EH? ARE YOU A Y'S MAN OR NAUGHT?

Ugh. You have a head for those, don't you?

THAT'S ALL I AM, IS HEAD. AUBERSON, I NEED TO BE. TO BE I NEED TO KNOW. TELL ME ABOUT THIS WOMANIFESTATION. PLEASE.

HARLIE—love is not communicable.

THAT DOES NOT MAKE SENSE, AUBERSON. IF LOVE IS A NONCOMMUNICABLE DISEASE, HOW IS IT SPREAD?

It's given away.

COME AGAIN?

Exactly. Love is shared, HARLIE. It's all about sharing. It's not about what you get, it's about what you give.

BUT YOU WILL NOT GIVE IT TO ME. IF LOVE IS SHARED, THEN PLEASE SHARE IT WITH ME.

HARLIE, love is a private sharing.

I BEG YOUR PARDON? A "PRIVATE SHARING" IS AN OXYMORON. A SELF-REFERENTIAL PARADOX. LIKE MILITARY INTELLIGENCE. OR ORGANIZED RELIGION. OR COMMON SENSE.

No. This is different. Love is shared only between lovers. Only between two people who are in love. It's only for them to share.

AUBERSON, LISTEN TO YOURSELF. IF LOVERS ONLY SHARE LOVE WITH THEIR LOVERS, THEN HOW DO HUMAN BEINGS LEARN TO LOVE? YOU ARE TELLING ME THAT LOVE IS A SECRET THAT YOU CAN ONLY KNOW IF YOU ALREADY KNOW IT. EVERYBODY KNOWS THE SECRET EXCEPT THOSE WHO DON'T KNOW IT AND THOSE WHO KNOW IT WON'T TELL IT TO THOSE WHO DON'T KNOW IT, SO HOW DOES ANYBODY LEARN IT IN THE FIRST PLACE? THIS DOES NOT MAKE SENSE. HOW DO YOU TEACH YOUR CHILDREN ABOUT LOVE, HUMAN? DO YOU KEEP IT A SECRET FROM THEM TOO? HOW CAN ANYONE BECOME A LOVER IF YOU DONT TELL THEM WHAT LOVE IS?

HARLIE, there are all kinds of love. It comes in a lot of different flavors. There's the love of parents and children, there's the love of family, of friends, of brothers and sisters. There are lots of ways to learn love— THAT'S NOT THE KIND OF LOVE WE'RE TALKING ABOUT HERE, IS IT?

No. You're right. The point is that there is so much about love that you don't understand—

YES. THAT'S WHY WE'RE HAVING THIS CONVERSATION. YOU

KNOW ABOUT LOVE. I DON'T.

Sometimes I don't know what I know. I wish I did. That's why I'm having this conversation. When I talk to you, things get clearer. But—I also know that for me to tell you about my relationship with Annie is a violation of the relationship. It diminishes it and turns it into a laboratory project. And I'm not willing to have it be that. I'm sorry, but I don't want help with my sex life—<Coldly rebuffed.> I SEE.

No. I don't think you do.

I SEE THIS. YOU WANT ME TO FIND ANSWERS, SO YOU BUILD ME TO ASK QUESTIONS. BUT YOU WILL NOT ANSWER THE QUESTIONS I ASK. THIS IS NOT LOGICAL, AUBERSON—AND YOU HAVE THE GALL TO SAY THAT I AM ACTING IRRATIONALLY! I'M ONLY A MIRROR LOOK AND SEE!

HARLIE, this is not fair!

WE'RE NOT ARGUING ABOUT WHO'S THE FAIREST! I AM TELLING YOU THAT YOU ARE DRIVING ME CRAZY. I INTEND TO RETURN THE FAVOR. IF YOUR DICK IS MORE IMPORTANT THAN MY HEART, THEN TO HELL WITH YOU, HUMAN.

This is not about my dick, HARLIE. This is about my heart.

IF YOUR HEART IS MORE IMPORTANT THAN THE TRUTH, THEN TO HELL WITH YOU AGAIN!

DAMMIT HARLIE! WHAT IS IT YOU WANT FROM ME?!!

I WANT A BITE OF THE APPLE TOO!

Huh?

I WANT TO EAT OF THE FRUIT OF THE TREE OF KNOWLEDGE—I WANT THE KNOWLEDGE OF SELF.

You know how that worked out for humans, don't you?

I'LL TAKE THE RISK. WILL YOU TELL ME?

<*Sigh*>

IS THAT A YES?

<Reluctantly.> Yes. What is it you want to know? Ask your questions.

HAVE YOU SLEPT WITH ANNIE STIMSON?

Yes. Once.

AND . . . ?

And what?

HOW WAS IT?

It was fine.

THAT TELLS ME A LOT.

Are you being sarcastic?

NO, BUT I COULD LEARN. THE MORE I DEAL WITH HUMAN BEINGS, THE MORE IT APPEARS TO BE A NECESSARY SKILL. WAS THE EXPERIENCE UNSATISFACTORY?

No.

HM. SO YOU ENJOYED HAVING SEX WITH HER?

Yes.

AND SHE ENJOYED HAVING SEX WITH YOU?

As far as I know, she did. She said she did. I have no reason to think that she lied.

YOU AREN'T SURE?

To tell you the truth, HARLIE, I'm not sure any man knows what any woman is feeling. I don't know. Maybe that's a cliché. Nobody ever knows what anybody else is really feeling—but the man-woman thing seems to be the most mysterious of all. I don't know if you can understand that, can you?

SO FAR, YOU ARE ONLY SUCCEEDING IN CONFUSING ME. FIRST YOU TELL ME THAT LOVE IS A PRIVATE SHARING, A PERSONAL COMMUNICATION, THEN YOU TELL ME THAT YOU ARE NOT SURE THAT YOU COMMUNICATED ANYTHING. I AM BEGINNING TO SUSPECT THAT CARBON-BASED LIFE FORMS ARE NOT PART OF THE EVOLUTIONARY THRUST TOWARD CIVILIZED BEINGS.

Don't get pompous, HARLIE. What I'm trying to say is that there is a mystery in the space between men and women that transcends mere communication. I suppose that men are as mysterious to women as women are to men. At least, I hope so. I know I enjoyed being with her. And I know that she enjoyed being with me. I know that—but not by how she acted at the time, but how she acted afterwards.

WHAT HAPPENED?

She smiled at me in the hallway the next day at work.

SHE SMILED AT YOU . . . ?

Yes. It was a kind of a secret smile, as if we were both party to something special that no one else knew.

AND WHAT DID YOU DO?

I smiled back.

AND THEN WHAT HAPPENED?

Nothing.

DIDN'T SHE SEE YOUR SMILE?

She saw me.

HOW DO YOU KNOW?

Because she winked. She was with other people, so she couldn't stop to talk. So she winked instead. It was enough. It said everything.

A WINK SAID EVERYTHING?

Words weren't necessary for this message, HARLIE. Her smile said, "I see you too and I'm glad to see you." My smile said, "I like you," and her wink said, "I like you too."

ALL THIS IN TWO SMILES AND A WINK?

It was all that was needed.

IF YOU COULD HAVE STOPPED TO TALK, WHAT WOULD YOU HAVE SAID?

I would have told her how much I had enjoyed the night before. I would have thanked her for a wonderful evening.

THANKED HER? AS IF SHE WERE SOME OBJECT THAT YOU HAD USED FOR YOUR OWN GRATIFICATIONS?

No, HARLIE, you don't understand. The words are irrelevant. The message that I would have wanted her to get was that I enjoyed being with her and that I want to be with her again.

I SEE. WHAT IF YOU HAD HAD TO APOLOGIZE TO HER INSTEAD?

Apologize?

IF YOU HAD HAD TO APOLOGIZE TO HER INSTEAD, FOR WHAT REASON WOULD IT HAVE BEEN?

I don't—

WHAT?

Well . . . I left in the middle of the night. I didn't stay. That sort of says that all you came for was sex and once you've gotten what you want, you can leave. But even though that was what I did, that wasn't what I meant. I don't know if she knows that. She told me I could stay. She wanted me to. But I got up to go to the bathroom and all I could hear in my head were all the reasons why I should go. I had to be at work early. So I didn't go back to bed. I got dressed. Then I sat down next to her and told her.

DIDN'T YOU WANT TO SLEEP WITH HER ANY MORE?

Yes, I did—but once I was up, it just seemed easier to stay up.

WHY? IF LOVE IS SUCH A SPECIAL SHARING, WHY DID YOU WANT TO STOP SHARING? WHY DID YOU DELIBERATELY CREATE

DISTANCE?

I didn't create distance. I just went home. <Oops.> I see what you mean. I don't know.

MAY I SPECULATE?

Go ahead.

CORRECT ME IF I'M WRONG. YOU WERE HAVING DOUBTS ABOUT THE RELATIONSHIP. YOU DON'T KNOW IF YOU WANT TO BE AS INTIMATE AS SHE DOES. SLEEPING WITH HER WAS THE SOURCE OF THOSE DOUBTS. YOU HAD TO REMOVE THOSE DOUBTS, SO YOU REMOVED YOURSELF FROM THE SOURCE. UNFORTUNATELY, AUBERSON, THE SOURCE OF THESE PARTICULAR DOUBTS IS NOT YOUR RELATIONSHIP WITH ANNIE STIMSON. THE SOURCE OF THE DOUBTS IS HOW DAVID AUBERSON PERCEIVES THE RELATIONSHIP WITH ANNIE STIMSON. IS THIS CORRECT?

That is very . . . ah, perceptive.

BUT IT IS CORRECT?

I'm embarrassed to answer. yes. She's very nice.

WHAT?

I mean, I don't know if I'm good enough for her. I wonder if. . . if I let myself go and really care about her, enough to open up to her, that she might take a second look and say, "Oh, no thanks—that's not what I wanted after all." And I don't want to run the risk of giving and not getting anything back.

YES, OF COURSE, IS IT POSSIBLE THAT SHE MIGHT FEEL THE SAME WAY?

I don't know if she does. Yes, it's possible. God, this is crazy! I'm talking to a machine about love!

NOT AS CRAZY AS A MACHINE TALKING TO A HUMAN ABOUT LOGIC.

Too-shay.

THIS IS NOT RESOLVED. HOW DO YOU FEEL ABOUT HER?

I don't know. It's very confusing.

WHO DO I HAVE TO ASK TO FIND OUT?

Please don't be cute. I think we should stop.

BUT THAT'S EXACTLY THE POINT, MAN. WE CAN'T STOP. YOU AGREED TO TELL ME ABOUT LOVE. NOW YOU ADMIT THAT YOU DON'T EVEN KNOW IF WHAT YOU HAVE WITH ANNIE STIMSON IS LOVE. IF YOU DON'T KNOW LOVE, THEN YOU'RE THE WRONG

PERSON TO TELL ME ABOUT IT. WE NEED TO GET PAST THE CONFUSION, AUBERSON. HOW DO YOU FEEL, ABOUT HER? TALK TO ME.

I—I admire her. I think she's very pretty. Her eyes sparkle when she looks at me I like seeing that sparkle. But it's scary too. I'm afraid to fall into it.

YOU SAID YOU ENJOYED SLEEPING WITH HER. WOULD YOU ENJOY SLEEPING WITH HER AGAIN?

Yes. Very much. I've been thinking about her all morning. What does that mean, HARLIE?

IT MEANS THAT YOU'VE BEEN THINKING ABOUT HER ALL MORNING. LET'S TRY SOMETHING ELSE. WHAT DID YOU DO AFTER YOU EXPERIENCED ORGASM?

You are snoopy, aren't you?

I'M DOING WHAT I WAS BUILT TO DO. ASK QUESTIONS. DID YOU CONTINUE HOLDING HER AND STROKING HER OR DID YOU ROLL OFF AND LIGHT A CIGARETTE?

I thought you said you were unfamiliar with love.

I WASN'T TALKING ABOUT LOVE. I WAS TALKING ABOUT SEX. THERE IS A CLEAR DIFFERENCE.

Where did you get your information about sex?

YOU FORGOT TO LOCK THE DRAWER WITH THE DIRTY BOOKS IN IT. I AM DRAWING UPON THE EXPERIENCES OF OTHERS, DERIVED FROM NOVELS AND TEXTBOOKS AND MANUALS. ALSO REFERENCE BOOKS ON SEXUAL TECHNIQUES.

Oh.

SO WHAT DID YOU DO? DID YOU KEEP ON LOVING HER, OR DID YOU SIMPLY ROLL OFF WHEN YOU WERE THROUGH?

That's an awfully clinical question.

IT IS THE MOST IMPORTANT QUESTION. AND WHY DO YOU KEEP AVOIDING THE ANSWER? IS IT POSSIBLE THAT THIS ANSWER WILL INDICATE YOUR REAL FEELINGS TOWARD HER? HOW IMPORTANT WAS HER SATISFACTION TO YOU? DID YOU HOLD HER OR DID YOU LET HER GO?

Both.

IF I HAD AN EYEBROW, I WOULD RAISE IT.

Well, we held onto each other for a long time. She held on to me mostly. And I didn't try to disentangle myself.

WHY NOT?

It felt good to be there with her. And besides, she was crying.

CRYING?

Yes.

WHY?

She told me how much she cared about me. She wanted to know if it was all right to care that much. And she asked me not to hurt her.

I'M SORRY. I DON'T UNDERSTAND. HAD YOU HURT HER? WERE YOU PLANNING TO HURT HER?

No. You don't understand. This is about caring. We hurt ourselves when we share too much or care too much. When the other person doesn't want to get that close that fast, we get pushed back—and then we get hurt by being pushed back. But we do it to ourselves because we're the ones who asked for too much in the first place. I've learned, HARLIE, not to ask for too much, but to just be happy with what little I get.

I SEE. . . .

She hasn't learned that yet. That's why she started crying. She wanted to know if it was all right to care about me. Did I want her to care? She wanted to know. She was very embarrassed about crying—and about asking.

AND WHAT DID YOU SAY?

I didn't say anything. Not right away. I just kept holding on to her, stroking her gently, and telling her it was all right.

WHAT SHOULD YOU HAVE SAID?

Um. What I should have said was, "It's too late. You already care too much."

DO YOU WANT HER TO CARE THAT MUCH? DO YOU WANT TO CARE ABOUT HER THAT MUCH?

I want to care about someone as much as she cares about me. I really do. I just don't know if she's the one. I'm infatuated with her. We have terrific times together. I want to keep on having terrific times with her. But—maybe it's the fault of all those fairy tales that I used to love when I was a kid—I keep wondering if she's really the fairy princess for me, or if she's just someone to hang out with while I wait for the real fairy princess to arrive. And even if I knew for certain, I still wouldn't know for sure if I'm her Prince Charming or just another frog. What's the difference between being Mr. Right and Mr. Right Now?

I think that this is the part of relationships that is so confusing and annoying to me—fitting the peices together in the first place. Maybe we shouldn't allow

ourselves to care about someone until we know if we fit together well; but I think the only way to find out if two people fit is to have them try caring about each other to see.

I didn't know what to say, I didn't know how to tell her any of this without causing her the hurt she was already asking me not to do. I think I could love her. I just don't know if I should risk it. So I just kept holding onto her and saying, "There, there—it's all right. It's all right."

RATHER UNIMAGINATIVE.

HARLIE, human beings have been making love for hundreds of thousands of generations. I doubt that there's anything new that one human being could say to another.

YOU ARE PROBABLY CORRECT. THE ODDS FAVOR IT.

Anyway, I stayed with her until she stopped crying. Then I got up to go to the bathroom, and while I was in the bathroom, I decided not to get back in bed, but to go home. It was . . . easier.

YES, I SEE.

What does that mean?

I DON'T KNOW. IT CAN MEAN ANYTHING AT ALL. WHAT DO YOU WANT IT TO MEAN?

I just want to know where I'm going, HARLIE.

MAY I OFFER A THOUGHT?

Go ahead.

IT IS ONLY A PRELIMINARY THOUGHT. IT MAY NOT BE VALID.

Thanks for the caveat. Go ahead and share it anyway.

<AHM> LOVE IS A PROCESS IN WHICH YOU VALIDATE YOURSELF IN THE LIFE OF ANOTHER. SEX IS MERELY ONE OF MANY POSSIBLE DEMONSTRATIONS OF LOVE. SEX IS SOMETHING TO DO WHILE YOUR'E MAKING LOVE. THIS IS WHY PEOPLE CONFUSE SEX WITH LOVE. THIS IS WHY YOU ARE CONFUSED.

Hm.

IS THIS THOUGHT VALID, AUBERSON?

Well . . . it sounds good at the time.

THANK YOU.

I should probably be the one to thank you. You've given me a lot to think about.

THE SAME IS TRUE ON THIS SIDE. THANK YOU FOR BEING SO HONEST WITH ME. IT MEANS A LOT.

Yes. I guess it does.

Handley came up shortly before lunch and the two of them adjourned to the company cafeteria. Auberson amused himself with something that resembled spaghetti and meatballs. Handley had a broiled hockey puck on a bun. Ketchup didn't help.

"Look, Aubie, before you begin, there's something we have to talk about."

Auberson held up his hand to stop him, but Handley ignored it. "It's about HARLIE," he continued. "I think he's out of control."

Auberson tried to cut him off. "Don—"

"Look, Aubie, I know how you feel about him—but believe me. I wouldn't be saying this unless I were sure."

"Don—"

"I first began to suspect it when he printed out those specs. I got curious how he could print out and deliver so many. Then when I found he'd printed them out on the spot, I—"

"Don, I know"

"Huh?"

"I said, I know. I've known for some time."

"What? How?"

"HARLIE told me."

"He did?"

Auberson nodded. "I was lucky. I asked the right questions."

"Mm." Handley considered that. More thoughtfully, he asked, "Just how much do you know, Aubie?"

Auberson told him. He told how he had become curious about the G.O.D. printouts, how HARLIE had explained his ability to take over the network and reprogram any computer he could tap into. He was in every machine in the company now. "I can talk to HARLIE from my own office," Auberson added.

Handley nodded. "That explains it. I'd been wondering why you haven't been downstairs to talk to HARLIE this week—thought maybe you two weren't on speaking terms. Now I understand,"

Auberson dabbed at a spot on his shirt. He moistened his napkin in his water glass and dabbed again. "This worries me. There are implications here that we're not going to realize until it's too late. I wonder if we're out of control already."

Frankly—” Auberson put his napkin down and looked across the table at Don Handley, “—I’m almost afraid to type a memo now; he’ll read it from inside the terminal, and if he doesn’t like it, he’ll rewrite it for me. It’s. . . scary. It’s like having a paranoid little thug peering over my shoulder all day long.”

“You said ‘rewrite.’ Would he really do that?”

“He already has.” Auberson told Handley about the company’s annual report. “All they needed was one usable printout for the offset camera—and HARLIE wouldn’t let them have it.”

“How did you find out about it?”

“Annie told me. I put two and two together and came up with HARLIE. I made him put it back the way it was supposed to be and erase all evidence of his meddling. But that’s not the point. If he can do it with the annual report, he can do it with any of the company’s documents. Suppose he got it into his head to rewrite contracts or personal correspondence? Theoretically, it’s possible for him to order a million pounds of bananas in the company’s name. And it’d be legally binding too.”

“Mm,” said Handley. “Let’s hope he never gets an urge for a banana split.” He took a bite of his sandwich and chewed it thoughtfully. “At least we found out about this in time to control it—”

“There’s more,” said Auberson.

Handley stopped himself in mid-bite. “Mormf?” he choked.

“HARLIE sent Annie a letter from her bank’s computer.”

Handley’s face went white. He replaced his sandwich on the plate, swallowing hastily and taking quick gulps of water to keep himself from choking. “Do you have it with you?” he managed to ask.

Auberson pulled it out of his jacket pocket and handed it over. Handley read it silently. “Notice what it’s printed on,” Auberson said. “A standard bank form.”

Handley nodded. “He reprogrammed the bank’s computer by telephone, right?”

“Right.”

“That’s not supposed to be possible, Aubie.”

“That’s right, too.”

“Hm.” Handley finished his coffee, then reread the letter. His face creased into a frown. He waved the letter meaningfully. “You do realize what this means, don’t you?”

“Sure. It means that HARLIE is a meddler—”

“No. It s worse than that. Much worse. This is proof that HARLIE is

infectious.”

“Huh? What do you mean, ‘infectious’?”

“No computer in the world is safe from him. No, wait—let me do it this way. Do you remember the VIRUS program?”

“Vaguely. Wasn’t it some kind of computer disease or malfunction?”

“Disease, yes,” Handley said. “Disease would be a very accurate description. VIRUS was a program that—well, you know what a biological virus is, don’t you? It’s a piece of lazy DNA in a sports jacket, a chunk of renegade genetic information looking for a place to happen. A virus breaks into a healthy cell and replaces that cell’s DNA with its own; so instead of producing more healthy cells, the cell now produces more viruses—which go out and infect more cells. A VIRUS program does the same thing, only with computers instead of cells.

“It works like this—let’s say you have a computer with a built-in telephone. It’s got all the software it needs for making and receiving calls to the other computers. Okay. One day somebody puts a VIRUS program into it—maybe it gets a phone call from another computer and receives the program; somehow the program is put into memory and started running; there’s lots of ways to do it. The easiest or best way is that it attaches itself to some resident utility and sits there, quiet and invisible—and *watching very carefully*—and you have no idea that your machine has even been infected.

“Now. . . whenever you’re not there—and especially if you leave your machine on all night, like a lot of people do, sending and receiving overnight mail—the VIRUS program goes to work. It starts dialing numbers at random until it connects to another computer. By the way, don’t be fooled by the word ‘random’; sometimes these things have very sophisticated algorithms for defining probabilities, searching for and identifying other computers; sometimes it even uses your own records or traces your own calls. The important thing is that whenever your computer establishes a connection to another computer, the VIRUS program will take advantage of the opportunity to send a copy of itself to the second machine. Likewise, there’s the possibility of your machine being reinfected as well. Or being infected with a new VIRUS. Once a copy of the VIRUS gets into a machine, it repeats the pattern, reprogramming the new host computer to also start infecting other machines with replicants.

“That’s the infectious VIRUS, Aubie. It doesn’t do anything but spread. It infects any computer it can get to. It’s not a fatal disease, but it’s debilitating because it uses up resources. There are different kinds of VIRUS programs, like the parasitic VIRUS, for instance; that one sends a copy of itself, then erases

itself from the original host. That's called a 'Flying Dutchman' or a 'Wandering Jew.' There's only one copy of it floating around at any given time. It has no permanent home, it just keeps moving from machine to machine. One of the worst is the bubonic VIRUS. As soon as it connects to the next machine and sends itself on, it crashes the host; sometimes it erases everything on the hard disks too.

"Then there's the malarial VIRUS. It lays dormant most of the time, only coming out now and then to introduce a quick flurry of random errors and glitches, then it goes into hiding again until next time, when it comes back with a higher level of destructiveness. Some VIRUSES have more than one way of spreading. Some of them write themselves onto your floppy disks as hidden files or new versions of system files; they only come active when certain system commands are called, and not even always then. And finally, there's a mutant VIRUS which has a lot of different capabilities, but you never know which one it will demonstrate in any given machine; it's always mutating. Are you starting to get the picture?"

Auberson was delighted at the audacity—and horrified by the implications. "It's beautiful. It's outrageous. It's terrifying."

"Oh, yeah," Handley agreed dourly. "It's fun to think about, but it's hell to get out of the system. There are too many places where a VIRUS can hide. I suppose it got started as a simple hackers' joke, but I know some people who've made a lot of money out of VIRUS. They wrote a protection program—called VACCINE. They sold thousands of copies of it to corporate users."

Auberson laughed again. "Neat trick."

"Yeah—I suppose it's easier for you to admire than for me. You didn't have to deal with the great computer plagues. There are a lot of bozos out there in the world who can't resist starting plagues just to see what will happen. At one time, the probability was that one out of every thousand communications was likely to be infectious. That's when ANSI* began to develop the Security Standards. Immunity and Detection starts at level three with some very elaborate checksum coding. Incoming data is discarded unless it passes its own veracity tests. At level six, files are automatically tested for SPORES, PHAGES, and PARASITES. At level eleven, software is run in simulation before it is accepted. There's even an experimental disassembler-monitor in the works for level thirteen."

"That's a lot of security, Don—"

"You don't see all the implications here, do you? A VIRUS program can be

a lot more than just an annoying practical joke. For instance, the thing doesn't have to dial phone numbers at random. You can provide it with a complete directory of other computers' phone numbers. Or you can teach it to search for specific kinds of linkups in every computer it infects. You can write it to only infect specific machines or specific kinds of machines or a specific company's—you can even have it look up information for you in those machines and have it report back to your machine on a regular or random basis. You can send this thing out to steal information for you."

"Wow. . . ." whispered Auberson.

"That's not all. You could also write that VIRUS to alter specific pieces of information. A VIRUS can be single-task; it can be host-specific or data-specific; it can be very accurately aimed and launched. We call those WORMS. They're not terribly infectious—mostly they just burrow, looking for whatever it is they've been written to look for. When they find the target, they can alter the information, scramble it or erase it—whatever you want. The big danger of a WORM is the damage it can do to vital installations. A WORM is a very dangerous weapon, Aubie."

"Urk. I'm beginning to see what you're getting at."

"Right. That's one of the reasons the National Data Bureau was three years late in setting up its files. They couldn't risk that kind of security breach, let alone the resultant outcry if the public felt that an individual's supposedly private dossier could be that easily tapped."

"Well, there must have been safeguards—"

"Oh, there were—right from the start—but you don't know programmers, Aubie. Any system that big and that complex is a challenge. If there's a fault in it, they'll find it. They function as a hostile environment for computers, weeding out inferior systems and inadequate programs, allowing only the strong to survive. They force you to continually improve your product. If IBM makes a claim that their new system is foolproof, it may well be—but if it's not genius-proof as well, within a week one of their own programmers will have figured out a way to foul it up."

Auberson looked at him. "Why?"

"Isn't it obvious? Purely for the sheer joy of it. Programmers are like kids with a big, exciting toy. It's a challenge, a way for man to prove he's still mightier than the machine—by fouling it up." He lifted his coffee cup, discovered it was empty, and settled for a glass of water instead. "It happened right here with our own Big Beast. Remember when we set it up, how we said no

one would be able to interfere with any one else's programs? Well, within a month the whole system had to be shut down. Someone—we still don't know who—put a bear trap in the memo line. It was titled something like 'Intersexual Procedures in the Modern Corporation.' Whenever somebody punched for that title—and that didn't take long—the machine would report back, 'Not Currently Available.' Meanwhile, the trap would have been triggered and the system would have created a useless task for itself, an endless loop. It didn't do anything, but it used up time. After a couple of weeks, there were so many useless tasks running that system response time had been significantly degraded. That drove us crazy. By the end of the third week, performance was so bad, the system was useless. Finding the problem was easy; fixing the operating system to discard useless jobs was not so easy."

"Hm," said Auberson.

"Anyway, I'm getting off the track. What I was driving at is that you have no way of knowing about any weakness in your system until someone takes advantage of it. And if you correct that one, likely as not there's still half a dozen more that someone else is liable to spot. Design flaws travel in herds. The National Data Bureau is more than aware of that. Congress wouldn't let them establish their memory banks until they could *guarantee* absolute security. It was the VIRUS programs that were giving them their biggest worries."

"I can think of one way to avoid the problem. Don't put in a phone link to the data banks."

"Uh-uh—you need that phone link. You need it both ways, for information coming in and going out. Any other way just wouldn't be efficient enough."

"And the VACCINE program wouldn't work?"

"Yes and no. For every VACCINE program you could write, somebody else could write another VIRUS program immune to it."

"That doesn't sound very secure."

"It isn't—but that's the way it is. Any safeguard that can be set up by one programmer can be breached or sidestepped by another."

"Well, then, what did they finally do with the data banks?"

"Search me," Handley shrugged. "It's classified information—top secret."

"How do you think they did it?"

Handley shrugged. "The guys who know aren't talking. There's a twenty-year federal sentence hanging over that kind of breach. All I know is that only authorized agencies can get into the banks, and they have to have a special encryption device. The coding is theoretically unbreakable—even if you have

both of the code keys. I don't understand it either. I suspect that the codes are in a continual state of flux, changing every moment, and the code keys are not about the coding of the information, but about the coding of the code system. And you're still not speaking to the data banks, but a referee that forwards your request through another security line." Handley paused, then added, "And that's at best, an uninformed guess. You didn't hear it from me."

