

EXPANSE[®]

PREMIERE ISSUE

US \$4.95

John Brunner

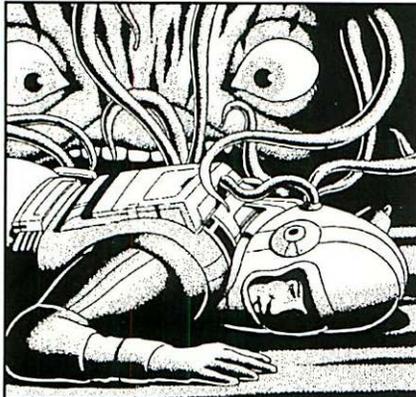
L. Sprague de Camp
Darrell Schweitzer
Don D'Amassa
Jacie Ragan
Mark Rich
and more...



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“GO UP, YOUNG MAN!”

EXPANSE publishes science fiction. But what *is* science fiction? Everyone, it seems, has their own definition. Perhaps a better question might be *What does science fiction do?*

The science fiction bug caught me early, when I was a small child. I had occasion recently to reflect on it during a trip to Colorado (a State in the U.S.A.). Staying at a Bed and Breakfast in Buena Vista, one night I drove a short distance out of town, pulled over and looked up at the stars.

Now I'm from the east coast, where we spend most of our lives at or beneath sea level. Colorado is about a mile up. The air is thinner and you're that much closer to space. You can really see it (and *feel* it when you try to breathe it)!

Quiet. A slight chill in the air. No city lights. And I could see the galactic arm sweep overhead. The sky was aglow with a thousand small embers. For a brief moment, I was no longer alone at the bottom of a dark well, but floating on Earth amidst eternity. I could see forever...

As I continued west on my trip through Colorado, I saw a path still worn on the sparse vegetation of the high mountain desert. It was a trail used by wagons a century before. On their westward trek, they had probably stopped to stare at the same awesome sight.

Then I realized, they were driven by a similar spirit. They travelled west in hope of a new future, a better life, adventure, unlimited opportunities... *Wanderlust*.

When I was a child, I read science fiction for the same reasons. It was an exciting window, for me, and a pathway toward the ultimate frontier. That sense of wonder is the primal impulse that ignites an SF fan. That, if anything, is what science fiction does. That's what it's all about. And that is what EXPANSE will strive to publish.

Well, we've now travelled west as far as we can. Earth has largely been explored, and maybe that's the problem. Humanity needs new challenges, breathing room... Here we are, all crowded together on an ever-shrinking island in space. Our resources gradually dwindling. Shall we endlessly squabble over petty earth-bound concerns until, at the end, we've exhausted our last crumb?

No, I say... *Go up, young man!*

-- Steven E. Fick, Editor.



Dear Expanse Magazine,
Here's my \$4.00. Please send me your mag. Let's get the old pulps going again.
Tom Graves
Long Beach, CA

Dear Sirs,
The enclosed check is for a copy of the premiere issue of your magazine. Could you please mark it "Please Do Not Fold, Bend or Mutilate" on the mailing sleeve. My postman has the habit of folding all magazines. I've asked him not to, but he only seems to do so with a greater enthusiasm.
Thank you.

Richard Gombert
Akron, OH

You know, we must have the same postman!

Dear Sirs,
Please send a copy of the premiere issue of *EXPANSE*. Enclosed is a money order for \$4. I saw your new magazine advertised in *Locus*.
Be forewarned, I'm expecting only SF, no fantasy or other such. I will expect a refund if it shows up as anything but SF.
Thanks in advance.

Bradford Cummings
Omaha, NE

Dear Editors of Expanse,
I hope your magazine is different! Recently, I picked up a copy of another new magazine at the newstands. It was called *Science Fiction Age*.

I mention its name only because it illustrates a point. They even use "science fiction" in the name of their magazine. Yet, they insist on printing at least one fantasy story per issue. (Though frankly, I don't like their pick of "science fiction" stories either.)

Is there some sort of fantasy conspiracy going on here?

I remember when the *Science Fiction Writers of America* (SFWA) was just that. Now, it's the *Science Fiction and Fantasy Writers of America!* What, is this some kind of "politically proper" thing to do?

Friends sometimes quote Arthur C. Clarke to me as if to say, "There, see, science fiction and fantasy are the same thing." But they're not the same thing at all. In fact, in many ways, they're complete opposites!

SF is based upon what is plausible. Fantasy is not. I think that the problem here is not that

the definition of SF is changing, but that people's perceptions are changing. More and more people are beginning to believe that UFOs, Bigfoot, Magic Crystals and who-knows-what else are actually for real. They're no longer getting their science from *Scientific American* or even *Discover*. Now they read *National Enquirer*.

If I subscribe to a science fiction magazine, it's because I wanted to read science fiction. Had I wanted to read fantasy, I'd subscribe to a fantasy magazine. That's simple enough, isn't it?

Jackie Svendon
Albuquerque, NM

Dear Friend,

Seeing your ad in *Locus* made my day. If ever there's something we desperately need more of, it's quality hard science fiction.

Enclosed is \$4 for a copy of the premiere issue.

Amy Hanson
Tacoma, WA

Dear Sirs:

I would like to order a copy of your new magazine. I have enclosed a check for \$4.00.

I saw your advertisement in *Sky and Telescope*. I have been a science fiction fan for almost 35 years. I started reading it when I was six years old and still read it today. From your advertisement, it looks like you will be printing the kind of science fiction stories that have been missing for a long time from the other magazines.

I tend to like reading the older stories. There was much more energy and fun in them. The new ones seem to concentrate too much on being politically correct. The new stories end up being retellings of old stories updated to the correct dogma. They stink! I bought an issue of *Analog* a few months ago, read the first story and threw the magazine away. I can still read stories from the 30's even though the science in them is usually totally wrong. At least they were honest.

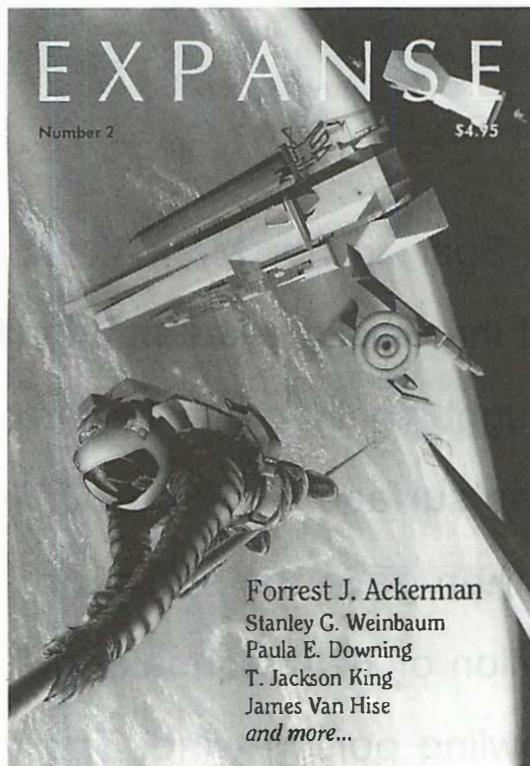
I look forward to reading your magazine.

Thomas Condarcur
Tuscon, AZ

This issue features a story by L. Sprague de Camp, a name you should recognize from the 30's. And starting next issue, Forrest Ackerman will begin a regular series, presenting classic reprints from the early pulps.

EXPANSE Magazine welcomes your letters. Whether to comment, criticize or just say hello, let's keep in touch. We'll publish as many as we have room for. Your input makes a difference as we continue to grow and improve in bringing you the best in science fiction! Unless otherwise marked, all letters are assumed for publication and become the property of EXPANSE Magazine and its Publisher. Letters may be edited, as necessary, for space considerations. Send to: EXPANSE Magazine, Letters Department, Post Office Box 43547, Baltimore, Maryland 21236-0547. And thanks in advance!

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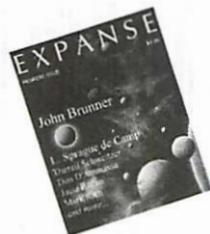


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DROPSCOUT BECOMES

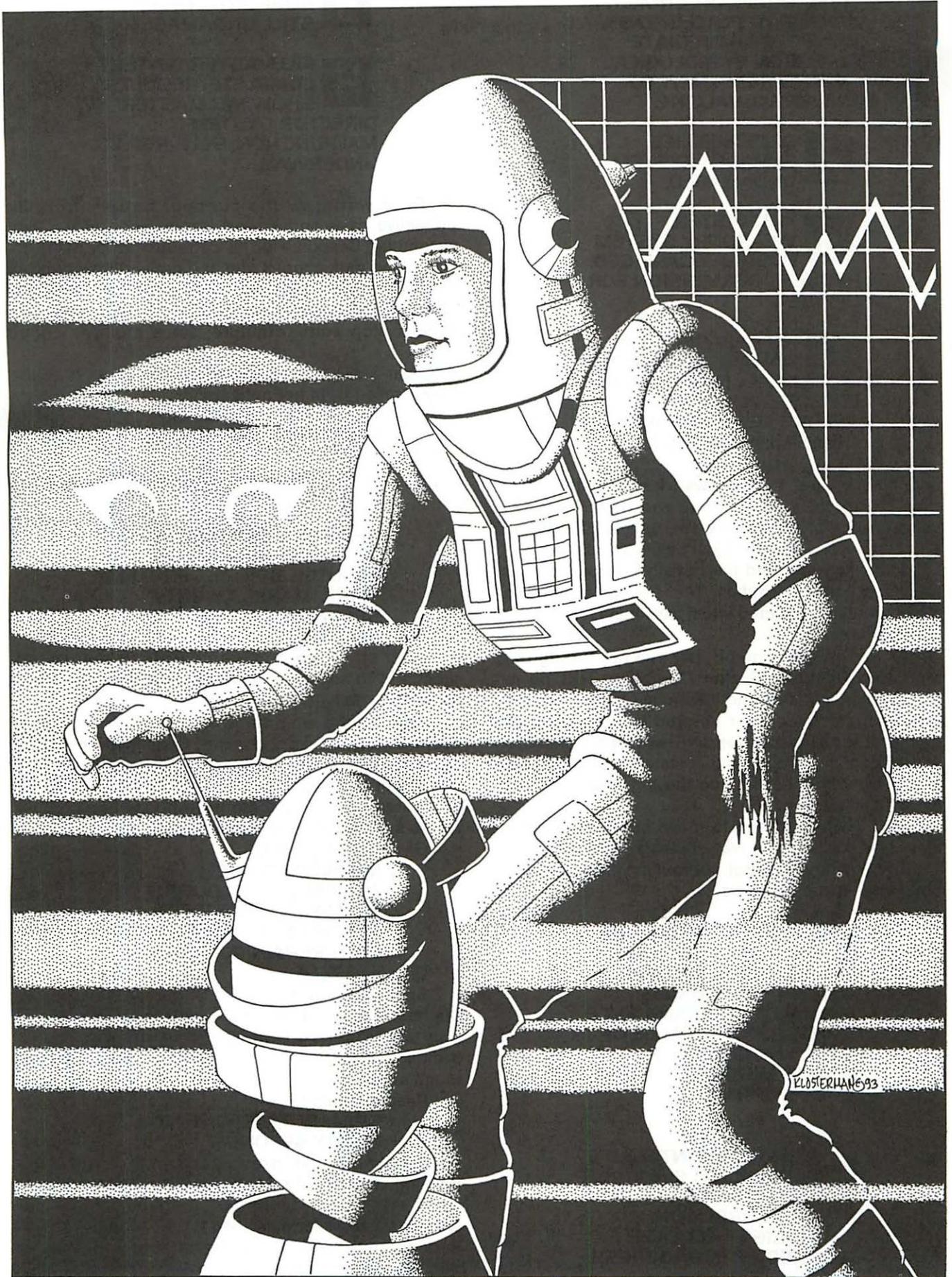
ATAH

DropScout Katherine Moira Spar, in her Mark V planetary DropSuit, in possession of three solid years of indentured training and a Secret Thought, finally broke free from the windstorm and touched down on the surface of *piScorpii(5)*. She cursed the automatic DropMaster, then gave the surroundings a quick look. It was a good approximation of Hell, stones and storms and shards of debris borne on a howling poison wind. The rolling plain was shot through with some eerily sparkling growth. The satellite reports on this continent had yielded anomalous readings on mineral content and vegetation percentage; seeing it close up only reinforced the confusion of it, the alienness. That tiny part of Spar which had time to react emotionally could only feel that the place looked weirdly alive-yet-not-alive.

The damage control subroutine in her ChipCaptain flashed a report into the optic nerve of her left eye...

by Charles M. Saplak

illustrations by
Alfred A. Hlosterman



1 INTEGRITY OF DROPSUIT BROKEN IN TWO PLACES; 37.5% CHANCE OF IMMEDIATE INFECTION BY BIOLOGICAL AGENTS RESISTANT TO UNIVERSAL VACCINE.

2 RECYCLER LIFE SUPPORT SYSTEM UNDAMAGED.

3 KILLMASTER WEAPONRY SYSTEM POSSIBLY DAMAGED; REQUEST PERMISSION FOR OP-TEST.

4 NO APPARENT DAMAGE TO COLONIST BEACON; UNABLE TO GIVE CERTAIN STATUS BEFORE ASSEMBLY AND TRANSMISSION TEST.

Thanks, Spar thought with her semantic node, then set to work assembling the Beacon. With a vague sense of annoyance she noticed that her left arm had been sheared off just below the elbow.

The injury sparked the Loyalty&Dedication subroutine in her ChipCaptain. *That Beacon is essential!* the subroutine projected into Spar's mind. *The job you do is important!*

As Scout Spar worked, her suit ran through the requested Weaponry System Operability Test, powering up various beams and attempting to lock and load several projectiles. Spar ignored the readouts and unfolded the Beacon frame. She'd been drilled on how to do this while in various states of injury, but the loss of a left hand still made the job take more than twice the ideal time.

Dark shapes started to move into Spar's peripheral vision -- piScorp(5) was obviously inhabited.

The Damage Control subroutine projected a report into Spar's optic nerve...

1 UNIVERSAL VACCINE CONTROLLERS AND ORGANIC IMMUNE SYSTEM FUNCTIONING NORMALLY. 0235% CHANCE OF INFECTION CAPABLE OF AFFECTING COLONIST BEACON MISSION ACCOMPLISHMENT.

2 DROPSUIT INTEGRITY BREAK AT LEFT WRIST SELF-REPAIRED; SUIT INTEGRITY BREAK ON LOWER RIGHT RIB CAGE SELF-REPAIR IN PROGRESS.

3 RECYCLER LIFE SUPPORT SYSTEM STILL UNDAMAGED.

4 KILLMASTER OP-TEST COMPLETE; RESULTS SHOW KILLMASTER DIRECTOR SYSTEM MALFUNCTION; SELF-REPAIR UNDERWAY.

Spar withdrew the sunsoul battery from its protective case and locked it into place in the just-assembled Beacon. Her rib cage ached for attention. One of the dark shapes she had noticed now crossed the plain toward her, somewhat tentatively. As it got closer Spar could make out dozens of whiplike flagella atop some creature like a multiple-legged turtle.

Spar activated the power on the Beacon. A display scrolled by in her optic nerve...

PLANETARY SURFACE BEACON MODEL I973X5, SUNSOUL BATTERY-OPERATED. POWERED UP AND SETTLING OUT. PLEASE ALLOW FIVE MINUTES SPIN-UP TIME. FOR EMERGENCY START-UP, ALLOW THREE MINUTES SPIN-UP, FROM MY MARK...MARK!...TWENTY SECONDS...TWENTY-FIVE SECONDS...

Spar stood up and watched the creature approach. With her semantic node she said: *I think I'm in its territory, Suit. Give me a laser at 30% power.*

Spar hit the whip-turtle with the beam. It didn't seem to notice; it kept coming. Spar made out a few more details: it didn't appear to have an external head, but the "front" of the shell held a maw with articulated teeth, and there were hook-shaped "nails" on the ends of some of the flagella...

Give me 70% power.

MAXIMUM POWER AVAILABLE 35% DUE TO KILLMASTER DIRECTOR SYSTEM MALFUNCTION. SELF-REPAIR CONTINUES.

Give me 35%!

Spar hit the turtle again. She aimed straight for the "face." It seemed to have no effect. Of course it only made sense that any creature capable of trundling around this hell would have enormously tough armor.

Beacon status?

SPIN-UP TIME: ONE MINUTE, THIRTY SECONDS.

Spar's choices grew more limited with each passing second. She suspected that the whip-turtle could wreck the beacon easily if it reached it before it was activated. After activation the beacon could work through armageddon, but during spin-up it was vulnerable. Her ribs felt like sticks of solid fire. She would

have vastly preferred to scare the thing off, but the suit's lasers at 35% power had as little effect as spitting on a Hellizard.

The Loyalty&Dedication subroutine chimed in: *That Beacon MUST be activated. Thousands of colonists will die if you fail. What you do is important!*

The L&D subroutine left a little echo in her mind: *any DropScout who successfully plants a colonist beacon has all criminal records erased, and, upon rescue, is eligible for preferred colonist status.*

Spar made the decision to use deadly force. *Suit, target and activate missiles.*

**MISSILE CONTROLLER
INOPERATIVE.**

Grenades!

**GRENADE LAUNCHERS
INOPERATIVE.**

Spar didn't even have time to curse before the whip-turtle was within reach of the beacon. She leaped forward to meet the thing. The DropSuit had limited servo-musculature, but enough to give her the strength to wrestle the thing away from the beacon.

**SPIN-UP TIME: TWO
MINUTES, TWENTY
SECONDS. EMERGENCY
MODE BROADCAST WILL BE
AVAILABLE IN FORTY
SECONDS.**

A little more than half a minute, Spar thought. She looked into the face of the whip-turtle. There were

three clusters of shiny little eyes there. Spar saw herself reflected in the eyes. It waddled toward her; its flagella whipped her through the DropSuit. Even through the DropSuit's flakfields she felt the boney nails rake her skin, attempting to find purchase.

**SPIN-UP TIME: TWO
MINUTES, FIFTY SECONDS.**

A nail hit Spar's rib cage through the rip in her dropsuit. Cold fire spread through her torso. She dropped to her knees, then fell backwards.

The whip-turtle backed away, then came back and began cutting through the legs of the DropSuit. Spar saw liquid fire and dull colors.

Am I dead?

**UNIVERSAL VACCINES
ACTIVATED. ORGANIC
IMMUNE SYSTEM INDICATES
ABNORMAL ACTIVITY.
SPIN-UP TIME ON COLONIST
BEACON: THREE MINUTES,
TWENTY-FIVE SECONDS.
EMERGENCY MODE
BROADCAST IS NOW
POSSIBLE. PROBABILITY
OF DROPSCOUT SPAR
PERMANENT MALFUNCTION:
83.98%.**

A distant part of Scout Spar felt a surge of humor. "Scout Spar Permanent Malfunction"? *Chips are so condescending. Just say "death," ChipCaptain.* Spar told her right hand to wave. Dimly, as through clouds of smoke, she saw a shape in front of her DropSuit



visor. She was waving.