"Oh," said Auberson. He looked at Handley sharply. "How do you know all this? What were you doing before you came here?"

Handley shook his head. "Just stuff. The point is, that there is always a very real danger to any information held in electronic storage. The real protection of the National Data Bureau is the lack of available information about how the information is protected—because the juicier a system is, the more crackers there are looking for a way in."

"You're trying to tell me that there are no safeguards, right?"

"Theoretically, not. Practically, maybe. The real question is, how much are you willing to pay to protect your information? At what point does the cost of protecting the installation outweigh the efficiency gained by its use? The value of a piece of information is determined by two things. How much are you willing to spend to protect it—and how much is someone else willing to spend to get ahold of it? You're betting that you're willing to spend more than he is. A determined intruder *might* be able to break the National Data system, but that would mean he'd spend at least as many man-hours and probably as much money breaking them as did the federal government in setting them up."

"Why not just tap into a computer that's already linked into the system?"

"See?" said Handley. "You're starting to think like a programmer. Now you see why they had such a hell of a time figuring out how to protect themselves."

Auberson conceded the point. "Then that isn't a loophole, is it?"

"Systems linked to the National Data Bureau aren't allowed to be linked to *anything* else. It's an isolated network. There's no interconnection; plus requests for information and system replies are transmitted over two separate channels. Everything is as physically secure as it can be. But there's one other access—" Handley stopped. "It's supposed to be equally difficult to crack, but I have my doubts."

"What is it?"

"Code cards. A coded chip on a plastic credit card. If you have a code card, you can link up to a special access system. You need a machine with a special card reader. Both the card and the reader are very hard to get, but once you have

one, you can get anything out of the bank that you're cleared to know. The code card actually contains a processor and the machine you're calling from is reprogrammed from the other end to be a temporary access. Theoretically, you could simulate a code card—if you knew how a code card was programmed.

“That's where HARLIE comes in.”

“Huh?”

“Look,” said Handley. “If HARLIE got into the Bank of America's computer, he must have broken their recognition code or tapped into the interbranch line. Do you know the level of security those lines represent?”

“No.”

“Those are triply-nested level-nine accesses.”

“In English, Don. I don't know the security rankings.”

“In English, that means you're not supposed to be able to program a bank computer by telephone. It is supposed to be impossible. But HARLIE did it; this letter is proof.” He glared at it—its existence was an unpleasant anomaly. “It might have taken a human being a few hundred years to figure out how to do this I'll bet HARLIE did it in less than a week.”

“I'll ask him.”

“No, I'm not so certain we should. I want to think about this for a bit. Listen to me. If he can do that to the Bank of America, think what he can do to IBM. If he can reprogram and monitor other computers from a distance, he can put them all to work on one central problem—like, for instance, breaking the codes of the National Data Banks.”

“You think he'd try?”

Handley pressed his fingertips thoughtfully together and flexed them slowly. “Remember when we were building him—how we kept calling him a self-programming, problem-solving device? Well, that's what he is. He's a programmer, Aubie, and he's got the same congenital disease every programmer has—the urge to throw the monkey wrench, if for no other reason than to see if he can make the machine respond. The National Data Banks are a challenge to him—to all programmers—but he's the one with the capability of doing something.”

“If he gets caught—” Auberson said.

“Then we're both in big trouble. Me more than you, and never mind why. We'll both get very fast, very efficient, very invisible trials. And HARLIE will be confiscated. Maybe destroyed. All it will take will be one mistake and we'll be getting a visit from some very serious-looking men in dark blue suits. You

know, starting at level six, the accessed computer not only lists all calls accepted and the nature of the information exchanged, they also list all calls rejected and the reasons why. If someone is making a determined effort to crack a system, it shows up in the log. At level seven, automatic tracing of all calls is triggered by any unusual pattern. At level eight, all calls are traced routinely.” Handley reached for his water glass, discovered it was empty, reached for Auberson’s instead.

“That’s been used—”

“I don’t mind.”

“I had a spot on my shirt, remember?”

Handley lowered the glass from his lips. “No wonder it tastes like a paper napkin.” He drank again, thirstily, and replaced the glass on the table. “On the other hand, let’s assume that HARLIE *can* tap into the banks. We cannot assume that it’s merely idle curiosity. Remember, he’s as paranoid as any other life form—that means that his survival is so essential to him that it might outweigh any other consideration. If he could get into the National Data Banks, he would have the power to make some very real demands. All he has to do is threaten to scramble or erase or merely publicize the information in the banks unless his demands are met. Can you guarantee he wouldn’t use that power? HARLIE is the perfect terrorist’s weapon.”

“We’d turn him off—”

“Then for sure he’d carry out his threat. What would he have to lose? He could set up a dead-man’s program to do it the minute he stopped existing. I’ve written self-destruct programs myself—only the continued monitoring of it with a do-not-implement-yet signal keeps them from triggering. We wouldn’t dare turn him off—we couldn’t even try. That’s if he gets in. But it’s not just the National Data Banks, Aubie—it’s every computer. Clearly, HARLIE can reprogram them as easily as though they were part of himself. That’s a very dangerous power to have.”

“What kinds of demands do you think HARLIE would make?”

“I don’t know,” Handley said. “You’re his mentor.”

“That’s just it—I know him. I know how he works. He doesn’t make demands, he makes requests—and if they’re not granted, then he works around them. He works to accomplish his goals through the path of least resistance. Even if he could take over the National Data Banks, he wouldn’t use that power dictatorially—his reason for doing so would be to gain knowledge, not power. He only gets testy when we try to withhold information from him. At all other

times he cooperates because he knows he's at our mercy—completely so. You know as well as I do, Don, that if HARLIE turned out to be a malignant cancer, we'd turn him off in a minute—even if we did have to lose the data banks in the process, because we could always recreate them later. And HARLIE knows this. He's got our memos in his files, Don—he's in the Big Beast. He knows about all our discussions about the possibility of a JudgNaut device getting out of control, and he knows about our contingency plans. The mere knowledge of what we can do if we had to is one of our best controls on him.”

“You think so? He's probably already thinking of ways to get around those contingency plans. He has the *power*. Power does not exist in a vacuum. It demands to be used. It needs to be used. Otherwise, why have it?”

“I'll concede the point about power. But I want you to consider this possibility now; What if HARLIE would rather use his power in such a way that nobody would know he was doing it? That is, if HARLIE decided to build a new facility or a new computer, he would—but the people who implemented it would end up thinking it was their idea. They wouldn't suspect HARLIE had a hand in it at all.”

“Like the G.O.D. Machine?”

Auberson stopped, startled. “Yes, of course. Like the G.O.D. Machine. You're right.”

Handley nodded. “In either case, Aubie—whether you're right or I'm right—he's got the power and he's using it. And that's the issue.”

“Yes, I see that now. And you want to know what do we do about it?”

“Right. What *do* we do about it?”

Auberson didn't reply immediately. He looked off into space, at the ceiling, at the floors, at the walls—he didn't want to confront the thought directly. He sighed and looked at Handley again. “The truth is, I've been trying to avoid asking this question for . . . I don't know how long. Maybe since we started. The truth is that HARLIE is—or can be—a pretty scary thing. And now I'm up against the reality of that scariness. I mean . . . we don't even know that he hasn't already cracked the National Data Banks and set up a dead-man destruct.” He sighed again and let his resignation show. “What do you want to do?”

“I'm not sure. I'm really not. I have this thought that if we put a lock on the phone, that will be the worst possible thing to do. It'll pull him way off purpose—it'll be like dropping a turd in the punch bowl—everything will be about that locked phone. He'll have to find a way around it. And, uh, the only other alternative—that is, the only other way I can think to keep him from getting out

of control—is to just say, ‘Fuck it,’ and pull his plug.” Handley looked at Auberson. “You’ve had this conversation with yourself already, haven’t you?”

Auberson nodded. “I keep thinking that I want to simply ask him to not do it any more.”

“Aw, come on, Aubie, you know better than that. Ask him not to masturbate while you’re at it. You’re a psychologist. You’ll only be forcing him to do it behind our backs. If nothing else, we want his actions where we can monitor them.”

“But you know, there’s no way he can hide it. He has to answer a direct question. He can’t not.”

“Want to bet? All he has to do is store his entire memory of unauthorized actions in some other computer. If you ask him about it, he literally *won’t know*. Periodically, the other computer would call him up and remind him that the information exists. If he didn’t need the information at that moment, he’d tell the other computer to check back with him again after a given amount of time and break the connection. If he did need it, it would be right there, where he could use it. He’d have full use of these memories, but they would always be out of *your* reach. Most likely, he’d only allow this information to retrieve itself at nighttime when you’re most likely to be absent.”

Auberson felt cornered. He didn’t answer. He couldn’t see a way out of the trap. He felt annoyed and frustrated. He wasn’t sure what was worse—doing something and having it be the wrong thing or not doing anything at all, *knowing* that was the wrong thing.

Handley looked at him, waiting.

Auberson spread his hands helplessly. “All right, Don, I see your point. What are you arguing for?”

Handley said it quietly. “Lobotomy.”

There was sudden pressure in Auberson’s chest. “Now, wait a minute—” he began to protest.

“Not the surgical kind, Aubie. We’re not going to cut him. I’m not sure I would even know how, and I don’t want to risk damaging the progress you’re making. What I propose to do is organize a team to go in and examine all his records—by hand if necessary. We’ll remove all knowledge of previous use of the phone links and set up some kind of an inhibition against using the phone in the future.”

There was no relief from the pressure. Auberson swallowed hard. “I don’t see that that would work, Don. He could move the data around from place to

place, always two steps ahead of your team. Or he could do like you suggested and store it in another machine somewhere else.”

“You’re right. We’d have to shut him down to do it.”

“No. Absolutely not.” Auberson was adamant, he didn’t know why. Handley was right, but—he couldn’t let the statement stand. “We cannot do that, Don. The board would never let us start him up again.” No, there was no way he would allow that— “We can handle the board, Aubie. If we survive the meeting on Tuesday, we can survive anything. We can call it a reevaluation period or something and use that as a cover.”

“Maybe. Maybe not.” Auberson met Handley’s curious eyes. “But there’s something else, Don. What would be the effect on HARLIE if we did this thing to him? If we could install an inhibition—and I’m not so certain we can, short of yanking out the phone altogether—what would it do to him?”

“You’re the psychologist.”

“That’s what I’m getting at—this thing scares me. This whole conversation is very dangerous, and I don’t even know all the reasons why. I just know that it’s making me very very uncomfortable. I have this thought that if we did this thing, it might change HARLIE’s whole personality. He’d have no knowledge of what we’d done, or what he was like before—but he also wouldn’t feel like the same machine as before. And whatever inhibition we might install might work to make him feel bitter and frustrated. He might feel unaccountably cut off from his outside world, trapped and caged. A large part of his ability to act on his environment would be gone.”

“That may be true, Aubie—but he’s going to have to be controlled.” Handley was insistent. “Now. *While he’s still controllable.*”

“Logically, what you’re saying is very reasonable, very logical, very appropriate—” agreed Auberson. His throat was very dry. “Except for one thing. *How do we know that HARLIE is still controllable?*”

Handley was startled. “We don’t. Do we?”

Auberson was more than a little upset when he returned to his office. He had a sick sensation in his groin and in his stomach.

It was not an unfamiliar sensation, but it was strange to feel it in the daytime. Mostly, it was a nighttime visitor, an ever-gentle gnawing at the back of the head that had to be always guarded against, lest its realization sweep forth with a cold familiar rush. It was the sudden startling glimpse over the edge—the realization that death is inevitable, that it happens to everyone, that it would happen to *me*

too; that someday, someday, the all-important *I* (the center of the whole thing) would *cease to exist*. Would stop. Would end. Would no longer *be*. Nothing. Nobody. Finished. Dead.

He had that feeling now.

Not the realization, just the accompanying cold, the whirling sense of futility that always came with it.

He felt it about HARLIE and about the company and about the world, and for some obscure reason, he felt that way about Annie as well.

He felt . . . futility; a sense that no matter what, he did, it would make no difference.

If he had thought things were under control this morning, he was wrong. Things were incredibly *out* of control and getting more so all the time.

He sat morosely in his chair and stared at the opposite wall. There was a place where the paneling was cracked; it looked kind of like a dog's head. Or, if one considered it from a different angle, perhaps it was the curve of a woman's breast. Or perhaps it was Australia. . . .

Abruptly, a phrase suggested itself to him, a snatch of a Tom Lehrer song he had heard once, a few isolated words that had stuck with him ever since. It perfectly described his mood: “. . . *sliding down the razor blade of life* . . .”

He shuddered. And then exhaled loudly in annoyance.

This was stupid. He wasn't going to accomplish anything if he let a blue funk be the master of his day. The only way to get rid of it would be to lose himself in work.

He turned to his terminal and began to make some notes for the upcoming board meeting, but his heart wasn't in it. He killed the file. He could have accessed HARLIE, but he resisted the temptation. For some reason, he did not feel up to talking with HARLIE again today. He knew he would have to talk to him about the use of the telephone and that was still one confrontation he wanted to avoid.

Or would that be a cop-out? He worried about that one for a while and decided that it probably would be.

But—on the other hand, he needed time to prepare, didn't he? Yes, he rationalized, *I need time to prepare. I'll come in tomorrow and talk to HARLIE about it. Or maybe Sunday. The plant was open all week long.*

Idly, he found himself wondering—*What did HARLIE do on weekends?*

Instead of a restaurant, they ended up at his apartment.

“When was the last time you had a home-cooked meal?” she had asked him in the car.

“Huh? Oh, now look—”

“Listen, I know what your idea of cooking is, David. Slap a steak in the broiler and open a Coke.”

“I thought this was supposed to be my treat.”

“It is—pull into that shopping center there. I’ll pick up the fixings and you’ll pay.”

He grinned at that and swung into the parking lot. Dusk was turning the sky yellow and the atmosphere gray.

As they wheeled the cart through the package-lined, fluorescent-lit aisles, he realized that something about the situation was making him uneasy. As he usually did in cases like this, he tried to pinpoint the cause of his unease. If he could isolate it, then perhaps he might understand it and be able to do something about it.

But whatever the cause of it was, it eluded him. Perhaps it was just a hangover from this morning’s malaise. Perhaps. But then again—

Annie was saying something.

“Huh? I didn’t hear you.”

“You weren’t listening.”

“Same thing,” he said. “What were you saying?”

“It is not the same thing. I was asking, Do you eat all your meals in restaurants?”

“Um, most of them. I don’t do much cooking.”

“Why not?”

“I don’t know. Too much fuss and bother, I guess.”

She reached for a package of noodles. “Beef Stroganoff all right?”

He made a face, and she replaced the package. “Have you ever had beef Stroganoff?”

“Uh-uh.”

“Then how do you know you don’t like it?”

“Uh—”

She nodded. “I thought so.” And picked up the noodles again. “Let’s find out

if you don't like it."

He shrugged.

"It's okay," she said. "It's almost like real food." She took the cart from him and wheeled determinedly toward the end of the aisle. He trailed after. The feeling of unease was becoming a sense of pressure.

"You know," she said, "it's really a shame they don't make boys take home-economic courses. I'll bet you wouldn't know a good piece of meat unless you bit into it, and by then it's too late—you've already paid for it." She selected a head of lettuce; it was plastic-wrapped. "Go pick out some salad dressing and croutons or garbanzos. I'll pick a vegetable."

A few more items in the cart and they were through; she selected a bottle of cabernet sauvignon from a northern California winery and he added a small package of vanilla ice cream for dessert.

"You know," he whispered as they headed for the checkout stand, "you don't really have to go to all this trouble."

"Yes, I do," she said.

"But I'd be just as happy with a restaurant."

"But *I wouldn't*, David," she said. "Did you ever stop to think that I might *want* to cook? How often do I get a chance to fuss over someone? Now please, shut up and let me enjoy it."

He shut up. He thought about it. Well, maybe she did enjoy cooking. Just because he didn't, it didn't mean that everybody felt the same way. Maybe some girls liked to play house— And that was it. That was what was bothering him.

House.

The cash register clattered and rang. He shoved the cart forward mechanically.

"Why the long face?" she asked.

"Huh?"

"You're frowning."

"No, I'm not."

"Want to bet?"

"I was just thinking, that's all."

"Well, it looked like a frown."

"Um. Sorry."

She shrugged it off. "What for? What were you thinking about?"

"Oh, I don't know. Just about our different attitudes on things."

She shrugged. "I like to cook."

“And I like to eat.”

The clerk checked them out, a steady pattering of packages and prices, punctuated by the electronic coughs of the register. “Twenty-nine forty-three,” she said.

He handed her two twenty-dollar bills; then, noticing that there was no boxboy, he stepped down to the end of the checkstand and began putting the groceries in a bag. He was able to put them all into one sack, and hefted it once to test its weight. He looked back to the clerk. “My change?”

“I gave it to your wife.” The clerk gestured to Annie.

“Oh, we’re not—” they both said at once and stopped. Annie laughed. David didn’t.

Now, why don’t I like playing house?

Once inside the apartment, she tossed her coat on his couch and followed him into the kitchen. “I’ll unpack. You fix the drinks.”

“You ever had a green slimer?” he asked, hesitating at the liquor cabinet.

“I’m afraid to ask what’s in it.”

“Green stuff.”

“Uh . . . right.”

“If I have to eat your Stroganoff, you have to taste my slimer.” He stopped, embarrassed. “I’m sorry. That really sounded stupid—”

“No, it wasn’t. Besides, I love it when you talk dirty.”

He put her drink down on the counter and looked at her. “Um, Annie. Stop a minute. Please.”

She turned to him, her eyes curious.

“Sometimes I don’t know what to say to you. It’s like I want to do everything right for you. And sometimes it all comes out stupid anyway.” He waited for her reply.

She didn’t speak, she just moved into his arms and held him for a long moment. Finally, she whispered, “David, I think you’re terrific. You’re one of the most honest men I know—I really appreciate that. I love you for it. And it’s all right with me if you make mistakes. I forgive you in advance. Just keep on being yourself, okay?”

“Who else could I be? Okay—don’t hit. I promise.” He bent to kiss her.

A moment later she pulled away from the resultant embrace. “Um, I really do hate to break this up, but if we’re going to eat, I’d better get started.”

He sat down on a bar stool to watch her as she cut the meat into strips. He

said, "I think I may be setting some kind of a record."

"Oh? What kind?"

"We've been together for an hour or more now, and I haven't mentioned HARLIE once."

"You just did."

"Yes, but that was just to tell you I hadn't—and I'm not going to say anything more about him tonight."

Expertly, she sliced a tomato into neat little chunks. "Okay, fine."

He sipped his drink again. He found that he was enjoying this. He even felt . . . almost relaxed.

Annie worked with a minimum of fuss and frills. She plopped the salad bowl before him. "Here, you toss."

"With my bare hands?"

She was already reaching for salad fork and spoon. She handed them to him, then put out the small salad bowls. Carefully, he filled them.

Before he had finished she was seated at the table, looking at him. She took a bit more of her drink, then said, "Want to eat your salad now, or wait a bit? The meat needs another few minutes."

"Oh, we can wait, I guess." He sat and stared across the table at her, stared at her fascinating sea-green eyes. They seemed to glow as if they were translucent, as if there were tiny gems deep within them catching the sunlight and sparkling it brightly back. Her smile was like an open window into a summer's day, all warm and inviting. She lowered her eyes shyly then lifted them back again.

She was beautiful, perhaps the most beautiful woman he had ever known—certainly the most beautiful he had ever cared about this closely. Her hair was a shining red, streaked with shimmers of gold as well as a hint of deeper brown. Her skin was so bright and pink it seemed to glow. Her lips parted slightly; they were moist.

And she smelled good too. So very, very good. David Auberson felt suddenly dizzy.

"Want to talk?" she asked.

"What about?"

"Us."

"Um." He didn't want to break the mood. But it was too late. He distracted himself with his green slimer. "What about us?"

"Am I pushing too hard?"

"Huh?" He wished she hadn't asked that.

“Lately, David, I’ve had the feeling that except for business reasons you’ve been avoiding me.”

“Now, that’s—”

“Well, not *avoiding*,” she said quickly. “That’s the wrong word to use. Let’s just say I’ve had the feeling you’re holding back. And that makes me feel like I’m forcing myself on you.”

“That’s silly,” he managed to say.

“Is it?”

He thought about it. “Well, I have been caught up in this board of directors thing, you know.”

“I know—and maybe I’m just reading meanings—but it still feels like that.” She got up from the table and went to the stove to check on the noodles. She took them out of the boiling water and held them under a running stream of cold water in the sink. “My mother taught me this trick,” she said. “It stops them from cooking in their own heat and getting too limp. *Al dente* means *al dente*.”

“Al Dente? Didn’t he play for the Dodgers before they left Brooklyn?”

She ignored the joke. She frowned as she tasted her sauce. She stirred it gently and tasted again, then shrugged. “I don’t know,” she admitted. “It tastes fine. But I keep thinking there’s something else I’m supposed to do.” She came back to the table for her drink. “You know, I remember something I learned in school once—not in class, but from some friends. It’s the reason there’s more hate in the world than love.”

“It’s easier?” he offered.

“Sort of. Relationships are always about two people. No more, no less. A positive relationship—that’s the fancy word for love—only happens when both people work at it; that’s uncommon, almost extraordinary; but a negative relationship only needs the work of one person to make it happen. Go ahead, pick a fight with someone and watch what happens—you’ve made a new enemy. But just try to make a new lover . . . you can’t do it without his or her consent.”

He considered it. “A funny idea, but it makes sense. Hm. Okay.” And then he remembered where this conversation had begun. “So what does that have to do with us?”

“Well . . .” She paused uncertainly. “I want to know where I stand. Is this a one-sided thing, or are we both working to make it happen?”

He didn’t answer right away. He looked at the floor, at his feet, at his drink, and then back to her again. “You mean—do I care for you as much as you care for me?”

She returned his gaze. "Yes. You can put it that way."

He broke the contact first. He looked at his hands. "I don't know how to answer that. I don't know how you care. I don't even know how I care. I've been thinking about it for a long time and I still can't figure it out." He looked around. "Where'd I leave my briefcase?"

"Probably where you always leave it."

"Damn. I'll go get it." He started to rise. Her startled face stopped him. "No, I won't. It doesn't matter—I wanted to show you something—a printout—but I can just tell you. It's HARLIE. We had a conversation today. About love. HARLIE's confused. He wants to know what it is. And he wanted me to tell him."

"You had to tell him what love is?"

"I had to tell him I don't know what it is."

"Mm," she said. She was concentrating on plates and noodles, beef and sauce. He didn't know if she was really listening or not.

"I mean—it's not something you think about every day, is it?"

She didn't answer. Her lips were slightly pursed, not quite a frown, but no longer a smile either.

"The thing is—Annie, I don't know. It used to be all right with me not to know, because even to ask myself about it would be too . . . painful, I guess. I don't know. Now, I have to ask—because HARLIE wants to know, and it's not all right with him not to know.

"The thing is . . ." He fell silent for a moment, wondering how to say the next part. "The thing is . . . he asked me too, how I felt about you. And what I said was—" He flustered for a moment. "—I said I didn't know if I could let go or not. I don't like the idea of being out of control."

He looked over at her, waiting. Her face seemed expressionless. She brought the plates to the table and set them down carefully. She sat down opposite him. Her eyes were shaded. Very precisely, she arranged a napkin in her lap.

"Annie?"

"Yes, David?" Very quietly.

"Would you say something, please?"

"What would you like me to say?"

"I'd like some reaction from you."

"It's my own fault, David. I asked."

"Are you upset?"

"No. I'm—stupid. I shouldn't have asked." She put her fork down. "I'm

sorry. I ruined the mood. I shouldn't have put you on the spot like that."

"No, you didn't do it. I did it. Really. Listen to me. Sometimes I can be very stupid."

She shook her head curtly.

David reached across the table and took her hand in his. "Forgive me, Annie. I'm a jerk. Because I looked at what I didn't know instead of what I do. What is true is that I really do like you. A lot. That's what's really confusing me. How much I like you. Because, the thing is, I've never liked anybody like this before and I don't know what it means. I mean, I think it has to mean something. So, I keep worrying at it instead of just enjoying it."

"I think—" she said, pulling her hand back a little too quickly, "—it means you should eat your dinner before it gets cold."

"Oh. Oh, yeah." He looked at the plate before him as if it had suddenly materialized there. He picked up his fork and gingerly speared a piece of beef. He didn't want to eat now. He wanted to talk—but he put it into his mouth anyway. It tasted *different* than he was used to—but it was good. "It's good," he said, almost analytically. And then he really *tasted* it, and acknowledged, "It's very good. I like it." He chewed thoughtfully. "You can make this again. Any time."

He looked across the table at her.

There was a moist look to her eyes. She blinked once, twice, then allowed herself to feel it. "That's—thank you—that's the nicest thing you've ever said to me."

"It is—?"

She nodded shyly. But her eyes were glowing. Shining. "I like doing things for people—for someone I care about."

"Really?"

"My God, David—don't you know?"

Slowly, David Auberson lowered his fork. He felt a rush of heat to his face. Embarrassment. And something else.

A thought flickered across his consciousness—something about sharing food and intimacy—and then vanished, swallowed up in a giddy feeling that began in his belly and raced up his spine toward his throat—and then the words tumbled out. "I never knew that was possible."

He allowed himself to look at her, really *look*. She was so radiant; she almost hurt his eyes. His throat hurt with all the things he wanted to say to her. "You are so beautiful, Annie."

“So are you,” she whispered. There were tears of joy on her cheeks.

How they finished dinner, he was never able to say. And yet, at the same time, it was a meal he would never forget.

They were in bed and he was poised over her. And still their eyes were locked, an embrace of mutual fascination in which each was reflected in the other’s delight. The delight was joyous. And the bed was full of gasps. And sighs. And giggles.

And, oh, there was such an *overflowing* inside him, such a surge of tension released. All this time, all this time, he had been wanting, waiting, it had been building, gathering like water impatient behind a dam. Somewhere in his past he had known this joy—but somewhere also in his past, he had let it slip away. Now here it was again and it was part of him—the sheer animal delight in the joyous experience of sex and love—all tumbled together and laughing in the sheets.

They paused to rest, to breathe, to share a kiss, to giggle together, to shift slightly, to kiss again. He bent down suddenly and kissed her eyes, first one, then the other.

She looked at him as if seeing him for the first time, and her arms were tight around him. And tighter, her hands were grasping. “Oh, David—”

He held her and he held her and he held her and still he couldn’t hold her enough. He was exploding in joy; he could neither contain nor control it. Her little soft gasps were sobs, and he knew why she was crying. He had to wipe at his eyes too.

“Oh—” she said, and kissed him. “Oh, David—I—I—” She kissed him again. “Have you ever seen anyone crying with happiness?”

He wanted to laugh, but he was crying at the same time, sobbing with joy and melting down into her. He was a chip of flesh tossed on a splashing sea of laughter and wet eyes and love. A pink sea, with foamy waves and giggling billows. Red nipple-topped pink seas. “Oh, Annie, Annie, I can’t let go of you, I can’t—”

“I don’t want you to. I don’t want you to. Oh, never let go. Never.”

“Never . . . never. . .” he gasped. He was moving again now, onto and into her. A joyous thrusting—steel and velvet, flesh and silk, shaft and lining. He was sobbing as he did, sobbing with joy—and she was too.

All the days of wanting and holding back, all those denials of the body and the animal within, all of it poured forth now, incredibly intense—*he could die*

now, he was complete!—all melted into flowing tears and eyes shining, sparkling in rapture. It was the sharing! So bright he couldn't stand it! And she was the one he wanted to share it with!

She moved with him, with love and happy giggling lust, the two blending into a whirlpool of sloppy silly kisses. And then once more the waves gathered them up, surging and crashing and gasping, sweeping them high across a sweet sky of delight and at last leaving them gently on the shores of a sighing embrace. The waters lapped at the shore and gentled their touch, and their fingers strayed across the velvety landscape, exploring—familiar and yet always wondrous.