She felt the flagella snaking up her legs and into the pelvis of the DropSuit. It felt as if all that were taking place miles away. She rolled her helmeted head to one side and saw that she was lying right beside the Beacon.

As a distant echo, the Loyalty&Dedication subroutine prattled on: *...thousands of colonists will die stranded in Hyperspace...must activate the Beacon...what you do is important...*

The Damage Control subroutine:

1 BEACON IS CURRENTLY ENABLED FOR EMERGENCY MODE BROADCAST.

2 SCOUT SPAR CURRENTLY CONTAINS VARIOUS UNANALYZABLE CHEMICAL SUBSTANCES AS A RESULT OF NATIVE LIFE FORM 'STING' ON RIGHT RIB CAGE. PROBABILITY OF SCOUT SPAR PERMANENT MALFUNCTION: UNKNOWN.

3 INTEGRITY OF DROPSUIT BREACHED BY NATIVE LIFE FORM. PROBABILITY OF SUCCESSFUL SELF-REPAIR: UNKNOWN.

4 RECYCLER LIFE SUPPORT SYSTEM INTACT AND FUNCTIONING NORMALLY.

And it was at exactly that moment that DropScout Spar thought the Secret Thought which deactivated the ChipCaptain. She lifted her right hand and held it over the activator switch of the Beacon. The L&D subroutine of the ChipCaptain faded away...*thousands of colonists will die...*

As her mind cleared Spar realized the things that the ChipCaptain subroutines would never have allowed her to realize.

This is how it feels to be the most expendable piece in an economy of colonization. When they spend the money and the energy to open up a new star, they can use the tiny DropShips, and leave the Colonists behind in hyperspace. You don't even have to equip the DropShip with a powerful AI, just use an expendable human under ChipCaptain control...

"Upon rescue," they say. What a bright, cold, theoretical lie. Have any DropScouts ever been rescued?

This is how it feels to die alone on a world light years from home....

If I activate this Beacon, the Colonists will be here

one year from now. They'll find my bones. They'll build a statue to me -- maybe.

If I don't activate it, another DropScout will be here in one week. That Scout just might -- just might -- find me. I might live.

Thousands will die.

I might live.

Thousands will....

I might....

Thousands....

I....

Thousands....

I....

Scout Spar was glad that the ChipCaptain and its routines were deactivated, glad that the decision was to be hers and not the result of "programming." She punched the activator switch. The Colonist Beacon lit up as the sunsoul battery made its connection. There was a slight jar as the transmitter portion of the Beacon dropped into hyperspace and began the throbbing which would guide the colonists' ship from its gray nowhere in hyperspace to a safe orbit around this chunk of rock called piScorp(5).

Flagella snaked up through the neck of the drop-suit and began some sort of work on Scout Spar's chin, neck, eyes, ears, nose, lips.

* * *

The Beacon was still throbbing (of course -- it would be able to work through anything, up to and including a direct hit from a Z-Bomb) when Scout Spar regained consciousness. She couldn't move. Her head was turned to its right side, still looking at the Beacon. Her right hand was no longer in view on the control panel. Occasionally during those first few hours of consciousness she saw whip-turtles pass in and out of her field of vision. They ignored her.

After many hours, she had enough "presence of mind" to reactivate the ChipCaptain.

Am I dead?

1 SCOUT SPAR HAS UNDERGONE PERMANENT MALFUNCTION. SCOUT SPAR HAS ALSO REVERSED PERMANENT MALFUNCTION. SCOUT SPAR HAS MOVED FROM REALM OF POSSIBLE TO HYPOTHETICAL (HUMAN PERMANENT MALFUNCTION PREVIOUSLY DEFINED AS IRREVERSIBLE.)

2 RECYCLER LIFE SUPPORT SYSTEM OPERATIONAL

3 COLONIST BEACON OPERATIONAL FOR PAST THREE DAYS, SEVEN HOURS AND FORTY-

TWO MINUTES.

Any ideas as to why I'm alive? How do you think I was able to reverse the "Permanent Malfunction"?

BEST THEORY: INTERACTION OF UNIVERSAL VACCINES WITH NATIVE LIFE-FORM VENOM PRODUCED UNEXPECTED EFFECT.

What damage has been done to my body?

LEFT ARM AMPUTATED BY TRAUMA DURING ATMOSPHERIC PORTION OF DROP. SEVEN RIBS IN RIGHT RIB CAGE BROKEN DURING DROP. STING WOUND ON RIGHT SIDE NOW HEALED. TORSO, NECK, CRANIUM INTACT. AUTONOMIC NERVOUS SYSTEM OPERATIONAL AND INTERFACING NORMALLY WITH RECYCLER LIFE SUPPORT SYSTEM. LEGS, RIGHT ARM AND LEFT STUMP DISCORPORATED. CEREBROSPINAL NERVOUS SYSTEM INOPERATIONAL

'Discorporated'?

'WEBBING' AND 'NESTING' EFFECTS BY NATIVE LIFE FORM. CHEMICAL DISSOLUTION ACHIEVED BY NATIVE-PRODUCED REAGENTS.

"Webbing" and "nesting"? No. No, no, no...

IMPLANTATION OF CHEMICAL REPLICATORS AND SOLVENTS DESIGNED TO NEUTRALIZE/ECOLOGIZE SCOUT SPAR BODY.

No, no, no. The whip-turtle put something in me which is dissolving me? How long before the process...completes?

Spar felt, or imagined that she felt, a bright, alien tingling along the edges of her "body."

PROCESS APPEARS TO BE 'ORGANIZATION SENSITIVE.' LIMBS DISCORPORATED QUICKLY. TORSO AND SPINAL NEXUS SHOW HIGHER ORGANIZATION, APPARENTLY 'CONFUSING' VENOMOUS CHEMICALS. DISCORPORATING AGENTS HAVE SLOWED CONSIDERABLY UPON ENCOUNTERING BRAIN STEM.

I'm confused, Chip Captain. Can you try to bigpicture this for me?

THE WHIP-TURTLES MIGHT SERVE A SORT OF GARBAGE COLLECTOR/ECOLOGICAL

ANTIBODY FUNCTION. THEIR VENOM MAY HAVE CHEMICAL REAGENT CONTROLLERS WHICH PERCEIVED YOUR LEVEL OF CELLULAR ORGANIZATION AND DON'T EXACTLY KNOW WHAT TO DO WITH YOU. BUT THAT'S A GUESS.

Will they stop?

UNCERTAIN. SCOUT SPAR'S PROBLEM IS UNPRECEDENTED AND THEREFORE HYPOTHETICAL, NOT PREDICTABLE.

Hypothetical to you you subsilicon bastard!

Okay. Sorry. I've lived three days. Theoretically the Recycler Life Support can go on for years. The whip-turtles have lost interest in me. How long before the first Colonist Can arrives?

TWO HUNDRED AND FIFTY-FIVE DAYS BEFORE THE PRIMARY SHIP. THREE HUNDRED AND EIGHTY-THREE DAYS BEFORE THE SECONDARY SHIP.

Three hundred and eighty-three days. How extensive is your current library subroutine?

FOUR HUNDRED AND SEVENTY-FIVE DREAMPAKS.

Let's see...that's about three every two days if I can manage normal sleep six hours every day. And that's without going through any of them more than once.

DROPSCOUT KATHERINE MOIRA SPAR. I MUST ASK YOU ABOUT TWO THINGS. I KNOW NOTHING ABOUT YOUR PERSONAL BACKGROUND NOR ABOUT THE CRIMINAL RECORD WHICH LED YOU TO BECOME A DROPSCOUT. HOW DID YOU MANAGE TO OBTAIN ONE OF THE 'SECRET THOUGHT' CODES TO DEACTIVATE YOUR CHIPCAPTAIN?

Why do you want to know? Were your feelings hurt? I bribed a programmer. Don't ask what I gave him; I won't tell you. What's the second thing?

NONE OF MY HUMAN PSYCHOLOGICAL NORMATIVE DATA EXPLAINS WHY YOU ACTIVATED THE BEACON. IN FACT, ALL NORMATIVE PRINCIPLES PREDICTED THAT YOU WOULD NOT HAVE ACTIVATED IT. CAN YOU EXPLAIN THIS TO ME?

I could explain by saying that people are a little more complex than you realize. But let me also say, before we drop the subject forever, that one of my

crimes was membership in the Church of Free Will.

Four hundred and seventy-five dreampaks. Each one good for two to three hours. Everyday would be six hours sleep, an average of three-and-a-half hours of second hand dreams, and about fourteen hours of looking at the Beacon.

Spar almost wished she had access to the whole library aboard her DropShip, in orbit twenty-three miles above her. She beat back the thought -- she knew that she would, soon enough, feel an aching wish that she could somehow be back in the Dropper. She knew that was impossible.

She watched the Beacon throb, and resisted the urge to move the arms and legs that weren't there.

Okay, ChipCaptain. Start a calendar. And tell me, those four hundred and seventy-five dreampaks...are any of them westerns?

* * *

The primary colonists didn't arrive after two hundred and fifty-five days.

Spar felt an aching, soul-burning disappointment, but she quickly shut it out of her mind. *One-hundred and twenty-eight days left before the secondary ship arrives! I can do that easy. I WILL survive.*

The secondary colonists didn't arrive after her calendar reached three hundred and eighty-three days. Shortly after that the chemical agents in the venom disincorporated her eyelids.

She no longer had the physiological equipment to either scream or hear a scream, but she did send shrieking flashing thoughts into the circuitry that was ChipCaptain.

She memorized the sight of the throbbing Beacon; watched it cover with sand and get uncovered by the wind. She often couldn't distinguish whether the Beacon was a memory, or imagination, or a picture, or a dream.

The one-hundredth time through the dreampak *Gunslinger Preacher* she realized that she had every nuance, every intonation memorized.

The two-hundredth time through it she realized that she had somehow managed to forget it. Every intonation of "This town ain't big enough for both of us" and "Seems like the desert has a way of getting into a man" struck her as being terrifically brilliant, unexpected, and insightful.

The three hundredth time through it she thought she was living it.

After nearly one hundred years she made contact -- of a sort -- with the whip-turtles.

Why did you do this to me?

<ALIEN. ALIEN MUST BE INTEGRATED.
ECOLOGIZED. NEUTRALIZED.>

During the one hundred and tenth year she commanded ChipCaptain to erase the dreampak library.

A few years before the two hundredth year she realized that she had been mad for a long time.

A few years after that ChipCaptain failed and the calendar disappeared.

The Recycler Life Support failed years after that, but the disincorporaters had done such a job of altering her by then, that it didn't matter.

Years after that she made contact. *A vast desert covered with winds, webbed through and through with metallic plants, their root systems covering miles, sunk down to the frost level, cooled to a fabulous degree of conductivity, a great neuron system without thought.*

A tremendous web awaiting some pattern, some impetus...a sleeping mind, awaiting the arrival of a matrix on which to build a thought...

After a thousand or so years, the whip-turtles became extinct.

The DropShip's orbit decayed a century after that and it "dropped" itself a few miles from her remains. Somehow, she sensed it.

For a few months during her second millenium on piScorp5 the nerve nexus which had been Scout Spar "thought" these thoughts: *Who am I? What has happened to me?* Even as she thought them she realized how alien, how meaningless, how mysterious such words as "who," "I," "me," and "happened" had become.

The sunsoul battery lived up to its design, and the Beacon throbbed on.

* * *

Nearly six thousand years later some colonists arrived, orbited, and deactivated the Beacon. The terrible storms of terraforming took three decades (an eyeblink).

The colonists landed. Spar would never have recognized them. They had human faces, but had redesigned their bodies. They galloped on four legs and sang trilling songs of joyful precision. Their slender torsos each sported three lithe and supple arms.

They recovered the Beacon and dutifully built a museum around it, as they did with any of the technological remnants of "They-Who-Have-Lived-Before." The museum also displayed a scrap of some composite material which might have once been part of a DropSuit.

The inevitable Colonial Regression hit, but it didn't hit the centaur people with the force and tragedy with which it had hit many worlds. Within only a thousand years of that it was time to build cities.

They built a city of delicate pastel castles and ornamented cathedrals over the site of the legendary Starsinger Museum. That city became the cradle of their new civilization, and the people of that city developed a reputation for sadness, fierce independence, and courage.

They called the city Sparz, a nonsense word which, according to their mythology, originated in a dream.

||||| **END MESSAGE**

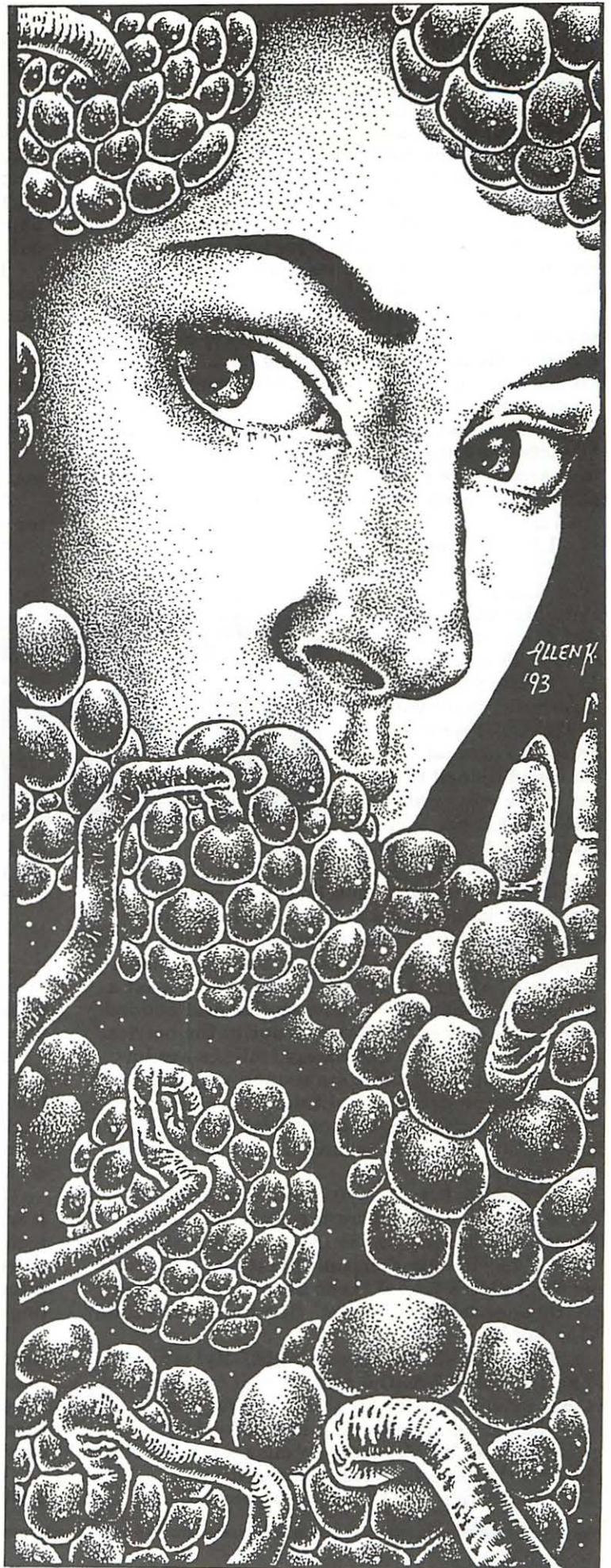
BLACKBERRY SUMMER

by Jacie Ragan

illustrations by
Allen Koszowski

Every planet has one feature reminding you that you're an alien there: the poison rocks on Charsa, the constant clouds over Venus, the singing snails in the streams of Paraiso, Kiel's walking death masques. Here on Frondelaq it was the absence of wind. The stifling stillness. The oxygen content of the atmosphere was sufficient for us to dispense with suits and helmets. But the air just didn't move.

We were surveying, the usual team of three. Rhea was the xenobiologist, I was the sentive, and Kyl was just an intern. He didn't really belong with us, but he had pull. Rhea and Kyl's romance had been the talk of the outpost for over a long-cycle. He was so much younger, closer to



my age than Rhea's. No one knew for certain why he'd even been chosen as an intern, but there were rumors that his uncle was someone powerful in the confederation.

"Don't pick those berries," I told them.

Rhea stopped her hand in midair. It looked like a white bird poised over the stalks of purple blackberries. "I need to take some samples for analysis, Larrk. Why are you so jumpy?" She shoved her dark hair back over her damp, creased forehead. Tiny lines puckered her lips like pleats when she frowned.

"Yeah, Larrk. That's the xenobiologist's *job*, in case you've forgotten," said Kyl. He moved closer to Rhea, as if she needing backing up. I almost laughed. She'd been leading survey teams longer than this pup had been toilet-trained, I'd wager. Personally, I couldn't see why she was so attracted to him. He was handsome enough, but his narrow blue eyes glittered vacantly, like chips of faience. I preferred a man whose eyes gleamed with intelligence.

"I have a feeling..."

Rhea and Kyl exchanged shrugs and glances. "Yes, Larrk, what's your feeling?" Rhea asked. Her voice sounded tired, and she rubbed her forehead with one hand.

"I have a feeling that the berries don't want to be picked." I wrapped my braids up around my head and pinned them out of the way, not looking at them, giving them time to think, to reconsider.

"Well, they are *going* to be picked. They look just like blackberries. You know we need all the native foodsources we can get, with the supply ship being delayed." Rhea paused, then continued slowly. "I'll just pick a handful. See, the bushes stretch all along the channel. Must be at least a kilometer of them here." She smiled and nodded at me, and moved her hand closer to the berries.

"I know you don't think my feelings are important, Rhea, but there's a reason why a sentient goes along on every expedition. There are more things in life than science can explain." I felt my face getting hot. Why wasn't there any wind in this place?

"Of course I realize your job is important, Larrk, and you know I trust your judgement. I always ask for you on my expeditions." She was rubbing her forehead again. "I just don't see why we can't pick a few of these berries when there are thousands of them here" She tapped her foot. "Oh, quit glaring at me."

"Come on, Larrk. Rhea's right," Kyl whined. "The air's fit to breathe and the soil composition is close enough to Earth's. There's no reason why the food shouldn't be just fine for human consumption. Who's going to miss a few berries?" He smiled at me. Even his teeth glittered.

"The berries don't want to be picked, or

something doesn't want us to pick them," I insisted. "Can't you feel something watching us?"

They shrugged. The back of my neck prickled. Kyl rubbed his hand along Rhea's shoulder. She pulled away from him, and shook her head. "Not here," she whispered.

She turned toward me. "Well, Larrk, I guess we'll just have to put this to a team vote. Your objections will be duly noted in the log." Rhea got out the corder and spoke into it.