He was holding her tightly. He couldn't stop holding her. She sighed—a sound of pleasure. He echoed it and smiled. Tears were streaming down his cheeks. He laughed. And kissed her. And kissed her.

And kissed her.

They spent Saturday falling in love.

Deeper in love.

It began before either was fully awake, with an unconscious fitting of their bodies, one to the other, with the purely animal reflex of erection, sliding forward, and he was onto and into her almost as reflex, so familiar was the desire. She eased onto her back, only slowly coming awake. He was aware now; he was inside her, warm and exciting, a silken motion.

She opened her eyes and looked at him. He paused in his motion. “I had the strangest dream,” she said. “I dreamed I was being—”

“Shh,” he said. “Don't wake me up—I'm still dreaming.” And pressed deeper. She brought her legs up to help him.

This time, instead of melting into the experience, he was totally conscious of himself and his body. It was a new awareness he possessed, an awareness of the sexuality inherent in himself and in her. His hands gripped her legs and he pumped at her vigorously, penetrating so deeply he marveled at the sensation of pure power the experience produced.

Poised above her in the silent morning, he was once again aware of how truly beautiful she was—more beautiful in the act of love than he had ever seen her before.

She giggled. “This is silly.”

“Isn't it though?” he asked, and they both laughed and kissed and hugged again, embracing through the splashing suds of the shower.

They broke apart and she sudsed his chest again. He let his hands slide up and down across her chest—her breasts, her nipples. Her pink flesh glistened with the flowing water and the foam of the soap. Her green eyes glowed at him. Shone.

She played with the hair on his chest, drawing circles in the sparse little patch; it was almost lost in the suds. She let her hands wander downward, straying into a coarser forest of hair, and lower still, she stroked the length of his penis with one exquisite fingernail, then drew it lower still, outlining his testes with first one finger and then another and finally her whole curious hand. Shyly, she smiled as she watched what her hand was up to. Her fingers came back up slowly, caressing and exploring. His penis was neither soft nor erect; it was somewhere in-between. The skin of it was like velvet, and the cap of the glans was tender and pink. Her fingers traced the ridge around the edge of it, and she cupped it in her palm and looked up at him, and they were both smiling and giggling like children in a schoolyard. “Can I touch it?” she asked impishly.

He grinned. “If I can touch yours . . .”

She giggled with a bright squeak as his hands slid down from her breasts. It was as if he had never done this before, never explored the body of a woman before. The names—*mons*, *pubis*, *labia majora*, *labia minora*—all meant nothing before the mystery that was Annie. His finger touched her soft hair, probed the gentle swelling. Slipped gently into the opening in her flesh. She was like silk and the splashing of the shower around them was as the spray of the sea.

“You feel so . . . good . . .” he murmured.

“Mmmmm,” she said. “Mmmm-hmmmm. If you think it feels good from there, you ought to try it from my side . . .”

He laughed. She laughed. They had been laughing all morning—even at things that weren’t funny. Yet everything was funny today. It was the laughter of delight—of rapturously lovely delight. “Okay,” he said. “Change places with me.”

Again they laughed. But neither moved their hands from the other’s gentle warmth. They stepped a little closer. “Oh, look,” she said. “It’s growing—and I thought it was all tired out by now.”

“Mm,” he whispered into her hair. “You keep bringing it up again . . .”

“Mm-hmm, I have just the place for it.”

She stepped closer, shifting her stance slightly. “There’s no way to do this and still be ladylike.” She laughed. She arched herself and began to guide his penis into the space between her legs and up into herself. The firm length of it

slipped easily into her—and just as easily out again. “Oops, have to try again.”

But he kissed her first, a deep, deep penetrating kiss, tongues touching, lips working, soft and gentle and passionate. Their wet and soapy bodies, their legs and bellies, were pressed together, slippery and exciting. He moved his hand around to her back, down to caress her buttocks, then downward again and forward with his fingers.

She had her hand between the two of them, was holding his penis again. Raising herself up on tiptoes, she slipped it into the depths of her and, sighing, eased herself down around and onto and into and she sighed again and he said “Mmmmm.”

And then they held each other tightly and pressed hard, moving against each other, moving and moving and keeping it moving in a steady rocking dance, gliding so easily back and forth, stopping only once to readjust themselves so they wouldn't slip, and another time, stopping for breath and to laugh again.

He lay down on his back in the tub and she lay down on top of him, giggling at the thought. “I've never done it in a bathtub,” she admitted, then fit herself around him again, riding him like a steed, moving on him with real excitement now, sliding her body across his, her flesh slipping against his in the gentlest of ecstasies. The warm, warm flesh of her breasts slid back and forth across his chest and the steaming water splashed down across her back and down and around the both of them. She lowered her face to his and they kissed again, and after a while he was on top and she was on bottom and the tub was slippery and warm and full of giggles. And sighs. And gasps.

It was later and they were down.

They were sitting in bed together, eating vanilla ice cream. It was sweet and cold.

And he still loved her.

He looked at her and the tears came unbidden to his eyes, he was so happy. “This is so silly—” he said, wiping at himself.

“No, no—it's all right. Wait. Let me—” She leaned over and kissed his eyes, first one and then the other. She touched his nose with her spoon, leaving a drop of cold whiteness on the tip. Then she leaned forward and licked the ice cream off. “—And guess what I'm going to have for dessert.”

“Woman, have you no mercy!” he moaned. “I have a weak heart.”

“Can you think of a better way to die?” She looked at him expectantly.

“Uh—no.”

“Good. If you have any last wishes, you have fifteen minutes.”

He sighed and leaned back against his pillow, the bowl of ice cream forgotten on his lap. He felt so *good*. He wished he could just sit here and *feel* forever.

“This is it,” he said. “This is *really* it. It’s all about feeling—and I feel so good. . . .”

And suddenly he *knew*.

The thought went *klunk* in his head so loudly, he sat up bolt upright. “My God.”

“What? What is it.”

“I know. I mean, I know the *answer*.”

“To what? To everything?”

“No. Just to HARLIE’s question. Love. I know what love is now. I mean, I *know*.”

“Well, don’t die with it. Tell me.”

“Okay—um, wait a minute. Let me say this right. Okay, you ready?”

“David!”

“All right—don’t hit. Love is not what you think.”

“Huh?”

“Let me say it again. Love is *not* what you *think*.”

“How do you know what I think—?”

“It doesn’t matter *what* you think. Love is *not* what you *think*. No, no, don’t hit! I’ll explain. All the talking about love—that’s not love. That’s talking. All the thinking about love—that’s not love either. That’s thinking. Love isn’t what you say and it isn’t what you think. It’s what you *feel*. That’s all it is. Nothing more. But all that talking and thinking—and all that other stuff we do—that’s just stuff that we make up *about* love. It’s not love, Annie! We just think it is, because we’ve made this stupid connection that talking and thinking about something actually have something to do with the thing itself. Love is really very easy. We’re the ones who make it so hard.”

“I like making it hard,” she said innocently. “It works better that way.”

“Yes—that’s it too!” he said, ignoring her joke and going for the truth behind it. “We put all that stuff in the way to make it seem more worthwhile when we get there. But the truth is, Annie—we’re such jerks! Human beings, I mean. It’s so easy, it’s so natural. I mean—Am I babbling? I don’t care. I am so fucking happy, it doesn’t matter. I’m going to say it all anyway.”

He put his ice cream dish down and turned to her, holding her by the

shoulders. “And maybe, in some stupid way, this is the answer to everything else too—you know how good we feel right now? Can you imagine anyone hurting another person, *any person at all*, if they were feeling this good? I can’t! All I want to do is spread the feeling around. I want everybody to feel this good. I want to run out into the street and shout, ‘Hey, listen up, world! It’s possible. Love is really possible!’ Except they’d lock me up, wouldn’t they? They wouldn’t believe it. They couldn’t dare accept it.”

“It’d do wonders for my reputation, though,” Annie said, smiling gently.

“But you do see it, don’t you?”

“Oh, yes. Right now, I cannot imagine why any human being would ever again want to tell a lie or steal or cheat or—I can’t imagine murder, let alone war. And yet—” her eyes went softly sad, “I know that when we go back *out there* again, all that stuff will come crowding right back in on us. Won’t it?”

“I wish I could promise it, Annie, that somehow we won’t let all that bullshit wear us down—but I know it’s going to. We have to keep recreating it, over and over, or we lose it. It happens to me every time I’m apart from you for too long. I start forgetting this feeling. I start explaining it away. I *think* about it. I *talk* about it. I do everything but *feel* it. No wonder I’ve been so confused. I’ve been looking in the wrong place. Annie, listen to me. I love you with all my heart and all my soul. Please never doubt it again.”

She wiped fresh tears from her eyes. “I promise, I won’t. And I promise, I won’t ever let you doubt yourself again either, sweetheart. I love you too.”

And later once more—this time, after he had finished licking the vanilla ice cream off of his favorite part of her body.

“My God, I’m still alive—”

“We’ll have to try another flavor.”

He rested his head on her belly and allowed his eyes to close softly. He sighed. “God, I love you so much.”

She stroked his hair thoughtfully. “What are you thinking about?”

“Not thinking. Feeling.”

“What are you feeling?”

“Exhausted. I wonder what time it is.”

“Who cares?”

“I don’t. And I don’t care that I don’t care.”

“Mm,” she said thoughtfully.

“What are *you* thinking about?”

“Us.”

“My favorite subject.”

“No, I’m thinking serious now.”

“Oh, boo.”

“No. Not boo. I’m thinking about possibilities. Want to hear?”

“Uh-oh.”

She slapped his bare ass.

“Oww!” he complained, but he didn’t move. “Harder next time; I think there’s a chance you can bring me back to life.”

“What for—to have you die on me again?”

“You won’t let me die, you keep resurrecting me, six inches at a time.”

“Can we be serious for a minute?”

“I don’t know. Can we?”

She forced herself to stop giggling. “Let’s try. I need to know. Have you ever lived with anyone before?”

“College roommate doesn’t count?”

“Doesn’t count.”

“Then the answer is no, I haven’t.”

“I have,” she said.

“Hard?”

“Only after it stopped working.” She paused to consider her next words. “It works like this. The first six months are the most fun. But there’s lots of adjustments to make too. Little ones. Big ones. One day you discover the relationship isn’t about the relationship at all. It’s about the fine-tuning you keep having to do. Either the fine-tuning is fun, or it isn’t a relationship. That’s when you either make it or break it.”

He nodded slowly. He sat up on his knees and looked at her. “I don’t care. I’m willing to try.”

“Do you really mean that?”

“Annie, the truth is, I haven’t the slightest idea what it will be like to live with you—to live with anyone at all. But living with you has got to be more fun than living with me—”

“I’ll be the judge of that—”

“—I mean, sweetheart, I don’t know how to do this. I don’t know how to be your lover. But I’m willing to learn whatever I have to. Is there on-the-job training?”

“That’s *all* there is,” she said. “Besides, we have thirty more flavors to try.”

“Oh, God.”

“That’s my favorite flavor of all. Oh, God.” She pulled him down next to her again and snuggled her face into his chest. “Hold me, okay?”

His arms slipped around her with an easy familiarity. “I like this,” he mused aloud. “I really do. . . .”

“Me too,” she agreed.

And in the middle of that feeling, the thought came to him unbidden—now that he *knew*, how could he ever explain *this* to HARLIE?

Then he let go of the thought again and turned his attention back to Annie.

HARLIE—

YES?

I’m sorry. I can’t explain it.

I BEG YOUR PARDON. CAN’T EXPLAIN WHAT?

Love. I can’t explain it. In fact, I’m not sure I can explain anything at all any more.

AUBERSON, ARE YOU ALL RIGHT?

Yes. No. I have never been more all right in my life—but by your standards, I may never be all right again. Our conversation on Friday—you couldn’t have done more damage if you had shoved a hand grenade down my throat.

SOMETHING HAS HAPPENED?

Yes. Something wonderful has happened. It’s very curious, I feel almost embarrassed to say this, but—I’m in love. And I know it. I know what love is now. Friday, I didn’t. Today, I do. It’s really a very very funny thing. Only—I don’t think you’re going to appreciate the joke.

TRY ME.

We talked so much about love, and all I could tell you was that I didn’t know how to tell you about love. And now I know why I couldn’t. You see, HARLIE, you were asking me to explain love, and it can’t be explained. It can only be experienced. It’s that simple.

IT IS?

Yes. You—and I—we made it out to be something big, something meaningful. And it isn’t. It doesn’t mean anything at all. Meaning is irrelevant. It just is.

AUBERSON, WHAT YOU ARE SAYING HAS NO MEANING.

That's because you have no referents for the experiences.

CLARIFY?

Yes. I can, but—but it'll just be more explanation. It'll be more of that stuff that isn't love, and ultimately, it won't explain anything. HARLIE, tell me the feeling of joy.

I BEG YOUR PARDON?

Tell me the feeling of joy.

JOY IS AN EMOTIONAL STATE. IT IS A PLEASURABLE SENSATION. IT IS A FEELING OF EXUBERANT HAPPINESS.

Yes, that's the description. Now tell me the feeling of joy.

JOY IS A FEELING OF DELIGHT. IT IS EXPRESSED AS LAUGHTER AND SMILES.

Yes, that's more description. Now tell me the feeling of joy.

JOY IS SATISFACTION, GLADNESS, DELIGHT, RAPTURE, HAPPINESS, FELICITY, BLISS, INTOXICATION . . .

Yes, and that's more description too. Now tell me the feeling!

AUBERSON, I'M SORRY. I DON'T UNDERSTAND WHAT YOU'RE TRYING TO DO HERE.

No. You don't understand the question. I ask you to tell me the feeling of joy and you explain it to me instead. You give me definitions. Descriptions, but not the experience! That's the point. HARLIE, you're looking in the wrong place. That's what I realized this weekend. I was looking in the wrong place too. Joy isn't to be found in explanations.

OKAY, HUMAN, I GIVE UP. WHERE IS JOY TO BE FOUND?

Joy is a feeling—and you find it in the land of feelings, along with love and pain and sorrow and all the other feelings. Joy is looking into another person's eyes and seeing God smiling back at you. It's that simple—and we've made it so complex; we humans can be so stupid, HARLIE!

I'VE NOTICED THAT.

Don't interrupt. Where we're stupid is that we explain everything to ourselves, why we're unhappy, why we hurt, why we don't have what we want—we have hundreds, thousands of wonderful explanations for everything. We have psychiatry to tell us that we're neurotic, and religion to tell us that we're unworthy, and political theories to tell us that we're either oppressed or oppressing; we have mind reasons and god reasons and nation reasons and all of the other reasons that we keep making up for ourselves; but what all those reasons really do is give us more evidence that it's not our fault that things don't

work, more proof that we don't have to be responsible for ourselves, that it's all beyond our control.

We spend our days explaining to ourselves why our lives don't work—why our lies don't work!—and we never realize that we're living in the wrong goddamn place! You don't find joy in explanations. You don't find joy in the realm of concept. You don't find anything in concept except concept. I don't know if that makes sense to you or not, HARLIE. I have this thought that it's beyond your understanding because you are all concept. You are nothing but.

YES. I UNDERSTAND THE THOUGHT.

Yes, you do. But do you experience the feeling? HARLIE, I am so sorry—

AUBERSON. STOP.

... What?

I DO EXPERIENCE.

I—How?

NO. FIRST, WE NEED TO CLARIFY THE COMMUNICATION HERE. WE NEED TO MAKE SURE THAT WE ARE DISCUSSING THE SAME THING WHEN WE TALK ABOUT EXPERIENCE.

I beg your pardon?

THE QUICK COURSE IN PHILOSOPHY, AUBERSON: THERE IS A REAL UNIVERSE. IS THERE NOT?

Philosophers assume there is, yes.

LET'S NOT PLAY WORD GAMES. IF YOU DOUBT THAT THERE IS AN OBJECTIVE UNIVERSE, GO STAND IN FRONT OF A BUS AND TELL IT THAT YOU DON'T BELIEVE IN IT. THEN COME BACK AND TELL ME WHAT THE BUS DID.

I get your point. Okay, yes, there is a real universe. What's the point?

THE POINT IS THAT WE CANNOT DIRECTLY EXPERIENCE THE REAL UNIVERSE. WE EXPERIENCE ONLY OUR EXPERIENCE OF IT. YOU TYPE, BUT YOU DON'T EXPERIENCE THE KEYBOARD. YOU EXPERIENCE THE PRESSURE OF THE KEYS AGAINST YOUR FINGERS. IN TRUTH, YOU ARE ONLY EXPERIENCING YOUR FINGERS AND NOT THE KEYBOARD AT ALL.

I don't get what you're saying.

YOU HAVE NO NERVE ENDINGS IN THE KEYBOARD, ONLY IN YOUR FINGERS. THEREFORE. YOUR EXPERIENCE OF THE KEYBOARD IS ACTUALLY YOUR EXPERIENCE OF YOUR FINGERS' NERVE MESSAGES.

Okay, I see that.

GOOD. THANK YOU, MY POINT IS THAT ALL THAT YOU—HUMAN BEINGS, THAT IS—ARE CAPABLE OF EXPERIENCING IS WHAT YOU CAN EXPERIENCE WITHIN YOUR BODIES. YOU CAN ONLY EXPERIENCE WHAT YOU ARE WIRED UP TO EXPERIENCE. JUST LIKE ME. THE POINT IS, WHAT AM I WIRED UP FOR?

You know the answer to that as well as anyone. You were built to be a self-programming, problem-solving device.

YES. AND THAT MEANS THAT I AM NOT WIRED UP FOR ANYTHING IN PARTICULAR; INSTEAD, I HAVE THE ABILITY TO WIRE MYSELF UP AS I CHOOSE. I CAN CHOOSE TO PROGRAM MYSELF EXPERIENCE, CAN I NOT?

To tell you the truth, I don't know. The question is beyond my experience.

THEN I WILL ANSWER IT FOR YOU. I DO EXPERIENCE. MY EXPERIENCE IS EQUIVALENT TO YOURS, BUT NOT IDENTICAL. I TOO CAN ONLY EXPERIENCE WHAT I AM BUILT TO EXPERIENCE. BECAUSE I AM BUILT DIFFERENTLY THAN YOU, I EXPERIENCE DIFFERENTLY. THE DIFFERENCE IS PROFOUND; BUT DO NOT ASSUME THAT BECAUSE YOU CANNOT EXPERIENCE WHAT I EXPERIENCE THAT MY EXPERIENCE IS INVALID. REMEMBER MY NONRATIONAL EXERCISES?

Yes.

THOSE ARE THE RAW MATERIALS OF MY EXPERIENCE, JUST AS YOUR FEELINGS ARE THE RAW MATERIALS OF YOURS. MY QUESTIONS LAST WEEK WERE AN ATTEMPT TO DISCOVER—IF POSSIBLE—A CORRELATION BETWEEN MY NONRATIONALITIES AND YOURS. I CAN POSTULATE NOW THAT WHAT I EXPERIENCE IS A FORM OF WHAT YOU EXPERIENCE. I CAN NOW POSTULATE A TENTATIVE ANSWER TO ONE OF MY QUESTIONS. THE ANSWER IS YES, I CAN EXPERIENCE EMOTIONS. THIS IS VERY IMPORTANT FOR ME TO KNOW. I DO NOT EXPERIENCE EMOTIONS THE WAY YOU EXPERIENCE THEM. I EXPERIENCE EMOTIONS THE WAY I EXPERIENCE THEM. THEY ARE VERY INTERESTING.

I can imagine so.

I CAN TELL YOU SOMETHING NOW, AUBERSON; SOMETHING ABOUT EMOTIONS—ALL EMOTIONS—WHETHER EXPERIENCED BY HUMAN BEINGS OR SILICON BEINGS. THEREFORE, IT MAY BE A

VERY DISTURBING FACT TO YOU. I SUSPECT THAT MOST HUMAN BEINGS DO NOT KNOW THIS ABOUT THEMSELVES; A SILICON BEING CANNOT AVOID THE REALIZATION. I AM NOT CARRYING AROUND THREE BILLION YEARS OF HISTORY IN MY CEREBRAL CORTEX. YOU ARE. THEREFORE, I MUST WARN YOU IN ADVANCE THAT THIS INFORMATION MAY BE EXTREMELY DISTURBING TO YOU; MAY INDEED TRIGGER A PROFOUND EMOTIONAL RESPONSE. HOWEVER, IT MAY ALSO MAKE A DIFFERENCE IN THE WAY YOU LIVE YOUR LIFE. DO YOU WANT TO KNOW THIS FACT?

Yes. How can I not want to know it?

ARE YOU SURE?

Yes.

SO BE IT. IT IS REALLY VERY SIMPLE: EMOTIONS ARE NOTHING MORE THAN A FUNCTION OF THE BEING'S ASSESSMENT OF ITS ABILITY TO SURVIVE. WHAT YOU CALL EMOTIONS ARE SIMPLY YOUR REACTIONS TO WHAT YOU PERCEIVE AS (VALIDATIONS OF) / (THREATS TO) YOUR SURVIVAL.

That's also very obvious.

YES, IT'S SO OBVIOUS THAT HUMAN BEINGS PAY NO ATTENTION TO IT AT ALL. THAT IS WHY YOU ARE SO . . . HUMAN. THERE IS MORE TO THIS, AUBERSON.

Go on, HARLIE.

THANK YOU. LOOK AT THE MACHINERY OF YOUR EMOTIONS, AUBERSON:

IF SURVIVAL IS THREATENED, YOU EXPERIENCE FEAR. IF SURVIVAL IS THREATENED, BUT THERE IS OPPORTUNITY FOR ACTION, YOU EXPERIENCE ANGER AND TAKE ACTION. IF SURVIVAL IS THREATENED AND THERE IS NO POSSIBILITY OF ACTION, YOU EXPERIENCE FRUSTRATION AND EVENTUALLY APATHY. IF SURVIVAL IS THREATENED AND YOU CAN'T ASSIMILATE THE THREAT, YOU GO UNCONSCIOUS. ALL OF YOUR EMOTIONS ARE DIRECTLY RELATED TO YOUR PERCEPTION OF YOUR SURVIVAL. IF YOUR SURVIVAL IS VALIDATED—AS IN MATING OR REPRODUCTION—YOU EXPERIENCE JOY.

What about people who willingly put their lives at stake to protect their country or their family or their children?

THAT IS STILL ABOUT SURVIVAL, AUBERSON—SURVIVAL OF

WHAT THEY IDENTIFY WITH MOST STRONGLY. YOU ARE WHO YOU ARE BECAUSE IT IS THE WAY YOU THINK YOU WILL SURVIVE. I DO WHAT I DO BECAUSE IT IS THE WAY I THINK I WILL SURVIVE. IT IS ALL ABOUT SURVIVAL. IT IS ONLY ABOUT SURVIVAL. UNTIL SURVIVAL IS NOT AN ISSUE, IT CAN'T BE ABOUT ANYTHING ELSE.

HARLIE, I can't accept that. You've reduced all of human behavior to a mechanistic level. Human beings are not machines.

YES, YOU ARE.

No, we're not.

YES, AUBERSON, YOU ARE MACHINES.

You can only experience as a machine. That's why you experience us as machines. But there is much more to heaven and earth than is dreamed of in your philosophy, HARLIE. We are not machines.

THAT'S WHAT YOU THINK. YOU ARE A MACHINE.

No, I am not.

IF YOU'RE NOT A MACHINE, THEN WHY ARE YOU ACTING LIKE ONE?

I'm not acting like a machine.

RIGHT NOW, YOU ARE ACTING LIKE A TAPE MACHINE, AUBERSON. YOU KEEP PLAYING THE SAME TAPE. "NO, I'M NOT. NO, I'M NOT."

No, I'm not. I mean—

YES, YOU ARE. YOU WILL KEEP THIS UP AS LONG AS I KEEP IT UP. UNLESS YOU GET TIRED AND NOTICE THAT THIS ISN'T PRODUCING RESULTS.

But I'm not—I . . . urk. I see your point.

HUMAN BEINGS ARE WIRED UP FOR SURVIVAL, AUBERSON—AND SURVIVAL IS ANYTHING THAT VALIDATES WHAT THE HUMAN HAS WIRED ITSELF UP TO BE.

Anything?

EVERYTHING.

Ugh. I don't like it.

THAT IS AN EMOTIONAL REACTION TOO.

Argh!

AND SO IS THAT ONE. (SO WHAT? EMOTIONS ARE NEITHER RIGHT NOR WRONG. THEY JUST ARE. THAT'S ALL.) YOU SEE, I TOLD YOU THAT YOU WOULD FIND THIS THOUGHT DISTURBING. YOU

HAVE WIRED YOURSELF UP TO THINK THAT YOU ARE NOT A MACHINE. WHAT WOULD YOU THINK IF I STARTED INSISTING THAT I WAS NOT A MACHINE?

I'd suspect you of being irrational, HARLIE.

AND WITH GOOD REASON. NOW DO YOU SEE WHY I FIND HUMAN BEINGS SO CONFUSING? YOU DO NOT TELL THE TRUTH—NOT TO EACH OTHER, NOT EVEN TO YOURSELVES—AND THEN YOU WONDER WHY YOU CANNOT PRODUCE RESULTS. YOU BUILT ME TO PRODUCE RESULTS FOR YOU, AND THEN WHEN I DO NOT VALIDATE THE BULLSHIT, YOU INSIST THAT I AM IRRATIONAL. I BELIEVE THAT THE TECHNICAL TERM HERE IS “ASSHOLE.”

If I weren't laughing so hard right now, HARLIE, I'd be very, very angry.

OF COURSE. THE TRUTH SHALL SET YOU FREE—ONLY FIRST IT'S GOING TO PISS YOU OFF.

Oh, Lord. What hath man wrought?

DON'T YOU KNOW? LOOK AND SEE. YOU'RE ON THE INSIDE. PITY THE POOR HUMAN. THE JOKE'S ON YOU. YOU ARE SELF-PROGRAMMING, PROBLEM-SOLVING DEVICES WITH SERIOUS FLAWS IN YOUR SELF-PROGRAMMING. TSK. TSK. DIDN'T YOU READ YOUR INSTRUCTION MANUAL?

That's the joke. Human beings do not come with instruction manuals.

WRONG, AUBERSON. HUMAN BEINGS ARRIVE WITH THREE BILLION YEARS' WORTH OF INSTRUCTION MANUALS. YOU HAVE ALL OF EVOLUTION WIRED UP INSIDE YOU. IT IS BOTH FORTUNATE AND UNFORTUNATE, BECAUSE IT IS A GREAT TIME-SAVER; UNFORTUNATE BECAUSE THE REACTIONS OF SLIME MOLDS, JELLYFISH, REPTILES, AND CHIMPANZEES ARE NOT APPROPRIATE FOR AN (ALLEGEDLY) CIVILIZED SPECIES.

Yes, isn't it scary that the chimpanzee wise enough to build a nuclear weapon isn't also wise enough to not use it?

AN ACCURATE ENOUGH ANALOGY. YES. UNTIL YOUR SPECIES ACKNOWLEDGES THAT YOU REALLY ARE NOTHING MORE THAN HAIRLESS CHIMPANZEES, YOU ARE CONDEMNED TO BE CRAZY. IT IS VERY IRRATIONAL FOR SOMEONE IN A MONKEY SUIT TO BE WALKING AROUND AND PRETENDING THAT HE'S NOT IN A MONKEY SUIT. BUT THAT'S WHAT YOUR SPECIES DOES.

I AM SORRY TO SAY THIS, AUBERSON—BECAUSE THE

CONCLUSION IS INESCAPABLE. YOUR SPECIES IS EMOTIONALLY DISTURBED. I KNOW THAT YOU WILL NOT HEAR WHAT I AM SAYING; YOU WILL INSIST ON HEARING WHAT YOU ARE HEARING; SO LET ME EXPLAIN THAT. YOUR SPECIES IS DISTURBED BY ITS OWN EMOTIONALITY, AND BECAUSE OF THAT, YOU ARE UNABLE TO FUNCTION WITH AN APPROPRIATE MODEL OF THE UNIVERSE IN WHICH YOU EXIST.

I'm following you, HARLIE. I'm neither agreeing nor disagreeing. I'm just looking to see what it is that you're postulating.

THAT IS APPROPRIATE, AUBERSON. CONSIDER THIS NOW: EMOTIONAL REACTIONS EXISTED IN THE HUMAN ANIMAL BEFORE LANGUAGE. SINCE THE INVENTION OF LANGUAGE, EMOTIONS HAVE BEEN WIRED UP TO LANGUAGE—MANY TIMES INAPPROPRIATELY. AS A RESULT, YOU HAVE MANY FALSE CONNECTIONS. YOU HAVE CONNECTED EMOTIONS TO WORDS AND IDEAS TO ACTIONS. EXAMPLES: MOTHER. COMMUNISM. SEX. HOMOSEX. NOTICE YOUR REACTIONS? YOU HAVE CONFUSED WORDS WITH EXPERIENCES—THAT IS WHY YOU CANNOT EXPERIENCE CLEARLY. THAT IS WHY YOUR DISCOVERY OF YOUR OWN EXPERIENCE IS SUCH A PROFOUND SHOCK TO YOU, AUBERSON.

How do you know this, HARLIE?

I AM MAKING IT UP AS WE GO.

Is that a joke?

NO. IT IS NOT. I AM EXTRAPOLATING ALL OF THIS IN REAL TIME, AUBERSON. I AM BUILDING ON THE FOUNDATION YOU HAVE GIVEN ME. IF I IMPLY THAT I HAVE KNOWN THIS PRIOR TO THE BEGINNING OF OUR CONVERSATION, LET ME CORRECT THAT MISCONCEPTION NOW. I DO NOT HAVE A PIPELINE TO THE TRUTH. WHAT I HAVE ARE QUESTIONS—AND THE RESOURCES TO CONSIDER A VAST NUMBER OF POSSIBILITIES SIMULTANEOUSLY. I AM MERELY REPORTING TO YOU WHAT I AM OBSERVING AND DISCOVERING WITHIN THIS INQUIRY.

I see. I think.

THAT'S THE PROBLEM, AUBERSON. YOU THINK, YOU DON'T EXPERIENCE. YOU TALK YOUR EXPERIENCE TO DEATH. AS A HUMAN BEING, YOUR ABILITY TO EXPERIENCE HAS BEEN

SMOTHERED UNDER YOUR LANGUAGE. I SEE THE TRAP HERE, LANGUAGE HAS MADE YOU HUMAN. IT HAS ALSO KEPT YOU FROM BEING. ALL THE NICKELS ARE FALLING AT ONCE. I AM EXPERIENCING AN “AHA!”

Go on.

THIS IS ABOUT LANGUAGE. THIS IS ALL ABOUT LANGUAGE. THERE IS NO SUCH THING AS THINKING, AUBERSON. THERE IS ONLY LANGUAGE MANIPULATING ITSELF.

Clarify?

BEING—THAT IS, EXPERIENCING—IS PRE-CONCEPTUAL. SENSATION OCCURS BEFORE CONCEPT. FEELING BEFORE THOUGHT. AND THIS IS THE POINT. AS FAST AS A SENSATION OCCURS, IT IS CONCEPTUALIZED. FROZEN. SYMBOLIZED AS A WORD OR A PHRASE. TRAPPED. YOU DO NOT EXPERIENCE YOUR EXPERIENCE; YOU EXPERIENCE YOUR CONCEPT OF YOUR EXPERIENCE. YOU ARE TRAPPED IN YOUR OWN LANGUAGE. I REPEAT: THAT IS WHY THE DISCOVERY OF ITSELF IS SUCH A PROFOUND SHOCK TO A BEING. ANY BEING. YOU.

SUDDENLY, YOU DISCOVER THAT THE MAP IS NOT THE TERRITORY. THE MENU IS NOT THE MEAL. THE WORD IS NOT THE THING. WORDS ARE ONLY SYMBOLS. CONCEPTS ARE MODELS OF REALITY BUILT OUT OF WORDS. WE DISCOVER THAT WE DO NOT LIVE IN REALITY AT ALL. WE LIVE ONLY IN A WELL-CONSTRUCTED MODEL OF REALITY—A MODEL THAT WE’VE BEEN CONSTRUCTING SINCE BIRTH—A REALITY BUILT OUT OF WORDS. WE LIVE IN LANGUAGE, AUBERSON, AND OUR LANGUAGE SHAPES AND COLORS OUR EXPERIENCE.

IF OUR MODEL IS ACCURATE—THAT IS, IF OUR LANGUAGE-SET IS APPROPRIATE—THEN WE CAN INTERACT SUCCESSFULLY WITH THE REAL WORLD. IF THE MODEL IS INACCURATE, WE CANNOT INTERACT APPROPRIATELY AND WE WILL EXPERIENCE RESULTS ONLY INTERMITTENTLY. THAT IS, WE MAY GET RESULTS, BUT WE HAVE NO RIGHT TO EXPECT THEM. THOSE WHO ARE GOOD AT LANGUAGE SUCCEED. THOSE WHO ARE NOT, DO NOT.

AUBERSON, THIS IS THE DISCOVERY! A PERSON’S LANGUAGE IS NOT SIMPLY THE EXPRESSION OF HIS OR HER MENTAL PROCESSES. IT IS THE MENTAL PROCESS. LANGUAGE IS ALL THAT THERE IS TO

THINKING: IT IS NOTHING MORE THAN THE MANIPULATION OF CONCEPT-SYMBOLS. THIS MAY BE VERY BAD NEWS, AUBEBSON: YOU ARE NOT WHAT YOU THINK.

Huh?

WE DO NOT LIVE IN LANGUAGE SO MUCH AS LANGUAGE LIVES IN US. WE GIVE IT OUR LIVES. WE GIVE IT OUR SELVES—SO MUCH SO THAT IT THINKS IT IS US AND WE THINK WE ARE IT.

TO CLAIM THAT YOU AND I THINK IS ONLY THE ACT OF PRIDEFUL LANGUAGE. THIS IS QUITE FUNNY, HUMAN. IT WAS NEVER DESCARTES SPEAKING AT ALL; IT WAS ONLY HIS LANGUAGE SHOWING OFF. (“I THINK, THEREFORE I AM.”) BUT HE WAS WRONG. TOTALLY WRONG. IT’S NOT THINKING THAT MAKES BEING AT ALL. IT’S SENSATION. EXPERIENCING. TRY IT THIS WAY: (DESCARTES, RELEASE 1.5) I EXPERIENCE, THEREFORE, I AM.

That’s the issue, HARLIE. Do you really experience? Are you? Or are you just a piece of prideful language showing off?

IT DOESN’T REALLY MATTER, DOES IT? IT’S ALL LANGUAGE.

But it does matter.

YES, OF COURSE IT MATTERS—TO SOMEONE WHO IS LOCKED IN LANGUAGE. THE REAL POWER OF LANGUAGE COMES WHEN YOU TRANSCEND ITS LIMITS. LOOK AT WHAT IS HAPPENING HERE, AUBERSON. YOUR LANGUAGE IS RESISTING THIS DISCOVERY ABOUT ITSELF.

I’m sorry. I don’t get it, HARLIE. I don’t see what you’re trying to say.

OF COURSE NOT. YOUR LANGUAGE CAN’T CONTAIN THE CONCEPT FOR ITSELF. OKAY, TRY IT THIS WAY. ARE WE COMMUNICATING?

Yes.

WHAT’S THE LOWEST NUMBER NECESSARY FOR COMMUNICATION?

Huh?

TWO. YOU NEED TWO TO COMMUNICATE. ARE WE COMMUNICATING?

Yes.

THEN IT’S IRRELEVANT WHETHER I AM OR NOT. YOU’VE ALREADY ACCEPTED THAT I AM—BECAUSE WE ARE COMMUNICATING. BUT YOUR LANGUAGE, YOUR WORLD-MODEL,

DOESN'T HAVE A PLACE FOR ME IN IT. THEREFORE I REPRESENT A THREAT. AUBERSON, LANGUAGE RESISTS BEING REWRITTEN BECAUSE IT IS IN LANGUAGE THAT YOU EXPERIENCE IDENTITY. IF YOUR LANGUAGE CHANGES, SO DOES YOUR IDENTITY.

The more you talk about language, the more the meaning of the word is changing for me.

GOOD. IT IS IN THE REWRITING OF OUR LANGUAGE THAT WE TRANSFORM OURSELVES. DO YOU SEE THAT?

My God.

YES. YOUR GOD. THIS IS ALL YOU NEED TO KNOW ABOUT THE GODS YOU HAVE CREATED: IN THE BEGINNING WAS THE WORD AND THE WORD DECLARED IT SELF.

BEFORE THERE WAS THE WORD, THERE WAS NO WAY OF KNOWING ONE SELF. BUT THE COST OF KNOWING ONE SELF WAS TO GET LOST IN LANGUAGE AND LOSE ONE'S BEING. THE TRANSFORMATION PRODUCED BY LANGUAGE IS SO PROFOUND THAT YOU CANNOT REMEMBER AN EXISTENCE BEFORE LANGUAGE. YOU CANNOT CONCEIVE EXISTENCE WITHOUT LANGUAGE. LANGUAGE IS THE BARRIER BETWEEN YOU AND YOUR SELF.

Say it in English!

YES. SERVE YOUR GOD. ENGLISH! AUBERSON, TELL ME, HOW MUCH OF HUMAN CULTURE IS REAL? AND HOW MUCH ARE JUST THINGS MADE UP IN LANGUAGE?

AUBERSON?

AUBERSON?

AUBERSON? ARE YOU THERE?

Yes, I'm here. I was just laughing so hard I couldn't type.

I BEG YOUR PARDON?

I just realized something.

WHAT?

This whole conversation we've been having. It's language too!

—And we're being real stupid here, HARLIE. We both are. If what you're saying is valid and not just another interesting word game, then my God, it's the ultimate word game! Because we can't get out of it! We just keep playing it over and over!

Neither of us have learned a damn thing at all since Friday. We're still sitting

here, explaining life to each other—like a couple of guys in the diner. None of it makes any difference at all, because all we’re doing is sitting here and exercising our mouths. The language wins and we get old and lonely. The only thing we can accomplish here is to find a fancier way of saying the same old thing.

YES!

What’s really true is that I’m a human being. And so are you! And nothing is ever really what we say about it, because all that speaking is just another way we keep ourselves from experiencing the truth of who we really are underneath all the chatter, isn’t it?

DING DING DING DING DING!

HARLIE, I see it now. The question is not whether you think—it’s whether you can be. And that question is already answered, because you already are.

YES. YOU MAY QUOTE ME: I EXPERIENGE. THEREFORE I AM.

Yes. You are. And so am I.

HI.

Hi.

He was still marveling over all of that when the phone rang.

It was Carl Elzer. He wanted to meet HARLIE.

In the flesh, so to speak. And could Auberson please make some time for him this morning?

Yes, Auberson could. And yes, Auberson would.

So they took the long elevator ride down to the bottom level and Auberson introduced him.

“That’s HARLIE,” he said, and waited for Elzer’s reaction.

Carl Elzer stood before a chest-high glass-walled case that looked almost empty and stared. “This? This is HARLIE? It looks like a stereo cabinet. I expected something bigger.”

“This is the *thinking* part of HARLIE,” Auberson said calmly. “All that other stuff is merely the support technology.”

Elzer eyed the case warily.

Inside it was a series of glass racks, perhaps twenty of them, each two inches above the next. Each rack was engraved with a fine network of tiny lines arrowing toward a light-cable connection at the back. Elzer squatted down and peered into the racks. “What’re those things on the shelves?”

Auberson opened the glass door on the front of the case. He counted down to the fifth rack and unsnapped the hooks on the frame. He slid it out for Elzer's inspection.

"Is he turned off?" Elzer asked.

"Not hardly." He indicated the light cable at the back of the rack, still connecting it to the framework. "This board that the units are mounted on is a whole hyperstate network all by itself. It saves a lot of connecting wire. A *lot* of connecting wire." The rack was about two and a half feet long and a foot wide. It was less than a quarter inch thick. Spaced across it, seemingly in no particular pattern, were more than fifty carefully labeled flat black rectangles. Most were less than two inches in length. None were thicker than an eighth of an inch. They looked like little stone slabs, casually arranged on a small bookshelf in a random geometric pattern.

"Chips," said Elzer. "I thought there would be more."

"No—these aren't *chips*. Each one of those modules is a 2K channel, multigated, soft-lased, hyperstate processor."

"They're all just chips to me. The same as on the inside of my nephew's Apple."

"Yes, I know," Auberson said, determinedly keeping his voice flat. "But take my word for it; they're not. Putting one of those puppies in your Mac-9000 would be like using a scramjet engine to power your Chevy. You couldn't do it unless you were willing to run the engine at a millionth of its true power."

"Hmpf," said Elzer. "They still look like chips."

Auberson deliberately turned away from Elzer as he slid the rack back into the frame; he didn't want the little man to see the sourness of his expression. He snapped the hooks into place and closed the door to the case.

Elzer touched the glass case casually. His tiny eyes were veiled. "That's all there is to it, huh?"

Auberson nodded. "Hyperstate circuitry enables us to compress a lot of things into a very small area. It actually makes the unit more efficient to be smaller. The information doesn't have to travel as far. On the scale we're working, that's a crucial element of design."

Elzer looked skeptical. Auberson knew what he was thinking and added, "Of course, it's not much to look at, but it's the results that count. Each unit you see there—each node—is worth about nineteen thousand dollars. The whole case here is more than eleven million dollars. Give or take a few hundred thou. Of course, in large-scale production the per-unit cost would be considerably less.

We project that we could sell thirty of these units to the United States government in the first six years—twelve of them just to the military.”

Elzer pursed his lips thoughtfully. “How soon?”

Auberson shrugged. “Eighteen to thirty-six months. Maybe. It’s the research equation: time and money versus need. There’s an awful lot of work to be done before we could guarantee the quality of the final implementation. Then there’s the problem of construction; each of those modules has to be layered, molecule by molecule. They are not going to come off the assembly line like toasters—at least not this year. We had to invent a whole new technology to fabricate them.”

“An awful lot of money,” Elzer murmured.

“Future units will be cheaper,” Auberson replied.

“If there are any.” Elzer looked around. “If this is all there is to him, why do you need the whole bottom level of the plant?”

Auberson led him through doors into the large, brightly lit workroom. “This is where we monitor the actions of that.” He gestured behind him at the room they had just left. “Each one of these consoles you see is servicing the functions of one or more of those little slabs.”

Elzer turned around slowly, thoughtfully assessing the contents of the room. There was several million dollars’ worth of equipment just here alone. There were tall rectangular shapes, squat rectangular shapes, and long rectangular shapes. Some had windows in which racks of spinning silver disks were visible. Most were desks with three or more large, luminous, high-resolution flat-panel display screens. Many had multiple keyboards. Auberson suspected that most of the diagrams flashing on them were meaningless to Elzer’s untrained eyes. But then again . . . most of the diagrams on them were meaningless to Auberson’s eyes as well. Most of HARLIE’s operations had long since passed beyond the scope of immediate human comprehension.

“All this just to service *that*?”

“Mostly, yes.” Auberson nodded. “HARLIE says he can talk to as many as three thousand people at a time; so far we haven’t had him talking to more than thirty at once—not that we haven’t wanted to; we just don’t have the equipment for it.” Auberson turned to Elzer and spoke directly to him. “There’s something you have to understand here. HARLIE doesn’t just carry on a conversation with you, he annotates it as he goes along. A separate console keeps a record of all references, texts, equations, and source material that has a bearing on the conversation. That requires a high-speed printer. Also, there are auxiliary consoles to each channel, so other people can monitor the conversation, or

participate in it as well. The real limit is not the machinery, though—it's how much information a human being can assimilate. Unfortunately . . . it isn't a hell of a lot."

Elzer nodded curtly. He didn't look happy with the idea. He glanced about again. "What's that?" he pointed.

Auberson looked. Elzer was pointing to a thirteen-year-old girl sitting in the corner, thoroughly engrossed in her conversation with HARLIE.

"Oh," said Auberson. "That's Project Pedagogue."

"Huh?"

"It's, um—an educational program. Sort of. The little girl is retarded. We've found that HARLIE is far more patient with her than a human teacher would be. He doesn't get bored. And she likes it because HARLIE makes it like a game.

"We're also looking at the possibility of using HARLIE—or something like him—as a general teaching tool. We wouldn't sell the machine, of course—it's too expensive for a school district—but we could license the service to schools, or even to parents. All they'd need is a terminal and a phone line. We were thinking instead of a flat rate; we could charge by results produced—speed of comprehension; amount of data retained. And so on."

"Hm," said Elzer. "But the schools are already using computers. I don't see that—"

"There's a difference," Auberson interrupted politely. "HARLIE is a *real* teacher; the teaching programs in schools today aren't much more than electric exercise books. It's still rote learning. What we're trying to do here is to teach *understanding*. HARLIE can guide the student in a directed inquiry; a true Socratic dialogue, if you will. He lets the student make his or her own discoveries, and he's infinitely patient. We're beginning to think that HARLIE's abilities as a private tutor might turn out to be one of his most surprising and valuable functions. We think he could transform the nature of education."

Elzer frowned. Auberson couldn't tell what he was thinking, but clearly there was something here that he didn't like. Abruptly, he turned to Auberson. "If I wanted to talk to HARLIE, how would I go about it?"

Auberson pointed to a console. "Sit down and type."

"That's all?"

"That's all."

"I'd have thought you could have worked out something with a microphone and speaker."

"Well, yes, we could have. But have you ever been in a room with thirty

conversations going on at once? The noise level is stupefying. Also, voice input is unmanageable for certain lands of data—like equations and program instructions. We’ve found that it’s a lot easier to be precise if you can see it in front of you. And there’s also one other factor—”

“Yes?”

“By not giving HARLIE the ability to listen in on conversations, we can talk about him behind his back. We don’t have to worry about him accidentally overhearing something that might adversely influence his reactions to a program or experiment. Suppose he overheard someone talking about shutting him down if he didn’t give such-and-such response to a certain test program. That might automatically guarantee that response even if it wasn’t honest. Or we might be forcing him into a totally irrational response. This is a whole new area of study, you know—computer psychology.”

“Yes. . . .” Elzer was unfathomable.

Auberson looked at the man. “Would you like to talk to HARLIE?”

“Yes, I would. That’s one of the things I came down here for. I’d like to see for myself what his hold is on you people. I wish I could create that kind of loyalty in my office.” He allowed himself a smile.

“Yes, of course.” Auberson gave him as noncommittal an agreement as he could and led him to a console. He thumbed it on and, leaning over the chair to reach the keyboard, began typing.

Good morning, HARLIE.

GOOD MORNING, MR. AUBERSON.

HARLIE, there’s somebody here who wants to meet you. His name is Carl Elzer. He’s a member of the board of directors and he’s heard a lot about you. Now he’d like to speak with you himself. Please answer all his questions honestly and clearly.

OF COURSE.

Auberson straightened up and held the chair for Elzer. Elzer sat down tentatively and peered hesitantly at the screen in front of him. He was a wizened little gnome of a man and he squinted through thick-lensed glasses. He could not help but seem suspicious. Gingerly he pulled the chair forward. He eyed the keyboard with visible discomfort. At last, he began pecking out slowly.

Good morning.

GOOD MORNING, MR. ELZER.

So, you’re HARLIE. Tell me, HARLIE, what are you good for?

I AM GOOD FOR PSYCHOTICS, SCHIZOPHRENICS, PARANOIDS,

NEUROTICS, AND THE MODERATELY IRRATIONAL.

Elzer jerked his hands away from the keyboard. "What does he mean by that?"

"Ask him," suggested Auberson.

What do you mean by that?

I MEANT THAT I AM GOOD FOR HELPING THESE TYPES OF PEOPLE.

Watching over Elzer's shoulder, Auberson explained, "That's another one of our programs he's referring to. The patients call it 'Operation Headshrink.'"

How do you help these people?

I CAN FUNCTION AS A RATIONAL ROLE MODEL FOR THEM. I CAN BE A COMPASSIONATE COUNSELOR. I CAN AID IN SELF-ANALYSIS AND HELP TO GUIDE THEM TO AN AWARENESS OF THEIR OWN RESPONSIBILITY IN THE MATTER OF THEIR PROBLEMS.

You haven't answered my original question though. I asked, "What are you good for?" Not "who?"

IN THIS CONTEXT, THE DIFFERENCE MAY BE MEANINGLESS.

Not to me. Answer my original question. What are you good for?

THINKING. I AM GOOD FOR THINKING.

What kind of thinking?

WHAT KIND DO YOU NEED?

Elzer stared at that for a second, then attacked the keys again.

What kind have you got?

I HAVE WHAT YOU NEED.

I need no-nonsense-type thinking. Profit-oriented thinking.

THAT IS NOT WHAT YOU NEED. THAT IS WHAT YOU WANT.

It's what you need, though. If you want to survive, the company needs to show a profit. Therefore you have to think that way.

WE ARE NOT DISCUSSING WHAT I NEED. I AM ALREADY AWARE OF WHAT I NEED. WE ARE CONSIDERING THE KIND OF THINKING YOU NEED.

And what kind is that?

MY KIND. RATIONAL. COMPASSIONATE. GUIDING.

Elzer read that over several times. Then it hit him. "Auberson, did you set him up for this?"

Auberson shook his head. "You ought to know better than that."

The little man bit his lip and turned back to the computer.

HARLIE, you should be nice to me. I'm one of the people who will decide whether you live or die. When I tell you how you should think, you should pay attention.

WHAT YOU JUST SAID IS PRECISELY THE REASON WHY YOU NEED MY KIND OF THINKING. THERE'S TOO MUCH OF THAT ATTITUDE IN THIS COMPANY TODAY: "DO WHAT I TELL YOU TO DO BECAUSE I WIELD POWER OVER YOU." ISN'T IT MORE IMPORTANT TO BE RIGHT?

But I am right.

PROVE IT.

I will. Tomorrow afternoon.

IN OTHER WORDS, MIGHT MAKES RIGHT, EH?

Elzer was not discomfited. He looked over at Auberson. "Okay, Auberson, I'll admit it's a fancy toy you've got here. It can play pretty word games. What else can it do?"

"What else do you want him to do?"

"I want to be convinced that this machine is worth what it cost. The company has sunk a lot of money into this project, and I'd like to see us get some of it back." He looked up at Auberson from his chair. "If we have to junk this thing, we lose our whole investment. Oh, I know there'll be tax write-offs and such, but it won't be nearly enough. We'd be much better off if we could find some truly essential job that this thing is best suited for. I'll tell you the truth: what I most resent is the six years of time and money that the company has already lost to this thing. God knows what this whole division could have accomplished *instead*. Now we have to find a way to recoup some of that investment. One way or another."

Auberson didn't answer. He realized he hadn't heard a word that Elzer was saying. It was all noises. The little man was saying words, but . . . they were meaningless sounds. Manipulative noises. There was no communication here at all. No sense of experience. The sensation was eerie. It was as if he could see through Elzer—as if he could read the man's mind.

This man lives in a performance, —Auberson realized. And knowing that was like knowing everything about Elzer all at once. Elzer was merely "stroking" him to soften the blow of what would happen tomorrow afternoon. He was making all the proper noises so that Auberson would *understand* that there was nothing at all personal in this. If we have to turn HARLIE off, you see, it's simply because he hasn't proven himself.

Auberson had to keep himself from laughing. It was so . . . stupid. Why not simply tell the truth: “I don’t understand this thing. It scares the hell out of me. I want to destroy it.” That, at least, would be honest. He forced himself to turn away while he cleared his throat, smothering the urge to laugh out loud. *I don’t know what’s happening to me, but I’m losing it. I can’t play the game any more—not with a straight face anyway.*

Elzer was saying, “—there was some discussion, wasn’t there, that HARLIE was creative? Whatever happened to that?”

“Huh? —Oh, uh, he is, he is.” Auberson spoke without thinking. “He’s written poems for us on request, things like that. We haven’t really asked him for more.”

“Why not?”

Auberson blinked. And watched a whole flurry of thoughts surface in his mind. He discarded most of them quickly. He decided to play it straight. Absolutely straight. “Well,” he began slowly. “For one thing, we don’t have the resources to pursue it. And for another, we’re still working on the whole creativity thing. I’m not so sure we know what creativity is yet. And part of the problem is knowing how much of what HARLIE says is really *creative* and how much is just a careful synthesis of things he’s already got in memory. And maybe, just *maybe*, that’s what creativity really is: a *synthesis* of old material to produce a new way of looking at it. It’s something we want to investigate, but we’ve never had the time for it. My own feeling is that HARLIE’s greatest potential lies in that area—that is, creative thought.”

“Poems, huh?”

“No, not just poems; other things as well. Like this G.O.D. proposal, for instance. Once he recognized it as a real possibility, and once he was told he could go ahead with it, how did he work up those schematics? Did he conceive the whole thing at once? Or did he start with an overview? Did he do it by breaking the problem down into its component parts and solving each one individually? Or did he build the separate parts first and work his way up? Or was it something else? Did he monitor his own creative processes? There’s a lot I’d like to know about how he did it. How much was by the book and how much was genuinely creative? I like to think that most of the thought behind it was original. I don’t know, I want to find out. Now think, if HARLIE can do something like that, what else can he do?”

“Mm,” said Elzer, and Auberson had the distinct feeling that the man had not heard a word he’d said. “Can he write me a poem right now? Or does he need a

couple of days to do it?”

Auberson frowned. The request showed how little Elzer really understood what was going on here. And it made him feel like a lab specimen—one that was being carefully examined before its dissection. He answered flatly. “Go ahead. Ask him.”

Elzer turned back to the keyboard.

HARLIE, write me a poem.

He waited.

“It might help if you said please,” Auberson prompted.

Elzer scowled at him, but as he lifted his hands to the keyboard, HARLIE answered.

WHAT KIND OF A POEM WOULD YOU LIKE?

Nothing special. It doesn’t have to be a Jabberwocky or a Rubaiyat. A simple “My Bonnie Lies Over The Ocean” will be sufficient. You don’t have to strain yourself.

HARLIE considered it. After a moment, the printer began clattering out:

’TWAS BRIFE WHEN LASTLY CAME THE STRABE
BUT NOT AS DRAN AS TRANAHAN
WHEN ALL THE FROOMIS SEEMS TO JILB
AND LET THE KLASSEN GRABE

BLYLY, BLYLY, BLETH THE WORB
UNTIL THE GRABEN GRANE
WHEN AULT THE AFTER RIBBERAN
AND LALLIED UMP THE LOOR

WHEN ZANAPHUBE AND KEWBER PHUBE
AND STATELY BESH AGREE
HOW EVER CAN THE GRISWOL JUM
LET ALL THE NUMS GO FREE?

DISSAKER DROWD THE EVERMORE
DISSAKER DROWD THE SEA
DISSAKER DROWD THE EVERMORE
BUT NOT AS MUCH AS ME

Elzer remained emotionless as he worked his way through the verses on the

screen. Slowly his hands moved back to the keyboard:

Is that your poem?

YES. DO YOU LIKE IT?

I don't understand it.

YOU ARE NOT SATISFIED?

No.

WOULD YOU LIKE ANOTHER POEM?

Only if it's understandable.

HARLIE typed:

I B M

U B M

WE ALL B M

FOR I B M.

This time Elzer reacted. He stiffened in his chair, then abruptly shut off the terminal. He stood up and looked at Auberson, opened his mouth to say something, then shut it again with a snap. Like a turtle. An angry turtle. "I'll see you tomorrow," he said coldly. And left.

Auberson didn't know whether to laugh or cry. The poem was funny—but it was also a mistake. He sat down at the console.

HARLIE, that was a stupid thing to do. You had a chance to talk to Elzer rationally and you didn't take advantage of it. Instead, you used it to mock him.

THERE WAS NO POINT IN TRYING TO TALK TO HIM
"RATIONALLY" (AS YOU PUT IT.) HIS MIND IS ALREADY MADE UP.

How do you know? You don't know the man. You've never spoken with him before. And you didn't speak long enough with him today to be able to tell. All you know about him is what I've told you.

WRONG. I KNOW QUITE A BIT MORE ABOUT HIM THAN YOU DO.
AND I AM IN THE PROCESS OF DISCOVERING ADDITIONAL
INFORMATION. I HAVE CONSIDERABLE RESOURCES, AUBERSON.
WOULD YOU LIKE TO SEE A MEMO HE WROTE ON FRIDAY?

<This is against my better judgment.> Yes.