I didn't pay attention to what she was saying, just closed my eyes and centered on the feeling. Something close by, something observing us.

"Your vote, Larrk." Kyl handed me the corder.

"I vote no. We should not pick any of the berries at this time. I have a certainty level of nine that a sentient being does not want the berries picked."

"Well, that's that," said Rhea, sticking the machine back into her vest pocket.

"A certainty level of nine, Rhea." I was holding my breath.

"Sorry, Larrk." She picked off a handful of the berries and shoved them in a styrene specimen bag.

"Don't pick those berries..."

Keening. We heard a wail, like a howl of wind, but this was a windless planet. I shivered. It was still hot, and I wiped the sweat off my forehead with the back of my hand as I listened.

Kyl was looking around in every direction, and shuffling his feet. "Well, I think we should get these analyzed right away. The sooner the better."

"Good idea. Let's head back," Rhea agreed.

"Didn't you hear that?" I asked.

"Hear what?" asked Kyl, still swiveling his head in all directions. They walked off rapidly, boots leaving indentations in the blue-gray dust, shoulders touching.

I followed. We heard no more keening, but I still had that feeling of being watched. And a feeling we'd failed some sort of test. The trip back was without incident, as I would say in my report, and once we were back at the outpost, I no longer felt observed by anyone or anything.

I entered a full report as soon as I was alone. It was always the same struggle -- science and technology versus intuition. Sentives were required to accompany each expedition, but more often than not we were ignored. I drummed my fingers on my chair.

I closed my eyes and remembered the years of training in the Vault and my instructor. "You must become one with the alien, Larrk. You must accept your feelings, rely on them, and trust them. Anyone can learn the laws of science, but only a few can learn intuition."

I remembered. Three years of training. The death pit, where I'd had to find the single living

being among a thousand dead in the darkness, the Carpathian meditation chambers, the wall of vibrations, the scent of the hemp cages, the rattle of alien tongues behind bloody gauze fans, the flights on wings of smoke... The work on outposts was easy, compared to training. But no one paid any attention to something that wasn't an exact science.

I wandered down to the lab.

"Larrk, these berries are great -- salty, not sweet, and a super source of protein," said Rhea.

"Protein?" I tried to imagine blackberries a salty source of protein. I shook my head.

"No thorns either. And easy picking, with the berries clustered on the end of each stalk like they are. We're going back tomorrow to pick a lot more. This is a wonderful discovery." She was beaming. "At this rate, we'll be self-sufficient before the supply ship gets here."

"No, Rhea. You can't pick them yet. What about the mandatory twocycle waiting period?"

"Waived in cases such as this," she said. I thought she looked smug. "Fronde-laq is desperate for native foodsources, you know that."

I left without comment. I went to sleep, putting the problem out of my mind. I had done all that I could.

The next morning I went to the meditation chamber early and centered on the berries. I was looking at them all wrong, just because they looked like blackberries to me. I put the thought

of berries out of my mind. What had multifaceted globules of protein? What was salty and glittered? It came to me, and I could've kicked myself for being so slow. I ran down to the lab, but Rhea and Kyl were gone, out on the surface, picking the berries before I could stop them. I was out of breath when I found them, and I was too late.

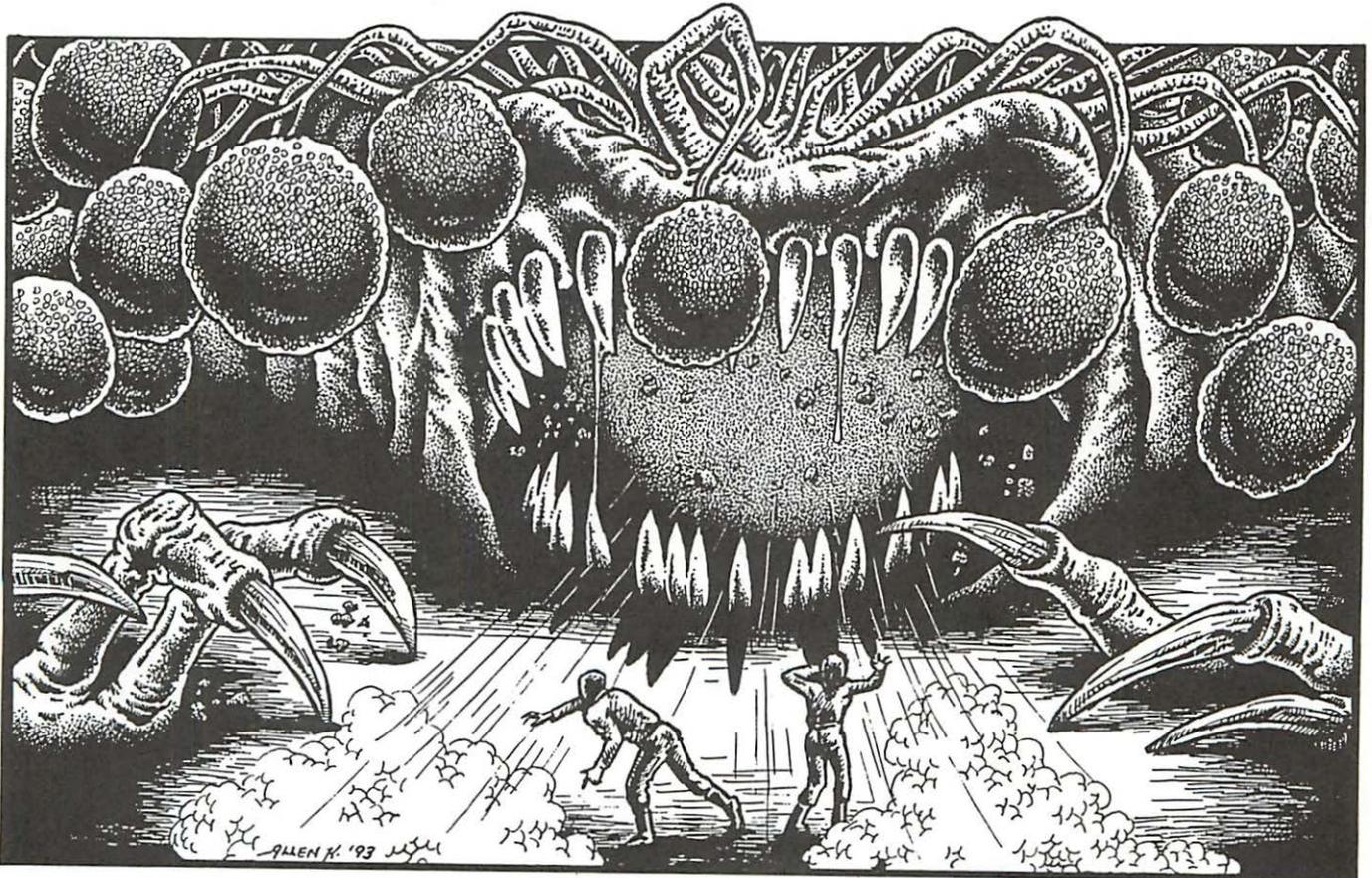
They had picked more of the berries. "Stop it," I screamed at them. "Stop picking right now."

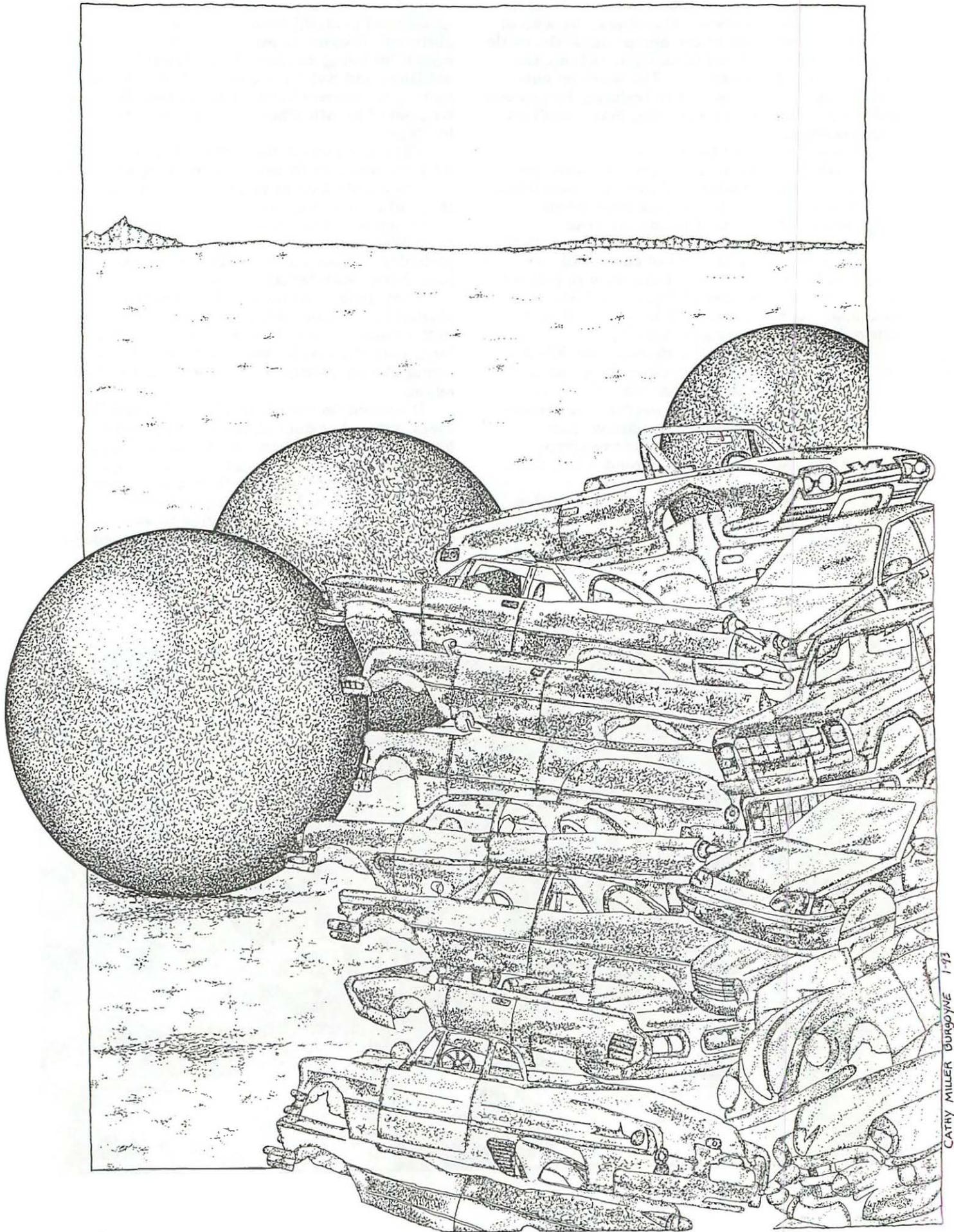
They looked up at me, mouths gaping, but they didn't stop picking.