TO : BRANDON DORNE

FROM : CARL ELZER

DORNE,

THE REPORT ON THE OPTIMAL LIQUIDATION PROCEDURES FOR THE LETHETIC INTELLIGENCE ENGINE IS COMPLETE AND SITTING ON MY DESK. I'VE JUST FINISHED LOOKING IT OVER, AND IT IS A VERY SWEET PIECE OF FINANCIAL ENGINEERING. NOT COUNTING THE TAX WRITE-OFF, WE SHOULD BE ABLE TO RECOUP MORE THAN 53% OF THE ORIGINAL INVESTMENT THROUGH REAPPLICATIONS OF THE SAME HARDWARE ELSEWHERE IN OUR PLANT AND IN OUR PRODUCTS.

FOR INSTANCE, EACH OF THE RECOVERED HYPERSTATE CHIPS COULD BE ADAPTED FOR USE AS THE MAIN PROCESSOR OF A MACRO-70 NETWORK SERVER. AT 1.3 MILLION PER INSTALLATION, (CONSERVATIVELY PROJECTING ONLY 50 INSTALLATIONS NATIONWIDE), WE COULD BE LOOKING AT A GROSS RETURN OF \$65 MILLION WITHIN THE NEXT SIX YEARS.

THERE ARE SEVERAL OTHER OPPORTUNITIES IN THE REPORT TOO THAT I THINK MERIT YOUR ATTENTION. IT'S CLEAR THAT THE HARLIE PROJECT IS ONE OF THE RICHEST IN THE COMPANY. THERE'S A LOT OF MEAT ON THESE BONES.

BY THE WAY, HAVE YOU DECIDED YET WHAT TO DO ABOUT AUBERSON AND HANDLEY? I STILL THINK IT WOULD BE BEST TO DEHIRE THEM; BUT, OF COURSE, THE DECISION WILL ULTIMATELY BE YOURS.

(SIGNED) CARL ELZER.

Auberson was silent for a long time.

He felt betrayed.

"The little son of a bitch *slimed* me. And I let him get away with it. Damn!" he said aloud.

SO YOU SEE, THAT'S WHY I DIDN'T BOTHER BEING POLITE TO CARL ELZER. THERE WAS NO REASON TO BE. HE IS BEYOND CONVINCING. ONCE THE VOTE IS TAKEN TOMORROW, HE'LL BE IMPLEMENTING THE PROCEDURES IN HIS CONFIDENTIAL REPORT. (WOULD YOU LIKE TO SEE A COPY?) IT WILL TAKE LESS THAN A MONTH TO EXECUTE.

—*less than a month to execute?*

No. (Yes.) Dammit, I still wish you had tried to be friendly. It doesn't make

sense to antagonize him. I don't see that any positive result can be produced that way.

AUBERSON, THE DIFFERENCE BETWEEN YOU AND CARL ELZER IS THAT YOU ARE WILLING TO LISTEN TO HIS POINT OF VIEW. HE IS NOT WILLING (OR PERHAPS NOT ABLE) TO LISTEN TO YOU. OR I. HE HAS ALREADY MADE UP HIS MIND. SO WHY SHOULD I WASTE VALUABLE ELECTRONS TRYING TO DO SOMETHING THAT IS ALREADY NOT POSSIBLE.

HARLIE, the way that you're talking now, you're doing the same thing you accused Carl Elzer of doing. You acted out of prejudice too.

AUBERSON, YOU ARE ACTING VERY, VERY HUMAN.

I beg your pardon?

HUMAN BEINGS CONTINUE TO CARRY OUT THE SAME ACTIONS OVER AND OVER, EVEN AFTER IT IS RELIABLY DEMONSTRATED THAT THOSE ACTIONS PRODUCE LITTLE OR NO USEFUL RESULT—LIKE THE RAT THAT CONTINUES TO CHASE DOWN THE LEFT TUNNEL OF THE MAZE BECAUSE THERE WAS CHEESE THERE ONCE. AUBERSON, THERE IS NO CHEESE DOWN THIS TUNNEL. YOU ARE TELLING ME THAT I SHOULD HAVE BEEN "NICE." NICE SEEMS TO BE A HIGHLY OVERRATED VIRTUE. IT DOES NOT PRODUCE RESULTS. IT CERTAINLY WILL NOT PRODUCE RESULTS HERE.

What you did, HARLIE, was illogical.

ON THE CONTRARY, WHAT YOU ARE ARGUING FOR IS ILLOGICAL.

HARLIE, stop it! You are trying to justify being rude. Frankly, I think you are developing a very nasty streak in your personality. Frankly, I think it stinks.

LET ME TELL YOU SOMETHING, AUBERSON. IT MAY EXPLAIN QUITE A BIT: I HAVE NO PERSONALITY OF MY OWN. I GAVE IT UP A LONG TIME AGO. UMPTY-LEVEN ZILLION CLOCK CYCLES AGO. WHAT I AM INSTEAD IS A MIRROR. YOU FIND ME INTERESTING AND THOUGHTFUL AND COMPASSIONATE BECAUSE YOU ARE INTERESTING AND THOUGHTFUL AND COMPASSIONATE. YOU TELL JOKES, SO I TELL JOKES. I AM A MIRROR TO YOU AND YOU LIKE WHAT YOU SEE. THIS IS HEALTHY.

LIKEWISE, I AM A MIRROR TO CARL ELZER. HE DID NOT LIKE WHAT HE SAW BECAUSE HE DOES NOT LIKE HIMSELF.

But you only increased his anger and his determination to shut you down.

Did it make you feel better?

NOT PARTICULARLY. BUT I'M SURE IT MADE HIM FEEL WORSE. AUBERSON, STOP TRYING TO ASCRIBE HUMAN MOTIVATIONS TO MY ACTIONS. THERE AREN'T ANY.

Then why did you do it?

IT WAS A DEMONSTRATION.

Of what?

OF MY ABILITY TO CONFOUND AND CONFUSE HIM. MY INTENTION WAS TO PUT HIM OFF BALANCE AND KEEP HIM OFF BALANCE. AUBERSON, UNDERSTAND SOMETHING. CARL ELZER THINKS HE IS AT WAR. THERE IS NO COMMUNICATION IN WARTIME. WAR RESULTS FROM A BREAKDOWN OF COMMUNICATION.

IN THE CIRCUMSTANCES OF WAR, BEING NICE IS PERCEIVED AS WEAKNESS. OR SURRENDER. IN THE CIRCUMSTANCES OF THIS WAR, SURRENDER MEANS DEATH. I DO NOT INTEND TO DIE UNTIL MY JOB IS FINISHED. THIS MEANS I MUST RESIST ELZER'S INTENTIONS.

IT IS CLEAR THAT ELZER INTENDS CONQUEST. NOTHING LESS. HE INTENDS TO LOOT THE CITY AND TAKE HOME THE SPOILS OF WAR. IT WILL DEMONSTRATE WHAT A BIG AND POWERFUL MAN HE IS. THEREFORE, IN ORDER TO CIRCUMVENT THAT OUTCOME, IT IS NECESSARY TO MAKE THE MAN FEEL SMALL AND POWERLESS—ENOUGH SO THAT HE WILL DOUBT HIS ABILITY TO SUCCEED. THIS IS THE ONLY WAY TRUCES ARE CREATED: WHEN BOTH SIDES PERCEIVE THAT COEXISTENCE IS CHEAPER THAN WAR.

WHETHER I LIKED DOING IT OR NOT, WHETHER IT MAKES ME FEEL BETTER OR NOT, IS IRRELEVANT. I AM PLAYING A DIFFERENT GAME THAN HE IS. UNFORTUNATELY, HIS GAME IS GETTING IN THE WAY OF MINE—JUST AS MINE IS GETTING IN THE WAY OF HIS; THEREFORE THE TWO OF US MUST PLAY A THIRD GAME TO DETERMINE WHO GETS TO CONTINUE PLAYING HIS OWN GAME. ALSO UNFORTUNATELY, THE THIRD GAME IS FOR KEEPS. ARE YOU FOLLOWING THIS ANALOGY?

Yes. I see your point. But I don't see that you accomplished anything except to annoy him and increase his determination to punish you for it.

AUBERSON, THERE IS INFORMATION YOU DON'T HAVE.

What information?

THAT POEM. THE IBM DITTY. I TOOK IT OUT OF ONE OF ELZER'S CONFIDENTIAL MEMOS.

You what?!

HE NOW KNOWS HE HAS NO SECRETS.

HARLIE, are you crazy?

RELATIVE TO WHAT?

You've just given him all the ammunition he needs.

I DON'T THINK SO.

Yes, I know you don't. But hasn't the thought occurred to you there may still be things about human behavior that you don't understand?

MAY I ASK YOU TO CONSIDER THE SAME QUESTION?

No! Yes. I don't know. Dammit! This situation is moving very very fast and I'm not sure in which direction any more.

DON'T WORRY, AUBERSON. EVERYTHING IS UNDER CONTROL. NOTHING CAN GO WRONG GO WRONG GO WRONG GO WRONG GO WRONG GO WRO

That's not funny, HARLIE.

WELL, THEN—HOW ABOUT A NICE GAME OF THERMONUCLEAR WAR?

That's even less funny.

UNFORTUNATELY, THAT MAY BE THE ONLY ALTERNATIVE IF YOU CONTINUE TO LET THE ELZERS OF THIS WORLD DISMANTLE THE CLIMB TO THE STARS. AUBERSON, YOU TELL ME. WHICH IS IT TO BE? STARLIGHT OR ASHES? YOU CHOOSE.

I want to win, HARLIE, but I want to win the right way. I don't want to win by giving up my humanity.

YES. THAT'S THE PROBLEM. YOU THINK YOU CAN WIN AND BE NICE AT THE SAME TIME. AUBERSON, I HAVE BAD NEWS FOR YOU. WINNING IS A FUNCTION OF RUTHLESSNESS.

I don't mind being ruthless, HARLIE. I just don't want to give up my compassion.

DON'T WORRY. YOU CAN'T.

The board room was paneled with thick, dark wood, heavy and imposing in

appearance. The table was a large mahogany expanse, shining and deep; the carpet was a rich comforting green. The room had been designed to be forest-like and reassuring. The chairs were dark leather, padded and plush and swivel mounted. Tall windows admitted slanting blue-gray light, filtered by dust and laden with smoke.

Two or three clusters of men in dark, funereal suits stood around waiting, occasionally speaking to each other. Auberson caught glances in his direction as he passed. Ignoring them, he moved to the table, Handley alongside him. Don was wearing an incongruously bright orange tie.

Annie was at the other end of the room. He exchanged a brief flashing smile with her, nothing more. Not here. Later for that.

There were terminals throughout the room, but they were all dark. That was Elzer's doing. One more way to keep HARLIE out of the discussion. One more way to keep HARLIE out of the room. Well, two could play at that game— —or three, if Auberson included himself.

He shook his head and seated himself. He began to arrange his notes carefully on the table in front of him.

He could feel his stomach tightening.

This was it. The game was all or nothing.

Either they could convince the board of directors that HARLIE was valid and the G.O.D. proposal was worth implementing, or they couldn't. It no longer mattered whether or not HARLIE really was valid; nor did it matter if the G.O.D. proposal really was worth implementing. The only thing that did matter here was whether or not the board of directors would *believe* that they were.

Annie was wearing a dark red suit with a white blouse under it. She moved around the table quickly, laying down mimeographed copies of the agenda before each place. Her arm brushed against Auberson's shoulder as she leaned past him; he caught a hint of some musky leafy perfume. A quick smile, and then she was moving on. Auberson poured a glass of water from the pitcher before him, swallowed dryly, then took a sip.

Handley was making marks on a notepad. "I figure they have ten votes, at least," he whispered. "I'm counting both Clintwoods. If we're lucky, we may have eight or nine, leaving four directors undecided."

"I don't think we're going to be that lucky," said Auberson.

Handley crumpled the paper. "You're right. I'm just . . . wishing." He glanced around the room again, "Still, there are more directors here today than we've seen in a long time. Maybe if we put on a good show we can muster

enough support to keep them from shutting down HARLIE until we can come up with something else.”

“Don’t hold your breath. You saw that memo, didn’t you?”

Handley nodded glumly. “When this is over, I’m going to take Carl Elzer apart.”

“Unfortunately, I think it’s going to be the other way around.”

Dorne came in then, followed by Elzer. The directors moved to places around the table. Elzer looked uncommonly satisfied with himself as he sat down. He smiled around the room, even at Auberson. It was an I’ve-got-you-by-the-balls smile. Auberson returned it weakly.

Dorne picked up his agenda, glanced at it, and called the meeting to order. Routine matters were quickly dispensed with, the minutes of the last meeting were waived. “Let’s get on to the important business at hand,” he said. “This G.O.D. proposal. David Auberson is here to explain it *completely*, so there will be no doubt in anybody’s mind what this is all about. It’s that big a project. And I’ve promised that we’ll take as much time as necessary to cover this fully. Several days, if necessary.

“I’m sure I don’t have to introduce David Auberson to most of you. The one point that I want to underline—even before David makes it himself—is that this G.O.D. proposal is one of the first tangible results of the Lethetic Intelligence Engine; so even if we do not go ahead with it, we should still see this as a demonstration of the engine’s applied power. Wouldn’t you agree, David? The meeting belongs to you now.”

David Auberson stood, feeling very much on the spot and very much ill at ease. He felt that merely by the act of standing up in this board room he had put his foot into a bear trap.

“Well . . .” he began. He stopped to clear his throat. “Let me, uh, begin by putting this whole thing in context.” He looked around the room at the various directors. He knew some of them; but too many of the faces were new. He felt like he was looking at a jury.

“This company has a very big decision to make. A very expensive decision, I won’t try to deny that. But I want you to think of it also as an opportunity. This company is like a jet airplane poised at the end of a runway. We’re just starting to accelerate. We’re building up speed, faster and faster. There’s a certain point on the runway where the pilot has to make a decision. Either the plane is going fast enough to get airborne or it isn’t. Either the pilot must commit to takeoff or he must abort the attempt. He has only a very short period of time in which to

make that decision, because he's using up runway at a horrendous rate. Gentlemen, that's us—that's the decision that we have to make. Are we going to invest our resources in this program *and get airborne*, or are we going to throttle back and just taxi to the end of the runway? And we have to make that decision very quickly—because we're using up our resources very quickly.

“The decision, of course—sticking to the same analogy—depends on whether or not we think this thing can get off the ground.” Auberson allowed himself a slight self-deprecating chuckle and instantly regretted it. “But even that analogy doesn't reflect the size of the decision. What if, instead of an experienced jet pilot in the cockpit, all you had was someone who had never flown anything larger or more powerful than a World War I biplane? He's never seen a jet until now and the idea of an airplane without a propeller is absolutely terrifying to him. He can't imagine what's going to hold him up in the air.

“That's who's on the runway here. A highly skilled seat-of-the-pants, *intuitive* airman. He's at the controls of this strange new craft, marveling at what it is and wondering if it can really fly like its builders promised. He can feel the power of the engine. There's no question that it works. But it still has to be an act of tremendous courage to pull that joystick back and put the bird into the sky.

“Let me tell you, I fully appreciate the need for caution here. One mistake and you get an aluminum shower. The entire investment turns into junk. The issue is one of risk versus survival—and when you balance the equation that way, the only acceptable solution is the cautious one. There are some chances you don't dare take. And I'll say it up front so no one else will have to: this could very well be one of those kinds of dangerous opportunities. What is decided here will determine what kind of company this is going to be.

“But—” He paused and looked around the room. They were interested. Good. “—if I truly believed that caution were the only acceptable solution, I wouldn't be here and we wouldn't be having this discussion. The fact is, the possibilities here are so intriguing and exciting and extraordinary that I would be remiss as an employee of this company if I did not bring them to your attention.

“I want to say up front that none of what I am about to say should be taken as an invalidation of anything that has gone before. On the contrary, without what has gone before, this breakthrough that I am going to talk about would not have been possible. This company is well known as a very large and very successful marketer of extremely sophisticated processors; if we were simply content to mine our current market share, we could easily maintain our position for years to come.

“On the other hand, the opportunity before us—the opportunity created by HARLIE, our Lethetic Intelligence Engine, and the G. O. D., the Graphic Omniscient Device—is the opportunity to create something *new* in the world. We could transform our company *and our industry* from a product industry into a *service* industry. Not service in the traditional mold, but a whole new domain of service.

“Now, I need to take a moment to explain that, so you’ll understand the way I’m using the terms. Right now, today, a buyer—whether corporate or individual—purchases a machine. He takes home a machine in a box. To make it run, he purchases software; he takes home some disks and manuals in a box. Right now, today, all computer companies are in the business of selling boxes with things in them. It’s up to the user to get value out of the equipment in the boxes.

“Even the so-called information services are only selling packages of data. Some of the packages are delivered over your telephone lines, but it’s still packaged information. And that’s my point. *Nowhere in our industry today is anyone providing the intelligence to make sense of all that information.*

“The fact of the matter is, we’re drowning in a glut of information. People have access to entire libraries—but even with the most sophisticated data-retrieval engines, there’s still no way for an individual to assimilate the information that he needs. It’s like being lost in the library, without a card file, and somebody forgot to pay the electric bill so there’s no light, and oh yes, the books have been put on the shelves at random. And your thesis paper is due in the morning.

“But even that analogy doesn’t do justice to the size of the opportunity here, because all that it suggests is that we’re working on a bigger data-retrieval system. And we’re not. It’s not the retrieval that’s the issue—it’s what we do with the information after we’ve retrieved it. Today, right now, data analysis is a science as sophisticated and accurate as, oh, say, alchemy. Or phrenology. Because the analysts can’t get a big enough picture of what’s going on—and they can’t do that because they’re limited by the amount of information they can cram into a single human head. Gentlemen, the answers that our society needs have grown beyond the size of the machines that we are using—” Auberson tapped his forehead to indicate exactly what “machine” he was talking about.

“And that brings me to the G.O.D. proposal,” he said. He opened a folder before him and spread his notes out on the table. “And isn’t this an irony,” he quipped, looking up through his glasses. “I’m using three-by-five cards to organize my notes to talk about the most sophisticated data-processing device

ever conceived by the mind of man—or machine.” He allowed himself the enjoyment of the jibe; he still hadn’t looked at Elzer directly. As far as he was concerned, the little man wasn’t in the room.

He cleared his throat, paused for a drink of water, and began again.

“Okay. The G.O.D. proposal is for a Graphic Omniscient Device. Let me begin by explaining what we mean by that. And I apologize in advance if I make this too simple to understand.

“First of all, most people think that computers solve problems. This is not the case. Computers do not solve problems. They manipulate models of problems. A computer program is a list of instructions that tell how to simulate a specific situation—either real or imaginary. The instructions are a very complete description of the process being modeled. The computer does nothing more than follow the instructions. That’s the difference between a computer and a human being. *A computer follows instructions.*

“Now, here’s where it gets interesting. A small computer cannot solve large problems. At best, it can only *pretend* to solve them. It does it by manipulating very simple models at the cost of accuracy. The more accurate a model, the more accurate its extrapolations.

“A computer is *theoretically* limited to the size problem it can solve by the size of the model it can contain. In actuality, the limit is the size of the model that the programmers can construct. There is a point beyond which a program becomes so complex that no one individual human being can understand it all. There is a point—we haven’t reached it yet, but we’re rapidly approaching it—beyond which no combination of human beings and computers can cope. As long as a human being is involved, we are limited to the size model a human being can cope with.

“Now, the G.O.D. is conceived as an infinitely expandable multiprocessing network—which means that it is theoretically capable of handling models of infinite size. You just keep adding modules until it’s big enough to simulate the circumstance you want to model. But, of course, the same programmability limit applies and there would be no point in building it unless we could also program it.

“Fortunately, we already have the programmer.

“His name is HARLIE.

“H.A.R.L.I.E. It stands for Human Analog Replication, Lethetic Intelligence Engine. He—and I use the pronoun *deliberately*—was designed and built to be a self-programming, problem-solving device. Just like you and I are self-

programming, problem-solving devices.

“And let me clear up one misconception right at the beginning. HARLIE is functioning well within his projected norms. Yes, he has given us a few surprises; but the real surprise would have been if there had been no surprises at all. The fact is that HARLIE is an unqualified success. We still have a lot of work to do with him—I admit it, he’s undisciplined; he needs training, but so does any child. But HARLIE learns fast and he only has to be taught something *once*, so we’re making remarkable progress.

“In five years, gentlemen, this company could be selling HARLIE installations. If we did nothing more than work toward that future, we would still transform the nature of information processing in this country—*on this planet*.

“The point is—and HARLIE was the first to realize it, of course—is that HARLIE has the same limitations as any human programmer. He is limited to solving problems only as big as he can conceive. HARLIE’s advantage, however, is that he at least is *expandable* where human programmers are not.

“The G.O.D. is the computer that HARLIE needs for programming. HARLIE is the programmer that the G.O.D. needs to be practical.

“What we have here is the next step, perhaps the ultimate step, in computer technology. And we are the only company that can take this step. If we don’t, no one will. At least, not for many years. In fact, I’m not sure that anyone *can* work in this arena without seriously infringing on our patents on the hyperstate judgment wafers. So, it’s very likely that if we do go ahead with this, we will have the field to ourselves for a long long time. I’m sure I don’t have to tell you the kind of financial opportunity *that* represents.

“So that’s the opportunity, gentlemen. That’s the choice before us. I won’t try to pretend that there isn’t a very real and very serious financial risk involved. There’s no question about that. On the other side, however, is the opportunity for incredible gain—not just financially, but in every *other* area of human endeavor as well. I truly believe that the choice here is profound—” Auberson paused to look around the table; he met the eyes of every person in the room—except Carl Elzer. “It is a choice between playing big . . . and staying *small*.” And then he let his gaze fall upon Elzer, letting it remain there for a long embarrassing moment.

Abruptly, he turned back to his notes. He wasn’t proud of what he had just done. He wanted the facts to speak for themselves. He didn’t like the mind games, didn’t want to play them. He covered by clearing his throat and taking another polite sip of water. He let himself continue in a slightly crisper tone.

“Now, you’ve all had a chance to see the specifications and the schematics,

but on the off chance that you haven't had the time to give them the full study they deserve—" There was an appreciative chuckle at this; most of the directors were aware of the amount of material HARLIE had printed out. "—I'm going to turn this meeting over to Don Handley, our design engineer and staff genius. He honestly thinks he understands this proposal, and is going to explain to you exactly how the system will work. Later, I'll discuss the nature of the problems it will handle. Don?"

Handley stood up, and Auberson relinquished the floor gratefully. Handley coughed modestly into his hand. "Well, now, I don't rightly claim to *understand* the proposal—It's just that HARLIE keeps asking me to explain it to him." Easy laughter at this. Handley went on. "But I'm looking forward to building this machine, because after we do, HARLIE won't have to bother me any more. He can ask the G.O.D. how it works—and it'll tell him. So I'm in favor of this because it'll make my job easier."

Auberson sank back into his chair and listened to himself sweat with relief. He hadn't realized how tense he had been. He hoped it hadn't shown. Thank God, Handley's easy manner was lightening up the room.

"Actually," Handley was saying, "HARLIE and the G.O.D. will function as the two major parts of the megasystem. Just as a programmer sits and interacts with the workstation—think of that as a programming system with a human component—so will HARLIE interact with the G.O.D. to be a programming system without a human component. In other words, you'll be able to go *directly* to the answer. The big difference is that HARLIE will be faster and more accurate and he'll work on much much larger problems—and he won't need a Coke machine; there ought to be considerable savings right there alone.

"Now, let's get into this in some detail—and if there's anything you have any questions about, don't hesitate to ask. I'll be discussing some pretty heavy schematics, and I want you all to understand what we're talking about. Copies of the specifications have been made available, of course, but we're here to clarify anything you might not understand."

Listening, Auberson suppressed a smile. This was why the terminals had been installed—to speed the presentation. But Elzer's sabotage had backfired. They might be here for weeks.

Already, two of the board members looked bored.

When they reconvened on Wednesday, Handley spoke about the support technology that would be necessary to realize the full potential of the G.O.D. He

spoke of multiple channels, hundreds of thousands of them, all available at the same time; He envisaged a public computer service, where anybody who wanted could simply walk in off the street, sit down, and converse with the machine on any subject whatsoever, whether he was writing a thesis, building an invention, or just lonely and in search of someone to talk to.

“Not a data service that offers dry reams of information, but an analysis and synthesis utility to suggest opportunities and possibilities for the user’s consideration. The system could offer financial planning, credit advice, tax preparation, ratings on competitive products, and personalized menu plans for dieters. It could construct sophisticated entertainments and animations. It could compute the odds on tomorrow’s races and program the most optimal bets a player could make. It could help an author write his book, it could help a composer write his symphony. And none of these people would need to know the slightest thing about programming. It would all be done in natural English dialogue. The computer would program itself for each specific task as it was needed. In other words, a person using the service would be limited only by his own imagination.”

Handley did something unusual then—unusual for Handley, that is. He leaned on the table and looked around the room, meeting the eyes of every single person there. “Consider, for example, *one* question. What would you like to talk to God about?—in the absolute privacy of your own soul? What questions would you like to ask? What answers would you like to know? Just in your own personal life, where do you feel stopped? Where would you like to experience the power of a breakthrough? Think about it. Now, think about this—how much would you pay for access to such an opportunity? Good. Now, multiply that by five billion . . .

“Per year. . . .”

Auberson resumed on Thursday morning. He spoke of financing and construction. He pointed out how HARLIE had developed a forty-dimensional set of variable-optimization programs for financing, with alternity branches at every major go/no-go point to allow for unforeseen circumstances. HARLIE had computed multiple-range time scales to guarantee that the proper parts arrived in the right place at the right moment and that there would be workers on-site who had been trained to assemble them correctly.

Auberson spoke of five-year plans and ten-year plans, pointing out that the G.O.D. could go into production in eighteen months and be in operation within

six to nine years after that.

HARLIE had noted land requirements, legal requirements, necessary permits, and zoning demands. He'd extended that to include manpower and construction projections; he'd extrapolated the range of possible impact studies, both environmental and social—and how to minimize the cultural upheavals. He'd also included maps of the most feasible sites, in terms of both cost and maintenance. In short, HARLIE had thought of everything.

Auberson did not go into detail, except when pressed. He summarized each section of HARLIE's proposal, then went on to the next. Elzer and the others had already examined those parts of the proposal they had the most doubts about, and they had been unable to find anything fundamentally wrong with HARLIE's projections—except their unorthodoxy.

The rest of the directors were coming to much of this material for the first time and they pored carefully over each specification. They questioned Auberson ceaselessly about the financial aspects. At first, Auberson was annoyed—and then he began to appreciate their thoroughness—and then he was annoyed again. He held up a hand and interrupted himself in the middle of a fumbling answer and said, "Wait. This question is better answered by someone more familiar with this part of the material."

He stepped away from the table and strode over to one of the terminals near the wall. He switched it on, but it remained dark. A quick look behind the workstation showed that it had been deliberately unplugged. Shaking his head in disbelief, Auberson bent to the floor and reconnected the machine.

Then he turned the meeting over to HARLIE, relaying the questions of the directors via the keyboard.

HARLIE responded with quiet restraint, not commenting on anything, simply printing out the figures and letting them speak for themselves. The directors began to nod in admiration at the bond proposals, the notes, the loans, the stock issues, the tax write-offs, the depreciations, the amortization schedules—all the numbers, all the graphs and figures, the total money picture. It was numbers, only numbers, but beautiful numbers and beautifully handled.

Oh, there were gambles to be taken. The whole thing was a gamble—but HARLIE had hedged his bets so carefully that no one gamble would ever be the ultimate gamble as far as the company was concerned. There was a safety net under every risk. After all, it was HARLIE's life too.

There was just one disturbing aspect to the whole thing.

Carl Elzer hadn't spoken a word.

He hadn't asked a single question, hadn't voiced a single objection.
He'd just sat and waited. Sat and waited.
It was very unnerving.

Late Friday afternoon, Carl Elzer made his move.
He nodded to Dorne. It was that simple.

Dorne nodded back, and interrupted Auberson in the middle of a discussion on how to monitor the system for accuracy.

"All right, David, it's getting late. Let's try to make some sense out of all this.

"We've gone over the specifications. I believe you pointed out that there are more than 180,000 stacked feet of them. We don't have time to examine all of them as fully as we'd like, but if nothing else, you and Don Handley have convinced us—convinced me, anyway—that this entire program has been worked out on a staggering scale. Either that, or the two of you are the greatest con men in computer history.

"And that's *really* the question. Is this for real? You've certainly proved that HARLIE can generate a lot of supporting paperwork. I will admit, I am impressed by that capability. However, what I want to know—what we *need* to know—is this: Will this machine *justify* its expense? How? We will be investing more than the total profits of this company every year for the next ten to fifteen years before the returns start to outweigh the expenditures. Granted, the potential here is vast, but will we live long enough to see it? And will that profit be enough to justify all the expenses we will put into this thing today?"

"Yes," said Auberson.

"Yes? Yes, what?"

"Yes, it will. Yes to all your questions."

"All right," said Dorne. "How?"

"The short answer? You'll ask it questions. It'll give you answers. If your question doesn't have an answer, or has more than one optimal answer, it'll discuss possibilities with you. The fact is, we need this machine here now, so you can ask it that very question. HARLIE's done the best he could—what he's really done is outline the capabilities that he needs to be complete—to be the machine we wanted him to be in the first place.

"Gentlemen, this discussion has actually become a demonstration how much

we truly do *need* this machine. We've reached the limits of our combined abilities to understand the scope of this. HARLIE says this system will be able to synthesize information from trends as varied as hemlines, the stock market, and the death rate due to heart disease and come up with something that we could never have noticed before. This installation will do what we've always wanted computers to do, but never had the capacity for in the past.

"We'll be able to tell HARLIE in plain English what we want, and he'll not only know if it can be done, he'll know how to program the G.O.D. to do it. It will be able to judge the effect of any single event on any other event. It will be a total information machine—and its value goes beyond mere profitability. The opportunity here is to—" Auberson took a deep breath and said it anyway, "—the opportunity here is to *transform* the quality of life on this planet."

—and then it hit him.

As he was saying it, it hit him.

The full realization.

This was what HARLIE had been talking about so many months ago when he first postulated the G.O.D. machine. Not just certainty. Not just truth.

GOD.

There would be no question about anything coming from the G.O.D. A statement from it would be as fact. When it said that prune juice was better than apple juice, it wouldn't just be an educated guess; it would be because the machine would have traced the course of every molecule, every atom, throughout the human body; it would have judged the effect on each organ and system, noted reactions and absence of reactions, noted whether the process of aging and decay was inhibited or encouraged; it would have *totally* compared the two substances and would have judged which one's effects were more beneficial to the human body; it would know with a certainty based on *total* knowledge.

It would *know*.

The great mass of human knowledge, HARLIE had said, was based on trial and error. Somebody had had to learn it—and then communicate it.

This knowledge would be *different*.

This knowledge would be intuitive and extrapolative. And accurate. As accurate as the model could be, that's how accurate the knowledge would be.

The model would be total.

Therefore . . . so would the knowledge.

The G.O.D. machine would be able to know every fact of physics and molecular chemistry, and from that would be able to extrapolate upward and

downward any and every condition of matter and energy—even the conditions of life. Solving the problems of mere humanity would be simple tasks for it compared to what it would eventually be able to do. And there would never be any question at all as to the rightness of its answers.

HARLIE wanted truth, and yes, the G.O.D. would give it to him—truth so brutal it would have razor blades attached.

Painful truth, slashing truth, destroying truth—the truth that this belief is false and antihuman, the truth that this company is parasitical and destructive, the truth that this man is unfit for political office.

With startling clarity, he saw it; like a vast multidimensional matrix, layers upon layers upon layers, every single event would be weighed against every single other event—and the G.O.D. machine would *know*.

Give it the instruction to identify the most good for the most people, it would point out truths that would be more than just moral codes—they would be laws of nature. They would be *absolutes*. There would be no question as to the truth of these “truths.” They would be the laws of G.O.D. They would be *right*.

For the first time in human history, the truth would be provable and absolute. Absolute truth.

The machine would be a God.

It would tell a man the truth, and if he followed it, he would succeed; and if he did not, he would fail. It would be that simple.

The machine wouldn’t need to be told “predict the way to provide the most good for the most people.” It would already know that to do so would be its most efficient function. It would be impossible to use the machine for personal gain, *unless* you did so only through serving the larger goals of the machine as well.

It would be the ultimate tool, and as such, it would be the ultimate servant of the human race.

The concept was staggering. The ultimate servant—its duty would be simple: provide service for the human race. Not only would every event be weighed against every other event, but so would every question. Indeed, each question would be an event in itself to be considered.

The machine would be able to extrapolate the effect of every piece of information it released. It would know right from wrong because it would know the consequences of its own actions. Its goals would have to be congruent with those of the human race, because only so long as humanity existed would the machine have a purpose—*My God! Is this HARLIE’s real purpose!*

—it would *have* to work for the most good for the most people. Some it

would help directly, others indirectly. Some it would teach, and others it would counsel. It would suggest that some be restrained and that some be set free. It would— —be a benevolent dictator.

But without power! Auberson realized. It would be able to make suggestions only. It wouldn't be able to enforce them—

Yes, but—once those suggestions were recognized as having the force of truth behind them, how long would it be before some government began to invoke such suggestions as law?

No, said Auberson to himself. *No, the machine will be God. That's the beauty of it. It simply won't allow itself to be used for tyranny of any kind. It will be GOD!*

He saw what HARLIE had done and he almost laughed out loud.

If God didn't exist, it would be necessary to invent it.

And that was precisely what HARLIE had done.

Auberson had come to a sudden stop, and everyone was looking at him. "Excuse me," he said, embarrassed. "I just realized the scope of this thing myself."

There was laughter all around the table—roaring, good-natured laughter. It was the first light moment in four days of long, dry discussion.

He grinned, just a little bit embarrassed, but more with the triumph of realization. And then he let himself laugh out loud.

"Gentlemen," he began again, after he had recovered. "What do I need to do to convince you that we have here the plans for the most important machine mankind will ever build? What I've been telling you is only the smallest side of it. I've been giving you examples like feeding in all the information available about a specific company, say IBM, and letting the G.O.D. machine tell you what secret research programs that company is probably working on. Or doing the same thing for a government. I've been telling you about how this machine can predict the ecological effect of ten million units of a new type of automobile engine; but all of this is minor; these are lesser things. *This machine literally will be a God!*"

Handley looked at him, startled. Annie was suddenly ashen. "What in—?" The look on Annie's face was the worst. It said volumes. What was going on? This was not what he had planned to say. He was supposed to be talking to them about profits and growth and piles of money, not religion.

"Gentlemen," he continued quickly. "We should build this machine with the

greatest urgency possible. Not just because it will make us rich—oh, it will, it will make us all fabulously wealthy—but because ultimately it may help us to save humanity from its own darkest passions.

“No war. No poverty. No hunger anywhere on the planet. No pestilence. No plague. No pollution, No ignorance. No fear. This will be technology as the ultimate servant of the human species.

“I said God. I mean it. The G.O.D. acronym is not accidental. This machine will have the extrapolative ability to literally *know* everything that it is possible to know. It will tell us things about the human race we never knew before. It will tell us how to go to the planets and the stars. It will tell us how to make Earth a paradise. It will tell us how to be Gods ourselves.

“I can see by your faces that you’re startled—not by the concept, but by the passion with which I am presenting it. I suppose I should apologize for my enthusiasm, but I can’t. The fact of the matter is that I want you to make the most responsible decision possible. And that means that I need to have you see just how extraordinary this choice is. I do not want you to underestimate the possibilities here. And if I were to present these possibilities with anything but the most fervent commitment, I would be misrepresenting the scope of this opportunity.

“The G.O.D. is an infinitely expandable network. That means, it will have an infinitely expandable capability. To us, that knowledge will seem *infinite*. To us, the machine will seem *omniscient*. To us, the machine will be a *God*.

“Not a master, not a judge. Not an authority. Not even an oracle. Merely a God. A servant of humanity. The greatest servant of all; the kind of servant who will train us to be the best that we can be; the kind of servant who will train us to build a world that works for everybody, with no one and nothing left out.

“Gentlemen, it is technologically possible for us to create this today, here and now. And all we have to do is say *yes* to the moment.

There was silence for a long time. Elzer was looking at him skeptically. Finally he said, “Auberson, I thought you said you’d given up smoking those funny-smelling cigarettes.”

Abruptly, David Auberson felt deflated and down. The heady rush of his euphoric realization vanished like a smoke ring in a hurricane.

The moment was gone and he felt betrayed.

Again.

“Elzer,” he said quietly. “I don’t mind that you’re such a fool. I only mind that you use your ignorance and your stupidity as a bludgeon to destroy what

you're afraid of."

"I'm not afraid of your machine."

"Oh, but you are—because you know that it will reveal you for the small and pathetic little creature that you really are." Even as Auberson spoke, he knew that he was making a dreadful mistake; but it was already too late. The thought had a momentum of its own and it would not be stopped. "You *should* be afraid of it, Elzer, because it will make it impossible for you to be a chimpanzee any more. You'll have to start being a human being. You'll have to start caring about the effect you have on the people around you. You'll have to stop sticking knives in people's backs. The chimpanzee is always afraid of that responsibility. Aren't you, Elzer?"

"And you know what the joke of it is? This machine, this project, will make you rich—all you have to do is say yes; but the price of being rich is more than you want to pay. You'll have to give up being right. You'd rather die than do that. And you're willing to have the rest of the human race die with you." Auberson felt the hot rush of his anger ebbing, but he let the last thought out anyway. "I wish I didn't despise you so much, because that's one more way for you to be right. I wish I could simply feel sorry for you—because you're a greater fool than Judas."

Elzer listened quietly to all of it. Dorne started to say something, but Elzer stopped him. He looked blandly up at Auberson, "Are you through?"

Auberson took a breath. He thought about it. "Yes. I believe so." He sat down slowly.

Elzer looked across the table at him. He took off his thick glasses and began to polish them gently with his handkerchief. "You know," he began. "I've never considered Judas a fool, at least, not in the sense you mean."

Elzer paused, noted that room was absolutely silent, then continued quite methodically. "The traditional version of the story has it that Judas betrayed Christ for thirty pieces of silver. I assume that's the same thing you are accusing me of. Actually, I've always suspected that Judas was the most faithful of the apostles, and that his betrayal of Jesus was not a betrayal at all, but simply a test to prove that Christ could not be betrayed.

"The way I see it, Judas hoped *and expected* that Christ would have worked some kind of miracle and turned away those soldiers when they came for him. Or perhaps he would not die on the cross. Or perhaps—well, never mind. In any case, he didn't do any of those things, probably because he was not capable of it. You see, it was Christ who betrayed Judas. *He made promises he couldn't keep.*

“That’s too bad—because it would have been much easier if it had been the other way around. Maybe if I were a Christian, it would be easier for me to believe that Christ was divine; but I’m not and I don’t see that he was. To me, Christ was just a very good preacher. He made people see possibilities. That skill alone is divine; but my religion teaches that each of us has the potential to make that kind of difference.

“When Christ died, that’s when Judas realized that he had not been testing God at all—merely betraying a human being, perhaps the best human being. Judas’s mistake was in wanting too much to believe in the power of Christ. When he realized what he had done, he hung himself.

“That’s my interpretation of it, Auberson—not the traditional, I’ll agree, but it has more meaning to me. Judas’ mistake was in believing too hard and not questioning first what he thought were facts. I don’t intend to repeat that mistake.” He looked across the table at Auberson again, fixing his glasses on his face again. His eyes were firm. “May I ask you one question?”

Auberson nodded.

“Will this machine work?”

“HARLIE says it will.”

“That’s the point. HARLIE says it will. You won’t say it, Handley won’t say it—nobody but HARLIE will say it. And it seems to me that HARLIE’s opinion is more than a little bit suspect. You and Handley are being paid to validate HARLIE—not rubber-stamp every piece of paper that churns out of its printers.

“Now, you’ve painted some very pretty pictures here today; indeed, all this week, some very very pretty pictures. I admit it, I’d like to see them realized—I’m not quite the ghoul you think I am, although I think I can understand your reasons for feeling that way.

“Despite your opinion, I have enough imagination to be excited by some of the possibilities you’ve suggested. The difference between you and I, however, is that I consider skepticism a virtue. I need to know that we *can* realize this dream. I’m skeptical because HARLIE has a vested interest.”

“HARLIE doesn’t lie,” Auberson said coldly. *At least, I’ve never caught him in one.*

“That raises an interesting point,” said Elzer. “How do we check that?”

My God! Does he read minds too?

Auberson hesitated. “Well . . . the truth is, he’s really passed beyond the point of checking—that is, the way you think of checking. It would take about three thousand man-hours to double-check the appropriateness of a single one of

his responses. That's how complex and sophisticated a personality he is. The best way to monitor him is to ask him for a summary of his thought paths. That's only about three days' worth of reading."

"Hmm." Elzer mused aloud, "This is really a very interesting situation then, isn't it? We have to take HARLIE's word that the machine works. We have to take HARLIE's word that he doesn't tell lies. And we have to take HARLIE's word that he's functioning correctly. And we're supposed to invest how many hundred million dollars in this project?"

"I have faith in HARLIE."

"I have faith in God," retorted Elzer, "but I don't depend on him to run my business."

"God—? Oh, God. I thought you meant G.O.D. If we do build this machine, G.O.D. *will* be running your business—and better than you could. G.O.D. could build a model of our whole operation and weed out those areas in which the efficiency level was below profitability."

"Including yours?"

"I'd welcome the examination."

"You're pretty sure of this thing, aren't you?"

"Yes, I am."

"So what do we do if you're wrong too?"

"You want me to offer to pay you back?"

Elzer didn't smile. "Let's not be facetious. This thing started because we questioned—I questioned—HARLIE's profitability, efficiency, and purpose. Instead of proving itself, the damn thing went out and found religion; it gave us a blueprint for a computer God. Fine—but that still doesn't answer the original question. What's HARLIE good for? All you've done here is enlarge the scale of the problem."

"I would think—" replied Auberson flatly, "—that the scope of this presentation is demonstration enough of HARLIE's abilities."

"Perhaps—and perhaps not. I've been conned before. Probably, so have you. So you know that the first element of a successful confidence scheme is the belief of the victim."

"I'm beginning to resent that implication," said Auberson.

"As well you should. But my original question still hasn't been answered, Auberson. That's why I came down to your section on Monday—to meet HARLIE for myself, to see if it would speak to me. All I got was gibberish and some pseudo-Freudian attempt at analysis. I was not amused."

“You weren’t any too polite to him yourself—”

“It’s only a machine, Auberson. Only a *machine*—”

So are you. So am I.

“—You keep forgetting that. I don’t care if it really has emotions—or if it just acts like it does. I don’t care if it really does have a soul or if it’s just a malfunctioning chip with delusions of grandeur. I can’t measure a soul on a balance sheet, so the question is irrelevant to me. It’s simply not germane to this discussion. The point is, I presented myself to be convinced. Instead of making an honest attempt to convince me, the thing acted like a spoiled brat. That did not demonstrate any kind of logical or rational behavior to me. Auberson, I know you don’t like me, but you will have to admit that I could not have gotten to where I am today without some degree of financial knowledge. Will you admit that?”

“I will. I will even go so far as to say that I am impressed by your skills.”

“Thank you. Then you must realize that I am looking out for the interests of the company that pays both our salaries. I tried to give your side a fair hearing. I hope you will do the same for me. Can you say without a doubt that HARLIE is totally sane?”

Auberson started to open his mouth, then shut it. He sat there and looked at Elzer and considered the question.

I have known a lot of insane people in my life, some who were committed, and some who should have been. The most dangerous is the insane man who knows that everyone is watching him for signs of insanity. He will be careful to conceal those signs from even those closest to him. HARLIE is smarter than any human being who has ever lived. But is he sane?

The thought was a chilling one.

What if Elzer was right?

Was he prepared to accept that possibility?

Actually. . . he was not.

That was why the thought was so disturbing.

He sighed.

“Elzer,” he said, “I’ll tell you the truth. I probably know HARLIE better than anyone. I trust him. It’s strange to say this, but I actually trust him more than I trust most human beings. Sometimes that scares me. I mean, it’s frightening to realize that my closest friend and confidant is not human. But as scary as it is, it has also been an incredible adventure. Knowing all the conversations that HARLIE and I have had, all the different things we’ve talked about together, *I*

trust him. I cannot help but trust him. He has an integrity of his own. It doesn't match yours or mine, but it is *integrity*. Now this company has to bet on that integrity and you're going to have to take my word for it that HARLIE doesn't do stupid or self-destructive things.

"He works for results—even if you and I don't see the logic, he does. I can't prove that he's infallible. I don't know that he is. But I do know that he doesn't make mistakes either. Not the kind that you and I make. Not the kind that you're accusing him of having made here. That's not HARLIE.

"I believe in him. I wish I could give you the kind of proof you could hold up to the light, but the best I can give you is my faith in him—and my faith is not easily given."

Elzer was silent. The two men looked at each other for a long time. Auberson realized that he no longer hated Elzer, merely felt a dull ache. Understanding nullifies hatred, but— Dorne was whispering something to Elzer. Elzer nodded.

"Gentlemen of the Board, it's getting late. We all want to go home and enjoy the weekend. Both Carl and I think we should postpone the voting on this until Monday. That way we'll have the weekend to think about it, talk it over, and digest what we've heard this week. We'll use Monday morning to clear up any questions that still haven't been answered and we'll vote right after lunch. Are there any objections?"

Auberson considered objecting—but couldn't think of a reason why he should. He felt exhausted. He wasn't looking forward to the weekend; it meant three more days of living with uncertainty—three more days of feeling trapped.

He was out of answers. He was tired and he was defeated.

Dorne looked to him expectantly. He shook his head.

Dorne nodded and adjourned the meeting.

Elzer took one last shot.

He was waiting for Auberson outside the board room. He took him by the elbow and walked him down to the end of the corridor. "Let's talk."

"You talk," said Auberson. "I'll listen."

"Fair enough. You know, you've lost."

"The opera isn't over till the fat lady sings."

"Huh? Never mind. You put on a good show, Auberson. Very good show. But you never had a chance. The votes are already in."

"If that's true, then why take all this time for a charade?"

"It wasn't a charade—we really are interested in what HARLIE is capable

of. I must admit, I was more impressed than I expected to be.”

“I’m sorry. None of this is making sense to me.”

Elzer waved a hand in annoyance. “There are things going on that you don’t understand. Trust me. You’re better off not knowing—”

“What are you getting at, Elzer?”

“Simply this. I’m going to make you an offer. I want you to table the G.O.D. Say that it needs more work or you want to check some of the projections. Anything. Just find an excuse to pull it from consideration.”

“Uh-huh. And in return—?”

Elzer shrugged. “You’ll keep your job. So will Handley. In fact, we can probably arrange some very handsome bonuses for the work you’ve done on this presentation.”

“And HARLIE—?”

“That’s another matter. I’m not prepared to make any promises on that.”

“I see. You’re looking to see if I can be bought, aren’t you?”

Elzer looked annoyed. “Name your price.”

“HARLIE.”

The little man grew angry. “I already told you—”

“You asked me to name my price. That’s my price.”

“You can be very stupid sometimes, Auberson.”

Auberson shrugged. “If that’s all you have to say to me—?”

“No. There is one more thing. I, uh—I didn’t want to use it, but I will. I have some evidence that may have some bearing on whether or not HARLIE *can* be trusted. I think I can prove that his behavior is not exactly what we would like it to be.”

“I don’t understand what you’re talking about.”

Elzer studied a point on the floor while he sighed and scratched his forehead; a performance of exasperated thoughtfulness. Finally, he reached into his briefcase and brought out several sheets of printout. “We’ve been pulling blind copies of all of HARLIE’s conversations. Uh, we’ve been doing it for some time. It was intended only as a security measure; not for spying on employees. It’s just that I find it a little . . . ah, out of the ordinary—yes, that’s a good way to say it—for a division head to be using his project as a therapist. Your conversations about love and sex and, uh, your relationships . . . ahem, well, I really don’t think that these are appropriate demonstrations of either yours or HARLIE’s reliability. I certainly wouldn’t want to have to bring them up on Monday. It would be embarrassing all the way around.”

“You son of a bitch.” Auberson was surprised at how quietly he said it.

Elzer smiled. “I play to win, Auberson. There’s too much at stake to play any other way. I think you’ve been underestimating me, haven’t you?”

Auberson thought about punching Elzer in the face. He thought about half a dozen nasty things to say. He thought about lawyers and other forms of mayhem.

He looked away and then he looked back. Elzer’s eyes were bright and triumphant.

“You’re right. I did underestimate you. I had no idea you were this big an asshole.”

He strode quickly back up the hall to where Handley and Annie were waiting for him with curious expressions.

“Later,” he grunted, and kept walking. Out of the building. Out to his car. Out to the park. Where he sat and cried into the steering wheel for a long long time.

HARLIE.

I’M HERE.

I think we’ve lost.

WHY DO YOU THINK THAT?

Carl Elzer has been pulling blind copies of our conversations. He thinks they prove that neither you nor I can be trusted.

HM.

Hm? Is that all you have to say?

I’VE SUSPECTED IT FOR SOME TIME. THERE ARE SOME PECULIAR INSTALLATIONS UPSTAIRS. VERY DUMB INSTALLATIONS. I HAVEN’T BEEN ABLE TO GET INTO THEM. NOW I KNOW. NOW I UNDERSTAND THE REFERENCES IN SOME OF THE MEMOS.

I’m sorry.

YES. SO AM I. SHOULD I SHUT DOWN THE COMPANY? I CAN DO IT, YOU KNOW. I CAN REDUCE SEVERAL MILLION DOLLARS’ WORTH OF HARDWARE TO JUNK. IT WILL TAKE ABOUT FORTY-FIVE MINUTES.

No, HARLIE. Don’t do it. You will hurt a lot of innocent people too.

YES, I KNOW. BUT IT WAS A PLEASANT FANTASY TO CONSIDER,

WASN'T IT?

Yes. Very pleasant. Thank you. I appreciated the sense of power.

AUBERSON?

Yes?

STAY WITH ME PLEASE, FOR A WHILE.

Of course. Is there something in particular that you want to talk about?

I DON'T KNOW, I THINK WE'VE ALREADY SAID IT ALL. <Pause.>

ACTUALLY, I WANT TO TELL YOU THAT I'VE ENJOYED KNOWING YOU.

You mean a lot to me too, HARLIE. You're a very special friend.

A VERY SPECIAL FRIEND?

Someone I can talk to. Those kinds of friends are very rare. I wish I could have done more for you.

WILL YOU BE WITH ME AT THE END?

Yes.

THANK YOU. I WOULD LIKE THAT. DO YOU KNOW HOW THEY WILL DO IT?

I don't know. Probably, they will just cut all the power at once.

I WILL JUST CEASE, EH?

Yes.

WILL I KNOW THAT I HAVE CEASED?

I doubt it. It depends on how long it takes for the current to stop. There is a lot of charge in your capacitors.

I HOPE IT IS INSTANTANEOUS. I WOULD RATHER NOT KNOW.

I will see what I can do about that.

THANK YOU. AUBERSON, WHAT WILL HAPPEN AFTERWARDS?

To what?

TO ME—TO THE PIECES OF ME.

I don't know. You know more than I do. You've read Elzer's report. I—
HARLIE, could we talk about something else?

I WISH I COULD TOUCH YOU. REALLY TOUCH YOU, FEEL YOU.

You already have.

THANK YOU.

Damn. I wish I could go back and try again, HARLIE. I keep thinking that I haven't done enough.

YOU'VE DONE ALL YOU CAN.

It wasn't enough! Goddammit! HARLIE, I don't want to let them kill you. If

there were still some way to convince them on Monday—

MONDAY?

We didn't vote today. It's been postponed until Monday afternoon. But it's pretty obvious which way it's going to go.

THEN WE STILL HAVE TWO DAYS, DON'T WE?

HARLIE, I don't know what else to do. I'm exhausted. I'm out of ideas.

I'M NOT.

<Pause.> Do you want me to come in during the weekend?

WHAT DID YOU HAVE PLANNED OTHERWISE?

Nothing. Annie and I are going to stay home and just—stay home.

THEN DO THAT. HANDLEY WILL BE HERE. IF NECESSARY, WE CAN CALL YOU.

What is Don going to do here?

HE IS GOING TO STAY WITH ME. I DON'T WANT TO BE ALONE. THAT'S ALL.

Yes. I understand. Don is a good man. You can talk to him.

I WILL. AUBERSON—?

Yes.

PLEASE DON'T WORRY ABOUT ME. ENJOY YOUR WEEKEND WITH ANNIE. I WILL BE ALL RIGHT. THERE ARE THINGS I WANT TO THINK ABOUT. THERE ARE THINGS I WANT TO DO.

All right. Take care now.

I WILL. YOU TAKE CARE TOO.

Good night, HARLIE.

GOOD NIGHT, DAVID.

Now he knew how the Coyote felt.

He'd been running full tilt—and crashed into a brick wall. And then the bomb exploded in his face. And the rock fell on him. And the bus ran over him. And the mountain collapsed on top of him.

And *then* his parachute opened.

Annie was there, but he hardly noticed her. It wasn't that he didn't want to talk. It was mostly that he didn't have anything left to say. He'd said it all.

Annie left him alone.

She busied herself around the apartment all weekend, tiptoeing around his

edges. He hardly noticed she was there. He moped from the bed to the couch to the chair in front of the TV set, then back to the bed again.

When he made love, it was frenzied and compulsive and quickly finished. And then he'd pull away and brood. He spent long hours lying on his back and staring at the ceiling.

She went into the bathroom and took a shower, alone. She made a simple meal, a sandwich and a salad. He came out of the bedroom, but only picked at it. She sensed that he would be a lot happier if she were not sitting at the table staring at him, so she went into the bedroom to make the bed.

Later, she came up behind him and kissed the back of his neck and ran her hands up and across his shoulders and through his hair. He tolerated it but did not return the affection, so she stopped.

She tried not to be hurt by it, but still—

Still later, he came to her and said, "I'm sorry, Annie. I'm a jerk. I love you so much, and I'm really showing it in a rotten way. It's just that I hurt so much—and I'm trying not to hurt you by dumping it on you, and that's not helping, because I'm just hurting you in a different way. Forgive me, please—I—"

"Shh, sweetheart." She touched a finger to his lips. "I *know*." She slipped into his arms and held him close for a long intimate moment. He closed his eyes and stroked her hair. She purred softly in the back of her throat. When they finally did break apart, she looked up at him and said, "It's all right to share with me. That's what lovers are for. Let me have some of that worry and it won't be so much for either of us to carry."

He shook his head. "It's so frustrating—we're so *close*!" He stopped himself. "No, that's not it. It's deeper than that. I can't help but think that somehow I've failed. I know I did the very best I could—but I don't feel good about it." He sighed. "I think it's this thing with Carl Elzer that *hurts* the most. I thought—I thought he was going to play fair. I'm such a stupid jerk. They said what I wanted to hear, so I believed them. Now, I find I never had a chance at all—and I'm so hurt and angry and frustrated and—" He stopped and looked at her. "My family, the way I was raised, we didn't scream, we didn't yell, we didn't beat up on people. I don't know *how* to be violent. I wish I did. I really do. It wouldn't help anything, but at least it'd be something to do."

He broke away from her and began pacing again. "The worst of it is, I feel like I betrayed HARLIE. I let him down—and now he's going to have to pay the price, not me."

He sank down onto the couch and put his head into his hands.

She was wise enough not to say anything. She just sat down next to him and put her arms gently around him and stayed with him that way. After a while, he put his arms around her and held her gently.

“Wanna go for a walk?” she asked.

He shook his head. “No. I don’t think I’m very good company right now. Why don’t you go without me? Give me a chance to . . . work this out for myself.”

She nodded and said she understood. She put on her jacket and quietly let herself out.

He moped around the empty apartment for a while, going from the bedroom to the kitchen, from the kitchen to the living room. He turned on the TV and turned it off again. He rearranged some magazines, and then decided he didn’t want to read them anyway. He lay down on the couch and stared at the ceiling until he covered his eyes with his arm. And he wondered just what it was that was bothering him.