"They're not berries. Don't you see? These are eyes. Watching us. Haven't you felt it? The watching. These are eyes, like insect eyes: bees, flies. Eyes. Multifaceted eyes."

They grinned at me like I was crazy. Kyl started to say something, but then it rose up out of the ground, a creature more than a kilometer long, with thousands and thousands of eyes glittering like juicy drupelets. I heard the keening again.

It opened its mouth and blew Kyl and Rhea away with a hot gust of breath. They tumbled like weeds in a typhoon, carried on the creatures's exhalations, through the dead air of the windless planet. Then it settled back down into the alien dirt, and I slowly backed away from the thousands of eyes. I was moving toward the outpost, glad to still be alive here on Fronde-laq, where intuition was slowly becoming a science. ■





“You know what they say about you, don’t you, Nagdon?” says Windbirk, his stocky form wrapped in cloth a dirty grey color.

I smile at his question. Windbirk takes pleasure in being the conscience of the community. Or at least in being the voice of that conscience. Those who can’t both think and speak settle for just speaking.

“They call me a fool, when they’re being kind. Care for some tea?” I motion to the tent.

“Hey, great,” says Jipper, Windbirk’s thin companion. Jipper wears more sensible light colors against the desert heat.

“No thanks,” says Windbirk. “Need to be on our way soon.”

“Yes, that’s right,” says Jipper, cuffing his heel in the sand.

“Heard the rhyme they say about you yet?” says Windbirk.

“A rhyme?” An unexpected pleasure from an unexpected source. “No. Tell me,” I say.

“Go ahead,” he says to Jipper.

“You know it just as well as I do,” Jipper says back.

Windbirk snorts. “I wouldn’t deign.”

“You do know it just as well!”

“Jipper! Recite the offensive verse! Spit it out!”

Jipper screws up his face, as if dredging memory.

“It’s cooler in the tent,” I offer. “Easier to think in the shade.”

“Oh, good idea,” says Jipper.

“Jipper thinks well on his feet, and, besides, we have to get on our way soon, as you know,” says the stockier of the two.

“Yes, right,” says the thinner.

“So, come on, Jipper, recite the poem. Let’s have it.”

“Ahem,” Jipper, says, formally. And then:

“Lo, foolishness blooms in a dry land.

Blind, dumb and deaf to Your power

does Nagdon insult Your Lordship’s sand

by building, of cars, his tower.”

“Nice! Well done!” I clap. “What a wonderful voice, Jipper! Nearly stentorian! You need refreshment after that!”

“I guess I do,” says Jipper, pulling at his collar.

Mark Rich’s

OF
Cars,
His
TOWER

illustrations by

Cathy Miller Burgoyne

"There you have it," says Windbirk. "A lot of people are wondering about you. The poem demonstrates it, Nagdon. The prevailing belief is that you're building this damned thing for personal glory."

"Farthest thing from my mind."

"Can you prove it?"

"Is that offer for refreshment still good?" says Jipper.

"Sure. Step right in."

"You have proof in the tent?" says Windbirk.

"No. Refreshments."

"Thanks, but we have to get going. I just need to know if you can prove you aren't doing this for narcissistic glory. The fundamentalists are getting restless. I'll speak to them and placate them on your behalf, if you can assure me proof is forthcoming."

"No problem. Give me -- say, two days."

"Very well." Windbirk turns, then turns halfway back. "The whole thing -- every bit of it -- is made out of those things you've excavated, those cars from the Age of Splendor?"

"Exactly. The verse got it right."

"Well, what do you think of that!" says Jipper. "I got it right!"

"You wrote the verse?"

"Oh, no, Nagdon," says Jipper, looking at Windbirk.

"Nope."

"Cars are a kind of -- concretion, aren't they?" says Windbirk.

"Well, yes, in a sense," I say. "I could explain it, but it would take a few minutes. If you want to come in and sit down inside --"

Jipper just manages to open his mouth before Windbirk's hand clamps over it. "We really have to go," the stocky one says, sweetly, before releasing the thin man from his grasp.

"Well, thanks for stopping by. Sorry you can't join me for tea."

"Maybe next time."

"And thanks for the verse."

"Oh, sure, anytime." Jipper waves.

It rises as a massive, rust-red tower from the desert floor, made completely out of --

Automobiles.

I should talk about them, since you don't know what they are. Yes?

Very well.

Automobiles are the common mineralogical oddities found in the sands of the desert, often surrounded by a blackened halo, which is a residuum of some dark, possibly organic substance. The common opinion, that automobiles are a variety of crystal-filled concretion, holds a modicum of truth.

Historians of the past age were the first to regard cars as concretions. They regarded automobiles as metallic stones containing in crystalline form the culture, mores, dreams and desires of the Age of Splendor.

The automobile, however, is technically less concretion than *ichnofossil*. This term, borrowed from paleontologists, denotes a fossil giving evidence of movement in the geological past, and usually refers to footprints or worm trails bequeathed us by creatures of distant eras. It is fossilized *behavior*, not fossilized *being*.

Ichnofossil. A marvelous word for a marvelous concept, isn't it? The automobile is among ichnofossils the most odd, for it represents not just the impact of feet upon sediment, but of an entire culture upon the larger environment. It gives evidence of the past movement of humanity across the face of our debilitated globe.

In building my tower, I use for bricks the remains of an extinct form of movement: I rise upon the bones of a deceased dream. The craft that once moved humans horizontally move me vertically. I yearn upwards.

The choice of such awkward materials forces me to mine the sands. I must drag heavy weights over considerable distances. But being relatively young, small of stature, and of no great strength myself, I find myself relatively useless for the task. So I accept the assistance of the Globulars, helpful beings, who, the more daring of his-

torians suggest, arose during the Crash itself. The Crash is, of course, that watershed moment that ended the Age of Splendor and brought to a standstill all automobiles, which up till that point had been the epitome of achievement, ambition, and success.

The name "Globulars" derives from the interest in all things spherical these beings evince. They build large, round frames of fossil "plastics," a material of varying flexibility found buried in the desert. Within these spheres they tumble across the sands; in their bouncing flights across the dunes they look like tumbleweeds.

Globulars have an unusually hunched posture, their bodies so bent that the shoulders nearly meet the hip bones, while the extended neck protrudes forward at right angles to the U-shaped spine. The small but humanlike head extends forward in front of the arched body, giving the whole the appearance of such extinct birds as the emu or ostrich, with the difference that the Globulars are clearly mammalian and have four limbs. While they move on all fours, you often see one perched on its hind legs while accomplishing small tasks with the fore limbs. They are also dexter-

*'I rise upon the
bones of a deceased
dream...'*

ous with their hind feet.

According to one popular story, the Globulars comprised the upper echelon of Splendor society. Having naturally weak spines, they used a manufactured fiber, a kind of synthetic sinew which they called by such names as "money," "solvency," "means," and "wealth," to maintain them in so extremely upright a position that they acquired epithets such as "pillars of society" and "the stanchions upon which our civilization is built." The efficacy of this synthetic sinew was apparently dependent on a pre-Crash condition, perhaps an artificially-maintained environmental quality, for after the Crash the Globulars collapsed in form and assumed their present shape and condition.

I'll admit, it's a good story. So many other things failed in the Crash: the economy, the health of the people, and the health of the planet itself. Why couldn't there have been a more ineffable element that collapsed as well, and left the Globulars in their present state?

I do, however, have other information.

Kirrtella Bines visits, wearing the high crested helmet she fashioned from an artifact called an Oil Can, with a long, jointed spout. A few areas of red paint remain on this specimen, discovered by Kirrtella herself along Asphalt Strip 215A, north of Nubbleville. She wears chain mail pieced together from the talismanic tokens we find in association with all pre-Crash skeletons, usually in the region of waist or thigh "pockets."

I regret we don't agree in politics or religion, for she has an agile mind and lovely face. I'm tempted to disregard such small impediments and propose love -- for there are, after all, few enough of us in these desert colonies, and I detect in her eyes a responsive attraction. But I maintain a modicum of self-possession. It becomes desert creatures to keep one another at a distance.

"Tella, a pleasure to see you again."

"Nagdon," she says, "greetings. Hot day, isn't it? You'd think you'd feel a breeze, here on your tower." She looks around. "Maybe I'm wrong, but things look changed today, somehow. Are they?"