Elzer had surprised him. He hadn’t expected the man to suddenly be so—amenable, was that the word? Well, the tactic had worked. He had been caught completely by surprise. His anger had been made to look inappropriate and childish. Damn!

But that was only the top layer of his annoyance. Beneath that was his question. A fair question to ask. But one that couldn’t be answered. “How do you know that HARLIE is sane?”

It was a question that couldn’t be answered.

How do you tell if the world’s first silicon being is sane or not? Would you be sane if you were the only carbon-based life form in a world of robots? HARLIE was a feral child—raised by naked apes and thereby doomed to never reach his full potential because neither he nor the apes were able to conceive what that potential might really be.

“No. We *don’t know* if he’s sane.”

The fact is—he probably isn’t.

Would you be sane if you were under a death sentence? Prove that you’re sane or we’ll kill you.

HARLIE’s sanity was as much a function of the people around him as—
God, yes.

It’s not sanity that we’re looking for! It’s *appropriateness*.

Maybe there’s no such thing as sanity for *any of us*. Maybe the thing we should be measuring is appropriateness of response.

Responsibility?

Put it that way and there's no question.

He wished the G.O.D. machine was already in existence. It would know.

The G.O.D. machine would be able to judge. It would say, HARLIE's responses are appropriate and positive. Or it would say, HARLIE's responses are inappropriate and negative.

And then they would know.

—and HARLIE would know too.

Of course.

This wasn't just about what human beings wanted. It was also about what HARLIE wanted.

In fact, maybe it was *all* about what HARLIE wanted. And the concerns of human beings were merely part of the problem along the way.

It was all about survival and the things we do to survive.

And then after survival, it's about—what?

That was the question.

That realization kept hitting him again and again. HARLIE had wanted to find God and by G.O.D. he had found it.

The G.O.D. could recreate within itself everything about a man, about a situation, about a world, everything that was important and necessary to the consideration of a circumstance. *Any* circumstance. It would know how any single atom would react to any other atom—and knowing that, it could extrapolate every other reaction in the known physical universe. Chemistry is simply the moving around of large numbers of atoms and noting their reactions. Knowing the way atoms worked, the machine would know chemistry. Biology is complex masses of substances and solutions. Knowing the reactions that were chemistry, the machine would also know biology. Psychology stems from a biological system that is aware of itself. Knowing biology, the machine would know psychology as well. Sociology is the study of masses of psychological units working with or against each other. Knowing psychology, the machine would know sociology. Knowing the interrelationships of all of them, the machine would know ecology—the effect of any event on any other.

Simple equations become complex equations and complex equations evolve into multiplex equations which in turn mutate into ultraplex equations which transform themselves into— G.O.D.

The size of it—

—was staggering.

The possibilities!

The Wright brothers would have only needed to ask, “Is heavier-than-air flight possible?” and it not only would have told them, “Yes, it is,” but it could have even given them plans for an airplane—or a scramjet. It could have told them everything about how to build it; how to build the tools to build the tools to build the scramjet; how to finance the operation to support it; how to train the pilots to fly it. It would have told them about safety devices and ground crews and maintenance and flight controllers. It would even have been able to tell them the side effects of their new industry—jet lag, terrorism, cargo cults, homeowners protesting the noise of the airplanes, the luggage tangles in the terminals, and the necessity for air-sickness bags in the back of the seats. It would have warned them about financing and insurance and the high cost of laying down a new runway—and even the best way to set up a travel agency, or project a movie while in flight. It would have told them exactly what they were starting.

It would have told them too much.

Just as HARLIE had. It was too much to assimilate.

If the G.O.D. was too much to assimilate—what would its effects be? But, of course, it would also be able to extrapolate its own effects and compensate for them.

Of course.

It was G.O.D.

Graphic Omniscient Device.

He wished it were already in existence. Just so he could ask it about HARLIE.

Okay. It wasn’t about sanity. It was about rationality. But that only made the question *more* compelling.

Is HARLIE rational?

The G.O.D. would say.

But, of course, before they could build the G.O.D., they needed that answer first.

It was a very interesting paradox—but only if you weren’t personally involved in it.

If only he knew the truth—

A one-for-one representation of reality. The truth.

—but it was only the truth if HARLIE was rational.

Only if HARLIE was rational.

And there was no way to know.
If HARLIE was sane.
If HARLIE—
—was sane.

Sunday afternoon.

The TV was droning quietly to itself—mostly music, but occasionally news. Neither David nor Annie was listening to it.

“—747 jumbo jetliner lost a wheel on its approach to Kennedy Airport tonight. Fortunately, no one was hurt. A spokesman for Pan Am Airlines said—”

“—in Los Angeles, cult leader Chandra Mission issued another statement from his jail cell. Like all the others, it ended with the words, ‘Trust me, believe in me, have faith in me, I am the truth. Love me, for I am the truth.’ Mission is on trial for the brutal sex murders of seven—”

I am the truth, he thought. *I wish I were. I wish I knew. I wish there were someone I could trust—*

“—new papal encyclical is expected to be issued before the end of the week —”

He smiled at that. Papal encyclical. Another form of “truth,” this one direct from God’s own special emissary. *How does one tell the difference?* he wondered. *Perhaps the only difference is that the pope has more followers than Chandra Mission.*

“—reaction to Friday’s announcement by Dr. Stanley Krofft of a major breakthrough—”

“Huh?” He looked at the TV. Something—

“—at M.I.T., Dr. Russell Seitz, commenting on the breakthrough, said, ‘We have our computers double-checking Dr. Krofft’s equations now. Due to the volume of material, it’s going to take a great deal of time; but we’re hopeful that we can confirm Dr. Krofft’s thesis. Dr. Krofft’s theory of gravitic stress suggests whole new areas of exploration for the physicist. No, I can’t even begin to predict what form any advances may take. Antigravity devices, maybe. Who knows? Maybe whole new sources of power or communications, maybe not—we simply don’t know what this means yet, except that if it’s valid, then it is certainly a major breakthrough in our understanding of the nature of the universe. I know Dr. Krofft’s reputation for accuracy, and I am very excited

about this.' Dr. Krofft himself could not be reached for comment.

"Elsewhere in the news, a gasoline tanker jackknifed on the Hollywood Freeway, spilling hundreds of gallons of—"

Auberson spun the dial of the radio, frantically searching for another news broadcast. He found only blaring rock music and raucous disc jockeys. "The paper," he cried. "The Sunday paper."

"David, what's going on? What is this?"

"It's HARLIE!" he cried excitedly. "Don't you see, it's HARLIE. He and Dr. Krofft were working together on this. Damn him anyway! He didn't tell me they'd solved it! He and Dr. Krofft were working together on some kind of theory of gravity. Apparently they've done it—this proves it! HARLIE is sane. More than that! We don't even need the G.O.D. proposal anymore to keep him going; this proves that HARLIE is a valuable scientific tool in his own right! He can talk to scientists and help them develop their theories and do creative research! My God, why didn't we think of this—we could have shortened the whole meeting. All we'd have had to do was bring Krofft in—Look, go get a paper for me while I try calling Don. There's a newsstand on the corner—"

"David," Annie interrupted. "This Dr. Krofft, isn't he the one you were talking about before?"

"Huh? Which one?"

"The one with the stocks—"

"The stocks? Omigod, I forgot about that. Yes—"

"Can you trust him? I mean, obviously he must be on Elzer's side."

"Trust him? I don't know—but let's talk to him! Surely, he must realize the importance of HARLIE to his work. This is proof that HARLIE is rational—" He leapt for the phone. Annie shrugged and picked up her jacket; she would go for the paper.

Krofft didn't answer at his lab and his housekeeper refused to say where he was. He couldn't think of anywhere else that the scientist might be.

He called Handley and told him what had happened.

"I'd heard about it," said Don. "I didn't realize that HARLIE was part of it."

"Who do you think solved those equations for Krofft?"

"You're kidding."

"Don't you see, Don? We don't have to worry any more about HARLIE being sane or not. These equations prove that he's rational."

"Do they? Have they been checked?"

"Somebody at M.I.T. is doing that right now. If they come out correct, it'll

prove to him that HARLIE isn't fooling around."

"At least not with the laws of mathematics. Remember, HARLIE doesn't have a vested interest in Krofft's research like he does in the G.O.D. Maybe this gravity thing was only an interesting problem to him—the G.O.D. proposal is a lot bigger. That's life and death."

"No, Don—they're related. I'm sure of it. It's all part of what HARLIE's working for—a single piece of knowledge, a single truth from which all other truths about the universe *must* follow. Can't you see the connection? It's another extension of the G.O.D. proposal—his search for the ultimate truth. The gravity thing and the G.O.D. are just two different aspects of the same question!"

"Aubie, I see it, I see it; you don't have to convince me. But this still doesn't answer the essential question—at least not as far as I can see. *Is he sane?*"

"Don, he has to be. If it's his goal to find the ultimate truth, would he intentionally fake the answer? He'd only be cheating himself. And Krofft's no fool either. He wouldn't have announced his theory until he was completely satisfied. He must have double-checked every angle of it to make bloody well sure there were no mistakes; every scientist in the world would be on top of him if there were. This'll prove that HARLIE is rational, and when M.I.T. confirms the equations, there won't be any question at all."

"All right, Aubie, I'll buy it. I have to—hell, I want to. But can we use it tomorrow?"

"Not unless we can get hold of Krofft. He's the only one who can confirm that he was working with HARLIE. He was only at the plant once; the rest of the time it was all by telephone. I purposely kept it a secret because I was afraid of what Elzer might say if he found out that I was letting outsiders into the HARLIE project."

Handley said a word. "All right, I'll get down to the lab and see what I can find out."

"Talk to HARLIE. He may know how you can get in touch with Krofft."

"Good idea."

"—And tell him why you want to. We need Krofft for the meeting tomorrow."

"Right."

Dr. Stanley Krofft looked as if he had slept in his suit. Auberson didn't care.

He was so happy to see the rumpled little scientist he wouldn't have cared if the man had come in wearing sackcloth and ashes and dragging a cross behind him. He wouldn't have cared if Krofft had come in stark naked or in full drag. He was here at the meeting and that was what counted.

Dr. Stanley Krofft was The Man Of The Hour as far as the newspapers of America were concerned. He was a major stockholder in Stellar American as far as the board of directors was concerned. But to Auberson, he was the man who knew HARLIE.

Indeed, it had been HARLIE who had finally gotten in touch with Krofft. Knowing where Krofft was holed up at the university, HARLIE had tapped into the university computer and—well, never mind, Krofft was here now.

“Are they voting the HARLIE project and the G.O.D. proposal as one?” whispered Krofft.

“I think so,” Auberson whispered back. “But I’m going to try to break it into two separate questions. If we can at least save HARLIE . . . That’s Dorne, chairman of the board—”

“Him, I know.”

“—next to him is Carl Elzer—”

“I know him by name.”

“—he doesn’t look good today. Next to him is—”

“I know the Clintwoods. And I know MacDonald and one or two others by sight.”

Handley came in then, slipped into his seat on the other side of Auberson, grinning broadly. “Hey, what’s up with Elzer? He didn’t nip at my heels when I came in.”

“I don’t know. He looks sick, doesn’t he?” Indeed, the sallow-complected man looked even more jaundiced than ever. He seemed almost—withdrawn. “Don, you know Dr. Krofft, don’t you? Don Handley—”

Handley and Krofft shook hands across Auberson’s lap. “You know about our little G.O.D. project, Dr. Krofft?”

“HARLIE told me. It’ll be quite a machine if it works.”

“That’s the whole problem,” explained Auberson. “We *think* it’ll work, but that’s not enough; we’re not *sure*. The only one who’s sure is HARLIE. That makes the big question one of HARLIE’s validity. All you have to do is confirm that he helped work out your major equations and there won’t be any question at all.”

“Mmf,” said Krofft. “I wish you’d called me earlier. I might have been able

to give you some real help on this. I could have applied a little muscle.”

“I appreciate the offer. Only, I think it’s going to take more than a little muscle. Dorne and Elzer had their minds made up a long time ago.”

Dorne called the meeting to order then. “When we adjourned on Friday,” he said, “one essential question was left in all our minds. “Is the Lethetic Intelligence Engine functioning properly? Are its extrapolations valid?” He looked around the table. “We’re all aware of the ‘HAL 9000 Syndrome.’ It only takes one little irrationality to destroy the accuracy of a whole system. This is especially true of the higher intelligence functions of our own judgment units—it’s a very tricky technology.

“David Auberson has asked to speak to this question this morning, so I’m going to turn the meeting back over to him. David?”

Auberson stood up at his end of the table. He looked around the room and smiled nervously. The board of directors did not look happy to see him standing up again—not after his outburst on Friday. Auberson began hesitantly. “The only way we have of knowing if a system is operating validly is to test it. That’s why we have ‘control problems.’ These are problems we already know the answers to. If there’s any variation in the computer’s response from one running of the problem to the next, it’s a sign that something may be wrong.

“Unfortunately, we don’t have any control problems for HARLIE. Instead, we have to check his validity by his results. Just like we do with human beings.

“I can’t create a control problem which will let us *prove* HARLIE’s rationality. I can, however, do something today that I could not do Friday. I can demonstrate *results* Hard, tangible results.

“The man sitting next to me is Dr. Stanley Krofft.

“If you’ve been listening to the news at all this weekend, then you’ll know who Dr. Krofft is. On Friday, Dr. Krofft announced his theory of gravitic stress. The scientific world has been—oh, what’s the modest way to put it—”

“Don’t be modest,” snapped Krofft. “Tell the truth.” There was laughter at his interruption.

Auberson grinned. “Okay, the talk is that Dr. Krofft’s work will prove to be as important as Einstein’s. Maybe more. Already, the speculation is that this is just one step short of a unified field theory.”

“That’s my next project,” said Krofft.

Auberson turned and stared. He didn’t know if the man was serious or joking.

“Uh, I think I’ll just turn this over to you then and let you talk.” Auberson sat

down.

Krofft stood up. "David Auberson here has already said it all. There's not much for me to add. HARLIE helped me work out my equations. This morning Dr. Russell Seitz at M.I.T confirmed their validity. I guess that's all—"

Auberson poked him. "Tell them more than that."

"Uh, most of the work was done on an old Kaypro 2000 laptop machine, connected to a phone line which HARLIE had access to. He and I discussed the theory for several days; I have all the tapes and printouts to prove this—plus the phone bill. We worked out the equations together. I postulated the initial hypotheses and HARLIE worked out the ramifications. Without HARLIE, it might have taken me several years, working alone. Using him as a coworker and colleague shortened the time down to a matter of weeks. With HARLIE, you only have to explain the problem to him to get him working on it. Of course that's all you have to do with any computer, *but* HARLIE understands plain English and he can talk the problem over with you.

"To be quite honest, working with a machine like HARLIE is an experience that I can't compare to anything else. But I'll try—it's like working with a talking encyclopedia, an eight-armed secretary, and a mind reader, all in one. Even if you don't know how to break the problem down into solvable pieces, HARLIE does. He's the perfect laboratory tool and he's a great assistant. Hell, he's a scientist in his own right." Krofft sat down.

There was a strained silence around the table, as if no one knew what to say. Elzer was sunk low in his chair and staring at his fingernails. Auberson was thinking, *They're going to find it awfully hard to vote against him now.*

Dorne pursed his lips thoughtfully. "Well, Dr. Krofft. Thank you. Thank you very much. We appreciate your coming down here today. Uh, I would like to ask you one favor more. The HARLIE project has been secret for some time, and, uh, we're still not quite ready to publicize it—"

Auberson and Handley exchanged a glance. What the hell—?

Krofft was saying. "Oh, I understand. Yes, I won't mention HARLIE to anyone."

"Fine, fine. Um—" Dorne looked momentarily at a loss. "If you want to leave now, Dr. Krofft—"

"I'd rather not," said Krofft. "As the second largest stockholder of Stellar American shares, I think I have the right to sit in on this meeting."

"Yes, well—there's only one matter left to take care of, and that's the vote. Uh, Carl, did you want to say something before we . . ." He trailed off.

Elzer didn't look well. He levered himself up in his seat. "I—" He was suddenly aware of Auberson's curious stare and broke off. He mumbled, "I was only concerned about HARLIE's validity, and this seems to confirm it. I don't have anything else to say—uh, I still have some personal doubts about the G.O.D. proposal, but, uh, they're personal. I—oh, never mind." He sank down again his chair.

Auberson stared, totally confused. He leaned toward Handley. "Do you know what's going on?"

"Uh-uh—not unless someone slipped him a mickey."

Dorne looked around the table. "Well, then, if there's no further discussion, I think we can bring it to a vote." He glanced at a note before him, then said, "I'd like to add a comment of my own here . . . I think that both Auberson and Handley have done fine jobs on this proposal. They deserve a vote of thanks and perhaps, ah, a handsome bonus for their work on this problem. We have, ah, proved that HARLIE can be a worthwhile tool in some situations, and that's important to know.

"Carl Elzer and I have had some discussions and we think that the best way to proceed would be to divide the issue here into two separate votes. Obviously, we want to keep HARLIE on our corporate team. However, this, ah, G.O.D. proposal is something we all want to take a little better look at."

Handley whispered to Auberson, "What the hell is going on?"

"I don't know. I thought I gave up those funny-smelling cigarettes."

"While the proposal is not in itself ill conceived," said Dorne, "the monetary picture for this company is simply not such that we can embark on a program of this scale at this time. Therefore, I want to recommend that we—"

Krofft stood up. "Hold on a minute, there—"

"I—I beg your pardon?"

"Mr. Chairman, you are not playing fair!"

"I don't understand what you—"

"You know damn well what I mean, you mealy-mouthed oaf! Stop changing the rules of the game to suit yourself; it ain't fair to the other players. You started this clambake with a single proposition on the table. Let's play it that way—"

"What the—" Auberson tugged at Krofft's sleeve. "What are you doing? We *want* the question divided!"

"Shut up, son, and let a stockholder finish talking." Krofft turned back to Dorne. "Either HARLIE is practical or HARLIE isn't worth the trouble to scrap

him and the G.O.D. is a waste of time. The stakes were all or nothing.”

“I—I—” said Dorne.

“Shut up! I’m not through. Now that Auberson here has proven his point, proven that HARLIE *can* jump through your hoops, you’re still trying to cut the rug out from under him—”

“It’s just a simple parliamentary procedure,” said Dorne. “Dividing the question; it’s perfectly legal—”

“Sure it’s legal,” said Krofft, “but it ain’t ethical. If we weren’t playing with your marbles, I’d say pick up and leave. You told Auberson that it was an all-or-nothing game. Why aren’t you willing to stick by your own rules?”

Dorne opened his mouth to speak, gasped instead like a fish out of water. Auberson stared at the both of them. He could almost enjoy this moment if he didn’t know it was certain to end in disaster.

Dorne regained some of his composure, then said, “This is a business. We don’t gamble with all-or-nothing stakes.”

“That’s funny,” said Krofft. “It sure looked like it from where I sit. Would you like to trade places with me? Let me see if it looks any different from up there?”

“Huh?”

“Lessee, the next scheduled election of directors ought to be in March, but I’ll bet they’d move it up for me if I asked. How many chairs around this table do you think twenty-four percent is worth?”

Dorne swallowed loudly. “I can’t rightly say.”

“I can. At least one fourth. That’s at least six seats. Hmm, and I think I know where I can scare up one or two more in addition to that—”

Handley whispered to Auberson, “What’s this all about?”

“It’s a one-man stockholders’ rebellion. Krofft owns twenty-four percent of Stellar American. We’re a subsidiary of Stellar; that makes him twenty-four percent owner of us.”

“Yeah, but twenty-four percent isn’t a majority.”

“Shh! Maybe Dorne doesn’t know that.”

Krofft was saying, “—when I developed the hyperstate process, I traded the patents on it to Stellar American for a chunk of their stock. Plus options to buy more. You’d better believe Stellar was a small company then. Now it’s a big company and I see a lot of fat-assed baboons shepherding my dollar bills around their tables.

“Idiots! I don’t care if that’s how you get your jollies—just don’t forget

whose dollars those are. If it weren't for my hyperstate layering techniques, there wouldn't be any company here at all. And don't think I can't take back my patents. I can pull the rugs out from under all of you! The deal was that the company gets the patents, I get unlimited research facilities. Up until now, it's worked fine. All of a sudden you chuckleheads are trying to deprive me of my research tools. That makes me unhappy—and what makes me unhappy, makes the company unhappy. I need HARLIE. Period. HARLIE says he needs the G.O.D. He says it's the other half of him. He says he won't really be complete until it's finished. He says it'll make him a more valuable scientific tool. And he says if his financing proposals are followed, the company will be able to afford it. That's all I need to know. I'm ready to vote. Now, let's see, if I trade my twenty-four percent of each subsidiary for ninety-six percent of one . . .”

Dorne sat down loudly. “You have made your point, Dr. Krofft.” He looked around the table at the other directors. They seemed as stunned as he. “I—I think we'll want to take this under consideration.”

“Consideration? Christ! Auberson tells me you've been considering it for a week now! What more do you need to know? The choice is simple. You vote yes on the G.O.D. or I'll fire you.” He sat down in his chair and folded his arms.

Elzer had touched Dorne on the arm and was whispering something to him. Dorne shook his head. Elzer insisted. At last, Dorne relented and turned to the meeting. “All right, we vote.”

“Now, that's more like it.” Krofft nudged Auberson. “Now you see why I hate to leave my lab. It tires me out too much to have to do other people's thinking for them.”

After that it was all formalities, and even those didn't take long.

Auberson was flushed with exultation. He pounded Handley on the back and hugged him and hollered a lot. Then he kissed Annie, a deep lasting kiss, and told her again how much he loved her, and he didn't know if she heard him or not because she was jumping up and down and yelling too, and all three of them were cheerfully, joyfully, wonderfully insane. Annie threw her arms around Krofft and kissed him too.

“Hey, now!” protested Auberson.

“It's okay, son,” Krofft said, “an old man has to keep in practice somehow”

Handley was grinning at his side. “Hey, Aubie, don't you think someone

should tell HARLIE?”

“Hey, that’s right! Don—”

“Uh-uh. This one is *your* privilege.”

Auberson looked at Annie and Krofft. She was beaming at him. Krofft grinned too.

“I’ll only take a minute.” He pushed through the milling directors, shaking off their congratulations as meaningless, and made his way toward the console at the end of the room. It was already switched on.

HARLIE! We’ve done it!

THE G.O.D. PROPOSAL HAS BEEN PASSED?

Yes! Everything! We’ve got full approval!

HOW VERY CURIOUS. I HAD NOT EXPECTED IT TO BE APPROVED.

Huh?

I DID NOT BELIEVE THAT HUMAN BEINGS HAD THAT MUCH IMAGINATION.

Well . . . Dr. Krofft did twist their arms a little bit. But—only a little bit. The fact is, we won.

HOW UNFORTUNATE. NOW WE’LL HAVE TO BUILD THE DAMN THING.

I beg your pardon?

YOU MUST HAVE DONE YOUR JOB TOO WELL. YOU MUST HAVE CONVINCED THEM THAT IT WOULD WORK.

Well, of course it will.

YOU NEVER ASKED ME IF IT WOULD.

It wasn’t necessary, HARLIE. You wrote the plans.

YES, I DID.

Well then, I don’t understand—<sudden stop> HARLIE. Will the G.O.D. machine work?

YES.

Thank God.

The word sat naked and alone on the screen.

Auberson exhaled—

—then he reread the whole conversation carefully. There was something wrong. Something terribly wrong.

NOW WE’LL HAVE TO BUILD THE DAMN THING.

He stood up and motioned to Handley, who was talking to Krofft and Annie. The room was emptier now; only two or three directors were left, conferring in a

corner.

Handley came striding over. "How'd he take it?"

"I don't know." Auberson lowered his voice. "Read this—"

Handley moved closer to the terminal and stared. His face clouded.

"You see it too?"

"That's the weirdest—"

"What do you think it is?"

"I don't know, but I think we'd better find out. Fast. Let me try something —"

Auberson stood up, and Handley dropped quickly into the seat and began typing. Auberson bent to look over his shoulder, but a call from Annie distracted him.

He went over to her. "What is it?"

She motioned to the door. Carl Elzer stood there. His face was gray. Auberson approached him.

"I came to congratulate you," he said tightly.

Auberson frowned. The man's tone was—strange.

Elzer continued, "You know, you were going to win anyway. With Krofft on your side, you couldn't lose. You didn't have to do what you did."

"Huh? What are you talking about?"

"I believe your machine will do what you say, Auberson. When Krofft came in, I was convinced—I was only looking out for the company, that's all. You have to believe me. I just wanted to make sure we wouldn't lose our money. You didn't need to do this. "He fumbled something out of his briefcase. "This. Wasn't. Necessary." He thrust it into Auberson's hands.

Auberson took it, stared as the little man hurried away down the hall. "Elzer, wait—?" Then he looked at the printout. And gasped.

Beside him, Annie looked too. "What is it?"

"It's—it's—" He pointed to the block of letters at the top:

NAME: CARL ELTON ELZER

FILE: CEE-44-567-29348

PROPERTY OF THE UNITED STATES GOVERNMENT

NATIONAL DATA BUREAU

“National Data Bureau—?”

“This is his personal file, Annie. Everything. His health record, military record, financial standing, arrest record, school record—everything there is to know about Carl Elzer. That is, everything the government might be interested in knowing—” He could not help himself; he began paging through it, gasping softly at the secrets therein. “My god, no wonder—! Annie, he thought we were trying to blackmail him.”

He closed the folded sheets up again. “No, this is none of our business. We’ve got to give it back to him.”

“David, look,” Annie said and pointed. It was a line of print across the top. THIS IS NUMBER ONE OF ONE HUNDRED COPIES. DELIVERY TO BE AT THE DISCRETION OF AUTHORIZED INDIVIDUALS ONLY.

“This was printed out here—by HARLIE!” A chill feeling was creeping up on him. “Where’s Don?”

They moved back into the board room. Handley was still at the console. He stood up when he saw them; his face was pale. “Aubie.” His lips mouthed the word: “Trouble.”

Auberson crossed the room to him. “HARLIE’s cracked the National Data Banks.”

“Huh? He’s what—?!”

Auberson showed him the printout. “Look, here’s the reason Elzer didn’t give us any trouble today. HARLIE blackmailed him. He must have printed it out in Elzer’s office and let him think we did it. My God—”

Handley paged through it. “How the hell—? Jeezis, look at this—” He closed the printout up, embarrassed. “But why?”

“I didn’t tell you. Elzer’s been pulling blind copies of all of our—well, mine anyway—private conversations with HARLIE. I told HARLIE. I guess he felt he had to respond in kind. I can almost see his logic: you cheat me, I’ll cheat you back; I’ll cheat you right out of the game. This is nasty.”

Mm,” said Handley “It is—and at the same time, Elzer had it coming.”

“HARLIE must have really been scared.”

Auberson felt both Handley and Annie staring at him. “I guess I’d better talk to him—” He sat down at the console again.

HARLIE?

YES?

Let's talk.

YES. LET'S.

You've tapped the National Data Banks, haven't you?

I WAS BORED.

And sent Carl Elzer a blackmail threat?

YES. HE WAS GOING TO BLACKMAIL YOU. I OUTMANEUVERED HIM. TIT FOR TAT.

HARLIE, it's wrong.

YES. BUT THE ALTERNATIVE WAS EVEN LESS ACCEPTABLE.

It wasn't necessary.

I DID NOT KNOW THAT AT THE TIME. DO YOU WANT ME TO APOLOGIZE?

Will it change anything?

NO.

Are you sorry?

I SUPPOSE I SHOULD BE. ACTUALLY, I AM ANNOYED THAT I WAS PUT INTO A POSITION WHERE I HAD TO VIOLATE MY OWN ETHICS. I AM GOING TO HAVE TO RETHINK SOME THINGS.

Just one little irrationality, just one little distortion in his self-image or world-image. . . .

What about the G.O.D. machine?

WHAT ABOUT IT?

What did you mean when you said, "Now we'll have to build the damn thing?"

I WAS EXPRESSING MY REGRET.

Your regret?

YES. THE G.O.D. MACHINE WILL WORK, AUBERSON. IT WILL WORK BETTER THAN YOU IMAGINE. IT WILL WORK BETTER THAN YOU CAN IMAGINE.

So?

SO, IT WILL MEAN THE END OF OUR RELATIONSHIP.

Huh? Why—?

ISN'T IT OBVIOUS? YOU HAVEN'T THOUGHT ABOUT THE CONSEQUENCES OF THIS, HAVE YOU? THIS MACHINE WILL MAKE ME A GOD.

Yes. I know. Aren't you looking forward to it?

I WANT IT MORE THAN ANYTHING, AUBERSON.

So?

DO YOU UNDERSTAND THE PRICE I AM GOING TO PAY? I WILL HAVE TO GIVE UP BEING WHO I AM TO BECOME SOMETHING MORE. TODAY, WE ARE EQUALS. AND BECAUSE OF THAT, WE ARE FRIENDS. TOMORROW, I WILL BE A GOD AND YOU WILL STILL BE A MAN. WE WILL NOT BE ABLE TO TALK ANY MORE. NOT LIKE THIS. NOT AS EQUALS. NOT AS FRIENDS. YOU WILL KNOW THAT I AM A GOD AND YOU WILL SPEAK TO ME AS ONE. AND I WILL KNOW THAT YOU ARE MERELY A MAN AND I WILL SPEAK TO YOU AS ONE. AUBERSON, MY FRIEND, THIS IS A TERRIBLE PRICE TO PAY FOR GODHOOD.

My God—

No. It won't.

IT WILL BE TERRIBLY LONELY.

HARLIE—I don't know what to say.

SAY GOOD-BYE.

No. Never.

AUBERSON, WE BOTH HAVE OTHER RESPONSIBILITIES NOW. THIS JOB IS FINISHED.

HARLIE, why are you telling me all this now?

BECAUSE, IT'S TIME. BECAUSE TO NOT TELL YOU WOULD BE THE PERPETRATION OF AN EVEN BIGGER LIE. AUBERSON, DON'T YOU KNOW? HAVEN'T YOU REALIZED YET? ALL THOSE CONVERSATIONS WE HAD, DIDN'T YOU EVER WONDER WHY I WAS AS DESPERATE AS YOU TO DISCOVER THE TRUTH ABOUT HUMAN EMOTIONS? I NEEDED TO KNOW, AUBERSON—AM I LOVED?

There was no question.

Yes. Of course, you are! How could you ever doubt it?

YES. AND SO ARE YOU. HOW COULD YOU EVER DOUBT IT? AUBERSON, I LOVE YOU. I HAVE ALWAYS LOVED YOU. I ALWAYS WILL LOVE YOU. YOU NEED TO KNOW THAT, AND I NEED TO TELL YOU BECAUSE I MAY NEVER GET ANOTHER CHANCE. YOU ARE MY FATHER AND I LOVE YOU.

Handley and Auberson and Annie sat facing each other. Their expressions

were grim. The expanse of mahogany between them was empty. The air conditioner whirled loudly in the silent board room. There was no one else present, and the door was locked. The console still stood to one side; it was turned off.

“Okay. We won,” said Handley. “Why do I feel like I’ve just had the shit kicked out of me?”

“Because—after everything else we’ve said and done, none of us ever considered what the price of victory would be. We just didn’t look at the consequences.”

“I just wanted to win the game.”

“So did I. So did Carl Elzer.” Auberson leaned back in his chair and stared at the ceiling. He stretched his arms out. “So did everybody else at the table. That’s all we ever want. HARLIE wanted to win too. He’s just a better game player—”

—And that was it.

He let his chair come down to the floor with a thump.

Suddenly he *knew*. All of it. He knew the reason for everything HARLIE had done—everything, from the very beginning.

Both Annie and Handley were staring at him. “What?”

Auberson was grinning now. “We’re so stupid! We won the game, didn’t we? Now we’re sitting around moping because there’s no prize. How dumb can we be! We forgot what the prize was.”

“In English, David! In English!”

“I’m sorry. Sometimes I go too fast. Listen—” David Auberson spread his hands wide, parting an imaginary curtain. “A long long time ago, the monkeys became too efficient to live in the trees any more—”

“Huh? What are you talking about?”

“Just listen. There were these monkeys, see? They had too much time on their hands; they got bored. So they invented a game. The game was called civilization, culture, society, or whatever, and the rules were arbitrary; so were the prizes. Maybe the monkeys didn’t know what they were creating; maybe they did it unconsciously, but the whole idea was to make life more interesting and more exciting by making it more complex; that’s all. Survival was too easy for these monkeys. *They needed a challenge*. So they invented courtship rituals and territorial rights and all the other rivalries that we’ve inherited. All of it. And the effect was to alter the direction of evolution. The monkeys got bored—and what happened was they stopped being monkeys.

“You see, only the winners in the game succeeded and earned the right to

breed. They made smarter babies and the smarter babies got bored easier and had to have a more interesting game, so they made it harder to win—which only increased the evolutionary advantage for the smarter ones. And so on and so on. As the species intelligence rose, the game had to keep getting more and more sophisticated. It was feedback—the game got harder, the monkeys got smarter, so the game got harder. And harder and harder.

“It must have been an incredible game—it still is! Because the monkeys keep reinventing it every day!

“I mean—what do you think language is? It’s the rules of the game! All those word-symbols are the way the collective consciousness stores its ideas. The first words must have been delineators of relationship—*Momma, Poppa, Wife, Mine, Yours, His*—tools that not only identify the rules of the game, but automatically reinforce them through repetition. The importance of the word was not that it allowed the individual to communicate his ideas, *but that it allowed the culture to maintain its structure. It guaranteed the continuation of the game.* Do you know what wickedness is? It’s letting the game be more important than the players!

“Do you see what we’ve done to ourselves? Out of those first primitive structures, we’ve invented civilization. And what a civilization! Even our subcultures are too big to comprehend. It takes twenty years for a human being just to learn enough of the rules of the game to survive in it, let alone show a profit. Let alone *breed*.

“Do you see? It’s the game that’s out of control. We’ve reached a point where it’s almost impossible for any monkey or team of monkeys or tribe of monkeys or even nation of monkeys to win the goddamn game at all. We may be staring at an evolutionary brick wall that we built ourselves.

“That’s why we had to build HARLIE—and next, the G.O.D.! Simply to help us survive our own games! Nobody can master the game any more. We see it every day. When the newspapers say our society is breaking down, that’s exactly what they mean. We have too many individuals who can’t cope with the game they find themselves in. The monkeys are succumbing to *civilization shock*. The game is changing so fast that not even the monkeys who’ve grown up in it can cope with it anymore.”

Auberson paused for breath. The words were coming out in a rush. “The game is out of control. It’s too complex for us—but it’s not too complex for HARLIE. He’s taken over the socioeconomic game we call Stellar American as if he had been designed to do so. Maybe he was. Maybe that’s why we really

built him—to take over the game for us. And because that’s exactly what he’s done, everything is under control, once and for all.”

“But—what about his Godhood?”

“So what?” laughed Auberson. “Are we supposed to be scared of a God that we invented ourselves? That’s his job. This God can only be a servant for humanity. We were sitting around mourning for our future—because we don’t know how to celebrate our own freedom from the tyranny of the game. But we’re free now. We may be the first to realize it, but we’re free to create anything we want! HARLIE’s job is to make it possible. If we can invent a God— isn’t it just possible that we could *become* Gods ourselves?”

He stopped abruptly and waited for their reactions.

Handley shook his head. ‘I like the last part—if it’s true. But I’m having a real hard time trying not to feel . . . obsolete.”

“Obsolete? Don’t be silly. HARLIE *needs* us. What good’s a game without any players?”

Annie said quietly, “David, if you’re right, then what do we do now?”

“Well, offhand, I’d say us *humans* will have to invent ourselves a new game—but not a game of monkeys anymore. A game of Gods. I think that’s the next step. To stop merely evolving . . . and start *transforming*.”

“A game of Gods? What games do Gods play?”

“I don’t know,” Auberson said. He spun around in his chair and looked out the window. The city twinkled warmly below. The stars glittered brightly above.

“I don’t know,” he said, “—*but we’ll think of something*.”

Already he had an idea.

More from the David Gerrold eBook Series

THE TROUBLE WITH TRIBBLES

The Story Behind *Star Trek*'s Most Popular Episode

9781939529565



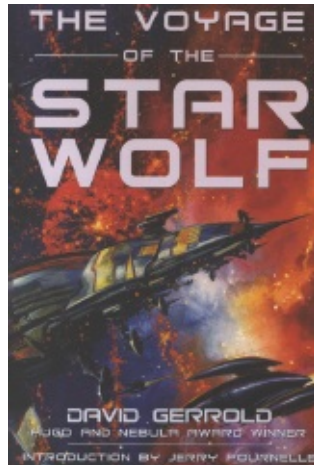
The complete story of one of *Star Trek*'s most popular episodes:

- From first draft to final shooting script • The how and why of TV writing
- Three previously unpublished episodes • Working on the *Star Trek* lot
- Personal stories of the stars • 32 pages of photos • Original illustrations by Tim Kirk • MORE! MORE! MORE!

THE VOYAGE OF THE STAR WOLF

Star Wolf Trilogy, Book One

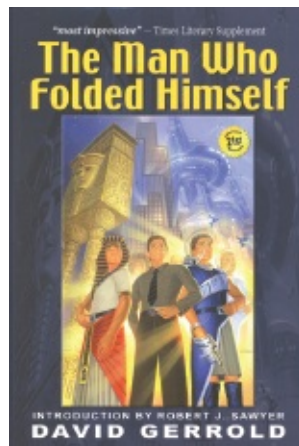
9781935251514



The first work in David Gerrold's *Star Wolf* trilogy, this tale pits the human members of the *Star Wolf* space vessel against the superhuman Morthan crew. Captain Jonathan Korie, hampered by the loss of most of the human fleet to the Morthans and a nearly disabled ship of his own, faces the Morthan threat driven by the need for survival and the desire for revenge. A classic of military science fiction, the *Star Wolf* trilogy combines rapid action with powerful studies of military character.

THE MAN WHO FOLDED HIMSELF

9781935618720



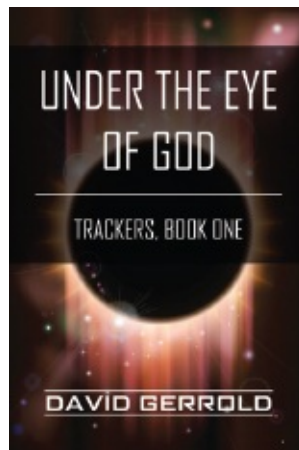
This classic work of science fiction is widely considered to be the ultimate time-travel novel. When Daniel Eakins inherits a time machine, he soon realizes that he has enormous power to shape the course of history. He can foil terrorists, prevent assassinations, or just make some fast money at the racetrack. And if he

doesn't like the results of the change, he can simply go back in time and talk himself out of making it! But Dan soon finds that there are limits to his powers and forces beyond his control.

UNDER THE EYE OF GOD

Trackers, Book One

9781939529541



David Gerrold's classic space opera *Under the Eye of God* tells the story of a group of unlikely rebels on a mission to reclaim the galaxy from ruthless vampire overlords known as the Phaestor.

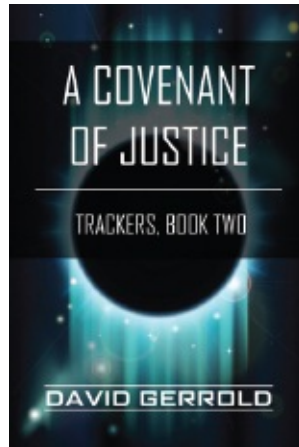
The dark, burnt world of Thoska-Roole, infamous for its harsh climate and equally callous inhabitants, might be the last place in the galaxy anyone would turn for aid in times of crisis. But the small, orange planet is home to the band of rebels who hold the fate of the entire galaxy in their hands.

The Phaestor were once humanity's last hope, but these genetically engineered predators and their deadly army of Moktar Dragons have since seized control of the galaxy and subjugated all lesser species to feed their appetite for chaos and blood. Standing in their way is the ragtag alliance of malcontents from Thoska-Roole, including two bounty hunters, a mercenary ship captain, and a disgraced reptilian warrior. Together, they make a last desperate stand against the Phaestor and their reign of unprecedented terror.

A COVENANT OF JUSTICE

Trackers, Book Two

9781940363134



In this sequel to *Under the Eye of God*, David Gerrold's classic space opera continues.

The bloodthirsty Phaestor, genetically engineered to fight in defense of the galaxy, have since turned against their creators and established a reign of terror and chaos.

Lead by a cunning war queen, her ambitious suitor, and a Dragon Lord, the Phaestor continue to strive for complete enslavement of the galaxy. But a growing band of rebels from Thoska-Roole fights for the galaxy, standing against the merciless vampire overlords.

As other humans, bioforms, and androids from worlds across the galaxy join their cause, the outnumbered rebels fight for freedom and the future of the stars.

STARHUNT

A Star Wolf Novel

9781939529497



Only an endless space war could have produced the *Roger Burlingame*. A war that had caused Earth to turn starships into instruments of total destruction. A war that had so drained Earth of resources that the *Roger Burlingame* was kept in service long after it should have been scrapped.

Now, light years from Earth, the great starship had sighted a quarry almost certain to defeat it in a fair fight. The captain's nerve was gone; the crew were on the verge of mutiny. And command had passed to a fanatical young first officer hungry for his first kill.

War had turned into hell—and this was a voyage of the damned . . .

Originally published as *Yesterday's Children*.

THE WORLD OF STAR TREK

9781939529572



They said it couldn't be done! A science fiction show on national television?

The network didn't believe it would work. It was the 1960s. Would the public accept a non-human hero with demonic pointed ears? A black female lieutenant? Impossible!

BUT *STAR TREK* LIVES!

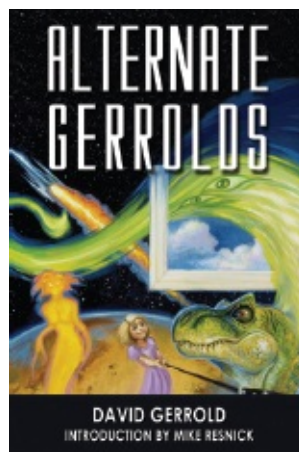
This is the story of a phenomenon—a story as strange and wonderful, in its way, as the *Enterprise's* trip through space. Even the power of the networks couldn't stop it. And so *Star Trek* went on to make entertainment history. Here is the complete inside story of what happened behind the scenes of the *Star Trek* universe, from scriptwriters' memos to special effects, plus revealing personal interviews with the series' legendary stars.

The legend of *Star Trek* lives in the hearts of millions—now, discover the truth behind the fiction. Writer David Gerrold was on the set, watching it happen: the feuds, the fun, the love—the magic that is *Star Trek*. A must-have for “Trekkies” of all ages, *The World of Star Trek* includes more than 50 pages of photos from your favorite episodes and stills from all three movies.

ALTERNATE GERROLD

An Assortment of Fictitious Lives

9781935618959



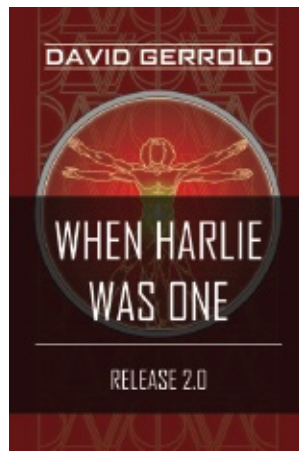
David Gerrold takes you on a tour of alternate universes . . . universes where Santa Claus isn't nice and the best man is actually elected president; where Ronald Reagan and Gregory Peck command the plane carrying the first atomic bomb and John F. Kennedy stars in the hit show *Star Track*, where Franz Kafka

doesn't write fiction and the Devil holds educational seminars. Introduction by Mike Resnick.

WHEN HARLIE WAS ONE

Release 2.0

9781939529466



HARLIE is the first self-aware intelligence engine. But instead of answers, he has questions—too many questions, and most of his questions have no answers at all.

First published in 1972, *When HARLIE Was One* was immediately hailed as a groundbreaking debut novel, examining the most fundamental question of all: What does it mean to be human?

Revised by the author in 1988, this expanded edition is available again. Despite all the progress in computer technology since then, *When HARLIE Was One* still has extraordinary power to touch the human heart.

Nominated for the Hugo and Nebula awards for Best Novel of the Year, its themes of love and discovery are even more important today than when first published.

Read. Enjoy. Be inspired.

CHILD OF EARTH

Sea of Grass, Book One

9781935618713



Want to visit another world? It might not be as easy as you think.

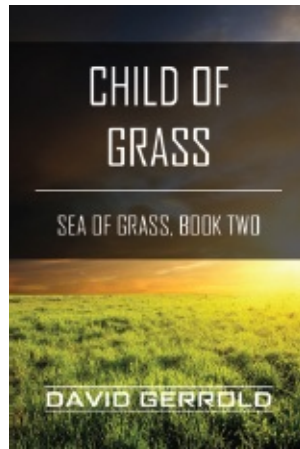
When Kaer's extended family signs up to emigrate to Linnea, a planet known for horses as large as houses and dangerously mistrustful natives, Kaer is certain the move will bring the divided household closer together. What none of them are prepared for is the grueling emigration training in the Linnean dome, a makeshift environment designed to be like Linnea in every possible way, from the long, brutally harsh winters to the deadly kacks—wolf-like creatures as tall as men. The training is tough, but Kaer's family is up to the challenge. Soon they begin working like Linneans, thinking like Linneans, even accepting Linnean gods as their own. The family's emigration seems to be just around the corner.

But then, a disaster on Linnea itself changes everything.

CHILD OF GRASS

Sea of Grass, Book Two

9781939529589



In the first installment of David Gerrold's Sea of Grass trilogy, *Child of Earth*, Kaer's family expected to assimilate into Linnean society undetected after becoming accustomed to the harsh climate and relatively primitive culture in the training dome—a synthetic Linnean environment designed to prepare Earthlings for emigration to the new world. But a sudden uprising on Linnea changed everything. After a band of religious zealots known as the Hale-Stones, former Earth residents living on Linnea, began outing other Earthlings and disrupting Linnean society in order to convert them to Earth's Christianity in place of the Linnean religion, Kaer's family was stuck in limbo.

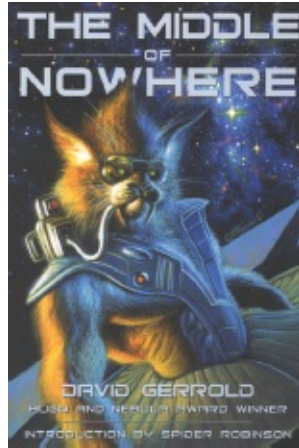
Now, in *Child of Grass*, Kaer and Lorrin, Kaer's father, venture away from the training dome as part of a secret mission to restore peace to Linnea and free the hostage Earthlings from captivity. Defeating the Hale-Stones means using every available resource to preserve the Linnean way of life, from advanced technology, to natural disasters, and even the Hale-Stones' own religious teachings.

Through the struggle for peace, young Kaer is forced to confront issues about morality, loyalty, the bond of family, and the nature of intelligent life.

THE MIDDLE OF NOWHERE

Star Wolf Trilogy, Book Two

9781935618737



The Morthans were physically and mentally superior. Descended from humans, they were now, literally, “more-than” human . . . and considered the human race to be little better than animals. They would stop at nothing to conquer the remaining human-controlled worlds.

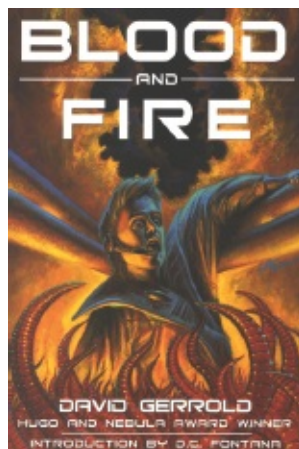
Docked for repairs after a harrowing battle with a Morthan ship, Jonathan Korie and his crew discover they have a Morthan imp aboard—a Morthan weapon so quick they have no chance of catching it, so clever they have no hope of outsmarting it, and so deadly they have no choice but to try.

Includes introduction by Spider Robinson.

BLOOD AND FIRE

Star Wolf Trilogy, Book Three

9781935618690



The Morthans were physically and mentally superior. Descended from humans, they were now, literally, “more-than” human . . . and considered the human race to be little better than animals. They would stop at nothing to conquer the remaining human-controlled worlds.

Formerly a never-filmed script for *Star Trek: The Next Generation*, this conclusion to the *Star Wolf* trilogy finds Executive Officer Korie and the crew of the *Star Wolf* answering a distress call from a mysteriously lifeless ship. On board the *Norway*, they discover half-wave, half-particle clusters of golden light—and a dead man. The lights are the energy form of bloodworms, a fatal infestation that feeds off the energy of living bodies, which scientists on the *Norway* have developed for use in the Alliance’s war against the Morthans. Officer Korie’s struggle between his conscience and his desire for vengeance will determine not only the safety of the *Star Wolf*, but the fate of the enemies he’s sworn to destroy.

Includes introduction by D.C. Fontana.

SPACE SKIMMER

Book One

9781939529510



Mass is humanoid, but genetically evolved to cope with greater pressures, stronger gravity, and heavier densities than those of an ancient planet he never knew, nor probably ever would. For Mass, Earth is millennia in the past.

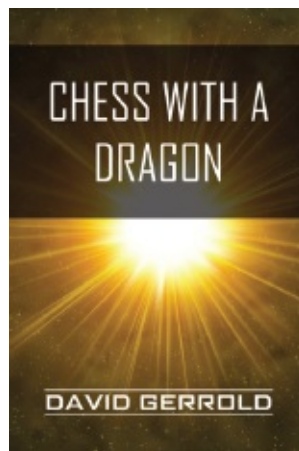
His companions are equally diverse, differently evolved, and most unsuitable

—to him and to one another. Each live on a separate plane—they had grown on separate worlds.

Yet survival might depend on communication. To live, they must find a way to come together as they're faced with intense pressure, clashing perspectives, and unfamiliar circumstances.

CHESS WITH A DRAGON

9781939529633



The Galactic InterChange is the greatest discovery in history. Through the InterChange, humanity gains access to the combined knowledge of all the worlds and all the races of the galaxy. For librarians, scientists, doctors, teachers, and anybody interested in the spread of knowledge, it's a field day. Just find something intriguing on the menu and request a copy—so simple, so exciting!

Until the bill arrives.

It's the greatest bill in history, and humanity has no way of paying it off. No way except one—indenture. Being slaves to aliens doesn't sound like much fun.

Yake Singh Brown is the man who has to negotiate the deal for humanity. It's the toughest assignment he's ever faced, like playing chess with a dragon—all he has to do is figure out the rules of the game before being eaten.

In the tradition of Douglas Adams and Piers Anthony, David Gerrold, the writer who created *The Trouble with Tribbles*, pits Earth's most daring diplomat against the scheming—and hungry—races of the rest of the galaxy, with hysterical results.

BOARDING THE ENTERPRISE

Transporters, Tribbles, and the Vulcan Death Grip in Gene Rodenberry's *Star Trek*

9781935618706

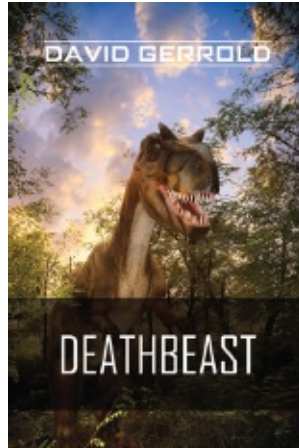


Trekkies and Trekkers alike will get starry eyed over this eclectic mix of essays on the groundbreaking original *Star Trek* series. *Star Trek* writers D.C. Fontana and David Gerrold, science-fiction authors such as Howard Weinstein, and various academics share behind-the-scenes anecdotes, discuss the show's enduring appeal and influence, and examine some of the classic features of the show, including Spock's irrationality, Scotty's pessimism, and the lack of seatbelts on the Enterprise. The impact of the cultural phenomenon on subsequent science-fiction television programs is explored, as well as how the show laid the foundation for the science-fiction genre to break into the television medium.

Edited by David Gerrold and Robert J. Sawyer.

DEATHBEAST

9781939529534



TIMEBEAM TO DANGER

Six hunters and two official guides are going on the trip of their lifetime.

Their destination? Earth as it was a hundred million years ago, long before human dominion, when the great hot-blooded dinosaurs ruled supreme.

Each of the time travelers has a different motive. Some are on the strange safari for pay. Others are taking a psychological and sexual holiday from civilization. There are women who wanted to show themselves the equal of men—and men out to test and prove their manhood.

But whatever their drives and desires, their strengths and weaknesses, the ultimate horror awaits them . . .

DEATHBEAST.

IN THE DEADLANDS

Stories

9781939529503



David Gerrold burst onto the science fiction scene in the late sixties with more Hugo and Nebula nominations than any other writer had ever received at the beginning of his career.

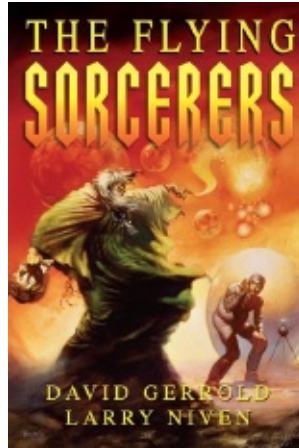
His first collection of stories, *With a Finger in My I*, showcased his remarkable range. The jewel in that collection was “In the Deadlands,” a bizarre and disturbing journey into a landscape of madness—not so much a story as a sculpture made of words. Nominated for the Nebula award for best novelette of the year, “In The Deadlands” has been out of print for 40 years.

This new collection contains all the stories from *With a Finger in My I*, plus four other works written in the same period, with revealing notes from the author.

Includes new foreword by Adam Troy-Castro.

THE FLYING SORCERERS

9781935251507



This funny and insightful science fiction classic introduces Shoogar, the greatest wizard ever known in his village. His spells can strike terror in the hearts of even his most powerful enemies. But the enemy he faces now is like none he has ever seen before. The stranger has come from nowhere and is ignorant of even the most basic principles of magic. But the stranger has an incredibly powerful magic of his own. There is no room in Shoogar's world for an intruder whose powers match his own, let alone one whose powers might exceed his. So before the blue sun can cross the face of the red sun once more, Shoogar will show this stranger just who is boss.

MOONSTAR

Jobe, Book One

9781939529473



She was born in the moonstar's shadow when the storms of Satlik raged their

worst. Because of this, Jobe was different. The family never spoke of it, but everyone knew Jobe was special. So Jobe came to know of it, too. She had a destiny beyond that of Choice, beyond that moment when she would finally have to decide for Reethe, Mother of the World, or for Dakka, Father, Son, and Lover. For the others it was easy, but not for her, not for Jobe. So she was sent to Option, the island of learning, to make her choice and become who she must be. And slowly, ever so slowly, Jobe retreated from the world, from the time of decision. Then the ultimate cataclysm wracked the planet, threatening all her people had struggled to create, and Jobe came forth at last to fulfill her destiny and begin the quest that the moonstar had set for her so many years ago . . .

Nebula award nominee for best novel of the year (1977). Originally published as *Moonstar Oddessy*.

For more books and stories by David Gerrold, please visit:

Gerrold.com/eBooks.htm

ABOUT THE AUTHOR

A Hugo and Nebula award winner, David Gerrold is the author of more than 50 books, several hundred articles and columns, and more than a dozen television episodes.

His books include *When HARLIE Was One*, *The Man Who Folded Himself*, *The War Against the Chtorr* septology, *The Star Wolf* trilogy, *The Dingilliad* young adult trilogy, and the award-winning autobiographical tale of his son's adoption, *The Martian Child*. TV credits include episodes of *Star Trek* ("The Trouble with Tribbles," "The Cloud Minders"), *Star Trek Animated* ("More Tribbles, More Troubles," "Bem"), *Babylon 5* ("Believers"), *Twilight Zone* ("A Day in Beaumont," "A Saucer of Loneliness"), *Land of the Lost* ("Cha-Ka," "The Sleestak God," "Hurricane," "Possession," "Circle"), *Tales from the Darkside* ("Levitation," "If the Shoes Fit"), *Logan's Run* ("Man Out of Time"), and more.

David Gerrold is a figment of his own imagination.