"Well, it's smoother where you're standing, more so than last time you were here. Almost polished, don't you think?"

"You work those globulars hard."

"I don't work them at all."

"You got them started on this weird project."

"All I did was suggest the work to them, through noises and hand gestures. They liked the idea, and embraced it as their own. They're intent on making

the tower rise up high like this. And why should I object to that? I enjoy the view from up there."

"I suspect you of old-time feelings and wanting old-fashioned power, you wicked man," she says. "Power and height, they're very much alike."

"I know you feel that way. It's just aesthetic pleasure I'm after. I think even a small religious element may play into my feelings."

"You're a pleasure hog, then."

"That's so bad?"

"Pleasure's dead in this world, Nagdon."

"You must be having a bad day. Come on in. I have some tea and hard bread. Maybe I still have an apricot or two."

"Thank you."

Inside, where it's cooler, I boil water over a small oil burner, throw a few leaves of sage and germander into two cups, and pour the water over them. I know Kirrtella is upset that I don't offer dried carob pods, a sweet treat. My unwillingness to share these with her -- purely instinctively -- leads me to think I'm saving them. Maybe some day I'll entice her back to my tent

for a private evening meal, with them as my bait.

It's a shame that differences of belief should impede biology. Maybe I should take another tack and let biology come first, and reconciliation of belief afterward. I'll give it thought.

"You mention religion," she says. "You aren't invoking the old transportation heresies, are you? Is that why you chose to make this tower out

*•It's a shame
that differences of
belief should impede
biology...•*

of cars?"

"No," I say. "I meant only some indefinite feeling of -- well, let's call it transcendence. The sort of thing you feel if you chew on fermented cactus fruit. I don't admit to feelings any deeper than that."

"Glad to hear that, Nagdon," she says, visibly relaxing. "Some of the people in the Wheaton Underground Hub are muttering about you."

"The moles in Nubbleville can think what they want."

"I wish you wouldn't call the community that, Nagdon."

"A poor joke, I suppose. Those old girders look like nubble to me."

She takes off her headgear. Her hair makes a more appealing setting for her face.

"How's the tea?" I ask.

"As poor as your humor."

I look at her speculatively. I enjoy the combination of her desire to visit me, and her insistence on disliking everything about me. "Have I ever told you how desirable you are?"

She frowns. "My mother insists on a high ransom

for my love."

"Such a sentimental creature, to want so many baubles in exchange for your hand."

"I hear you've got a few baubles. You must like them too."

"Maybe I do. The Globulars bring them to me, as payment for their work."

"They pay you for their work?"

"Why shouldn't they? They've collected baubles



all these years and have nothing to do with them. They feel grateful to me for this project. So they bring me baubles. Here." I hold out one of my prizes, a perfectly round mirror the size of my hand. "Seen anything like this before?"

"No," she says, quietly, cradling it in her hands.

"Ah, those people of the Splendor. They were so overwhelmed with material wealth that they put this mirror on the *outside* of their automobiles, if you can believe that. A flagrant display. It probably had a sexual function."

"That must be what you do here in your tent, Nagdon. You sit here thinking about the functions of these old things. That's close to heresy, you know."

"Thinking about sexual functions has never been heresy."

"How can an old lizard like you think about sexual functions?"

"It's easy. I have other baubles to help me think in

that direction."

She's quiet for a moment, considering the mirror she holds. "Really?" she says. "May I see them?"

"No. At least not now."

"Sometime?"

"Maybe."

"Why do I like you, old lizard?"

"Without me, you'd have nothing to talk to your mother about."

"True enough. She enjoys cursing your wicked ways. Will you be here tomorrow?"

I wave around me, symbolically indicating the tower around and below us. "Will the tower be here?"

"Tomorrow, then," she says. She places the mirror carefully on the table, replaces her headgear, bows slightly in farewell, and leaves the tent, the round medals on her clothing clinking gently together.

Later I sit in the tent situated a distance from the base of the tower, watching the Globulars drag the last excavated automobiles across dunes made up of silicon, steel, and plastic grains of sand. I do feel some humility. So huge a project! For so nebulous and unspeakable an end! The knowledge of the Splendorites must have been immense: in a sense I raise a shrine to what passed away with the Crash. In another sense, I make a platform of hope for the return of knowledge.

Two years ago I drew lines to indicate the dimensions of the pentagonal base. On each side I directed pits be dug where high lamps might ultimately be set. The best preserved "Gas Tanks" would provide the explosions of light I required. A system of stairs allowed workers to ascend and descend the tower as it grew. I hammered into shape the block and tackle with which the Globulars could drag the car-casses, as I sometimes call them to amuse myself or Kirrtella, to the top.

Nightly I've sat outside the tent atop the tower, pot of tea at my knee, with telescope pointed to the heavens. The information in my pock-marked, metal-leaved book has proved accurate. I've traced the movements of small, rapid satellites across the night sky. I've caught glimpses of yet smaller sparks darting between the more steadily moving objects. I've even detected glimmers of strange light in the darkness of the shadowed moon.

The telescope and metal book arrived many years ago, a gift from a Globular. One of the automobiles must have served a believer in True Travel, for within it the Globular found a rust-edged metal case containing the telescope and the book that revealed the sky's mysteries.

Those two things led to my own faith in True Travel, the strange religion whose nature I keep secret from Kirrtella.

The religion will yield of revelation, I know.

And if I have planned correctly, and constructed correctly, the revelation will arrive tonight.

* * *

As evening falls the Globulars continue working. They attach tanks to the tops of iron poles, digging the lower ends into the pits around the tower. Affixing chains made from irregular sections of metal, they pull them into vertical position, so that the tanks sit higher than the uppermost tower surface. Other globulars busy themselves anchoring the chains to car bodies positioned around the tower.

Another group raises by block and tackle a large basin of ground gypsum. Seeing it move higher in the air, I take a torch, light it from a coal, and mount the ramp that circles up the tower. Pausing for a moment on the east, I gaze out over the darkening desert. Nubbleville, consistent with the prevailing practice, sheds no light into the evening, all trace of life being securely buried beneath the sands. Nor do any lights indicate the presence of nomads. Contented, I climb the remaining distance and join the group of Globulars around the large steel basin. Bracing my torch in a shoulder strap, I reach in and cup the powder in my hands, and let it flow through my fingers, cool and ghostly. Grabbing a scoop and taking a larger amount, I walk out across the top of the tower, hammered smooth by Globulars in the late afternoon, and spread the powder. When I return to the basin, I fill a cloth sack, and again walk out across the hammered metal surface, spreading layers of whiteness.

When one portion of the area is covered, workers move to another section, until the entire surface -- or all but one thin area which I delimited -- is chalky white, and our clothes and hands and feet are equally coated. Before descending from the tower I pause for a moment to listen to the high, crystalline laughter of the Globulars who remain behind to dampen the gypsum dust with sprays of water.

Walking down the ramp I see a small Globular shimmy up one of the poles. At the top, reaching for the tank held aloft there, it taps loose the seal around its upper edge, then hits the lid so it falls to the desert below. The Globular tests the wick attached there, checking its contact with the black liquid inside the tank, before gingerly slipping back down the pole.

Within a few hours the preparations end. The Globulars sit in a ring around the tower, gazing upward and nervously talking among themselves while I walk the perimeter with my torch, lighting each wick. Flames race up the gas-soaked cloth lines to the tanks, which explode into cauldrons of smoke and heat, brightly illuminating the tower and surrounding sands. The Globulars laugh and slap their hands together, their eyes shiny in the dancing light.

If all has gone well, the top surface should glare brilliantly into space. An observer from above will see

the ring of fire surrounding a white pentagon, within which one dark symbol can be traced, of signs the most mystical of all, and most revelatory: a question-mark.

If my timing is correct -- and I have no reason to think it isn't -- the tower will not go unseen.

The Globulars stir restlessly as the time passes. The blazing tanks gradually dim. Already I've taken out my telescope and have found the lights of my desire. Although I see a smaller light separate from one of them, I don't allow my hope to grow till it reappears, lower in the sky. It grows until it becomes not one light but many small lights, arranged such that they outline what seems to be a sphere.

The crystalline language of the Globulars rises from a whisper to the rushing of wind and then to the roaring of a gale as the thin, bent creatures caper around me in their excitement. The vast thing descending through the night looks like a giant version of the plastic spheres by which the Globulars travel the desert.

The globe of True Travel slows as it nears the tower, until it just hovers above it. A triangular gate opens on one side of the sphere, releasing a wash of light the color of rust to bathe the mass of Globulars below, their heads all turned upward, their eyes wide and rapt as if worshipful. I feel something of awe myself. If the craft had settled onto the tower, the creaky construction would have collapsed. It would have broken apart and crushed us,

its builders, as it exploded beneath the weight of the massive ship. I never expected so huge a thing. If I had, I wouldn't have built the landing site as a tower. I meant the tower for show, and because I savored the symbolism of its height and what it was made of: for this tower of cars reaches more than physically into the sky! It reaches into the future, out of the dreary present! Anything less would have been insufficient for the moment! The fact that the huge globe hovers above the tower now, holding it perfectly stationary, shows how well its pilots understand.

Out of the triangular gate a smaller, translucent globe emerges. Within it, illuminated in the ruddy light, two figures stand. They look much like Globulars, with bodies I would consider elongated -- but they *stand*. They hold themselves as if life in the weightlessness of space has given them a loftiness not even the gravity of this close approach to Earth can steal. They are transcendently beautiful -- a judgment I know to be shared by the rapturous Globulars around me. I realize with a shock that with these beings -- these people of space -- lies the future of the human race. They live on the edge of the universe,

*• The globe of True
Travel slows as it
nears the tower... •*

while those of us of an older design cling frantically to our frail planet.

As the smaller globe descends to the desert floor, the sound of the Globulars rises to a new pitch, nearly deafening me. Then it then ceases absolutely.

For from the descending globe emerges the same, crystalline language, as if it were the tongue of the stars themselves.

By mid-afternoon, when Kirrtella visits, I have restored my tent to the top of the tower. Under a solar cooker I have placed a dozen small cakes made from wheat flour, honey, and pieces of carob pod which I soaked and chopped to pieces.

By her expression I can tell she smells the delicacies.

"It's quiet today, Nagdon," she says.

"Ah. So that's why I slept so late this morning."

"Have the Globulars left?"

"When I woke, there weren't any here."

"The tower must be finished, then."

"Maybe they seek some more interesting project elsewhere."

"It was time you released them from your labor, anyway, Nagdon."

"I was cruel, wasn't I?"

"No more cruel than now, when you delay from inviting me in out of the sun."

I gesture toward the tent. "Like some tea?"

"You improved your blend of herbs?"

"I trust you to not think so."

With a cloth pad I remove the cakes and take them into the tent with us. I hear Kirrtella gasp when she enters through the flaps. She regains her self-possession before she turns back to me, however.

"So many baubles," she says. Her eyes gleam. "You want to show them off."

"Yes," I say. "But maybe you want to enjoy your tea first, before you go speak to your mother."

"You're giving me something to talk about with my mother?"

"Don't I always, Tella?"

I give her a cup of tea and a small plate, on which I place a fig, a date, and a pair of cakes.

"Why are you so happy today?" she says, her head at an angle.

"Do I seem happy?" I laugh, and marvel that it reflects a genuine mood. "I suppose because the tower is finished, and I'm free to give it away."

"Give it away?" Kirrtella is obviously startled. "To whom?"

"Your mother, of course. She'll enjoy it. And just think of the prestige she'll have, to have such a tower. She can come up and enjoy the view. She and that friend of hers, that grouchy Windbirk."

"But what about these baubles -- " She stops, aware of her nearly breached manners.

"These are for you."

She remains silent for an appropriate length of

time.

I don't reveal my true happiness. I have done all I dreamed of: I have regained a small portion of knowledge. I know with certainty that people circle the earth, in the sky. I have seen proof. And I have given a people, the Globulars, their pleasure by returning them to their proper place in space. That is where they are meant to be, since they have genes that flourish only in the absence of gravity. They were not stunted remnants of the past age; they are the inhabitants of a place distant from this, far above us, who were separated somehow from their birthrights in the Crash. Some day, they have promised, they will return and give me equipment more suited for watching the sky than the small tube through which I will track their progress in the coming nights.

Regarding Kirrtella, however, I realize my bit of gained knowledge may not be my true happiness after all.

"How's the tea?" I ask.

"Very bad, old lizard," she says.

I am content, indeed. ■

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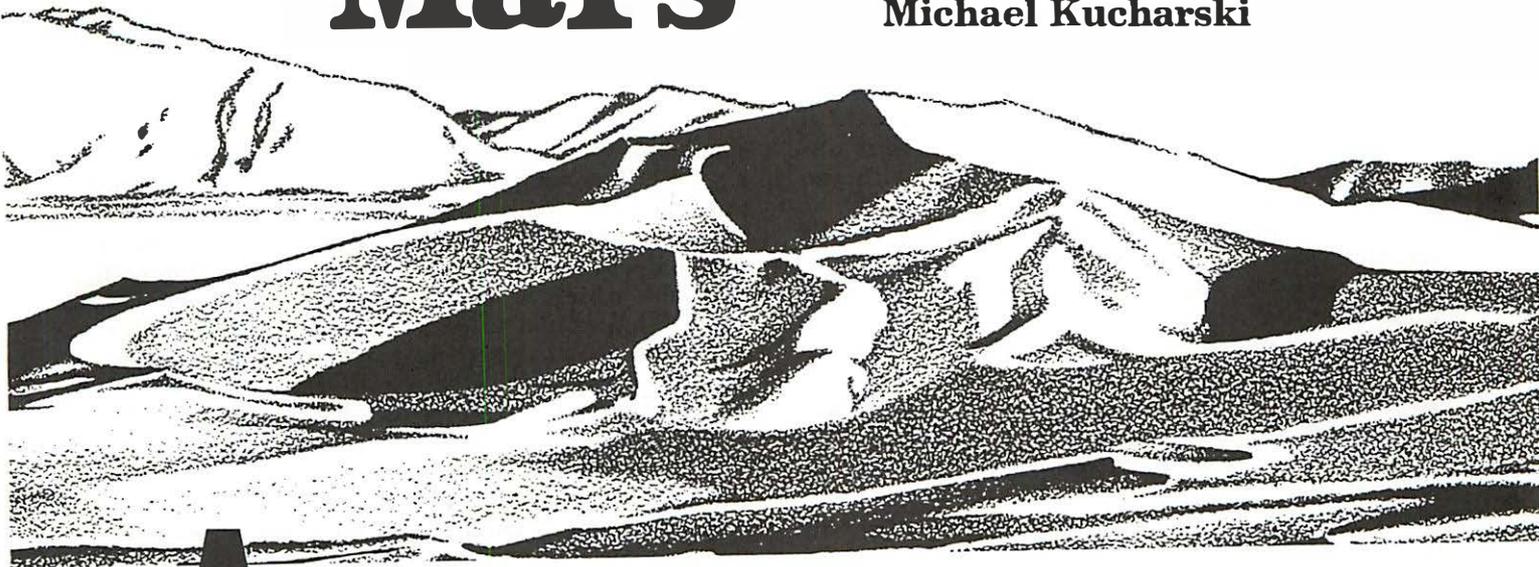
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The Spirit of Mars

by Don D'Ammassa

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A band of green Martians waved swords with their upper arms as they charged across the dunes...

"Crandall? Get with it!"

Todd Crandall blinked and turned away from the glassex window that provided a panoramic view of the barren Martian landscape. Zhuli Ronson was standing three meters away.

"Sorry, I guess my mind was wandering."

"Well, kid, you'd better get it leashed and fast."

Todd nodded solemnly. "I know how dangerous it is here. I've read all about it."

"Yeah, well, reading and reality aren't always the same thing. Come on. We have places to go."

Todd ignored her tone. This was his first day on Mars and nothing was going to spoil it.

Station Six, better known as Dune City, was north of Noctis Labyrinthus, a wasteland of canyons and dried river beds where travel was so treacherous that no permanent base of any size existed within its limits even after nearly two centuries of exploration.

Zhuli paused at a recessed door and touched the recognition plate.

"Yes?" The voice was tinny, denuded of much of

its character, although not enough to conceal the irritated undertone.

"Ronson here, sir. I've brought Todd Crandall."

There was a short pause and the door slid open. The man who emerged could have been cast as the typical mad scientist, complete with chaotic white hair, archaic glasses, and a spiky beard. Artus Klane, chief administrator of Station Six, was one of the most powerful men on Mars.

"Glad to have you back, Ronson. Hope you enjoyed your vacation."

"I'd rather have remained here, sir. The Olympus Mons probe is months behind schedule..."

Klane raised a hand, palm forward. "None of that, now. You were overdue as it was."

He turned to Todd, who suddenly felt that he

was being examined as a specimen rather than a person.

"Pleased to meet you, sir."

"Yes, well, you might want to hold off on that judgment until you've gotten to know me better, young man. I won't try to pretend that I'm particularly happy having a teenager here. Our resources, particularly in terms of personnel, are scarce and precious. We have no homeless, no vagrants, no welfare recipients, no unemployed, and one tourist. You."

"I promise not to be any trouble, sir. I'm only here..."

Klane waved away his protest. "You're here because the Development Office decided that a contest with a free trip to Mars as first prize would help ease a few debit cards out of wallets. I'll concede that they were probably right, but unfortunately I'm the one who has to deal with you now that you're here."

Todd was beginning to feel uncomfortable and resentful. "I'd be happy to help while I'm here."

"I'm sure you would, but the simple truth of the situation is that you'll be a drain on our resources. You have a stomach and a set of lungs to fill, space must be allocated for your personal use, your waste products must be converted, and most serious of all, we must be constantly alert to the possibility that through ignorance or inexperience you will endanger others."

"I've studied everything I could on the trip out, sir. And I did spend two weeks on the moon."

Klane sighed. "The Lunar settlements have so many safeguards, it's almost like being on Earth. Tourism is fast becoming one of their major sources of revenue; they're set up for it, know what to expect, have adequate resources allocated to handle the problems involved. None of that applies here."

Although he thought Klane might be overstating in order to make an impression, Todd was beginning to realize how awkward his visit might be. But he didn't care. He was on Mars, finally, even if it was only for a few months, and he might never have the chance again.

"I'm pretty good with computers. Maybe I could do data entry or something."

Klane made a noncommittal face and sat back. "I'll look into it. In the meantime, I'll be assigning a staff member to accompany you at all times for the first few days."

Todd was about to protest, but Klane cut him off before he could speak. "There's no option, I'm afraid. Even when we take on adult additions to our staff, there's an acclimatization period. I cannot make an exception in your case, Mr. Crandall. The potential for tragedy is too great. You will not leave your quarters unless Ms. Ronson is with you."

Zhuli's mouth dropped open in surprise. "Not me! I've been unofficial nursemaid all the way out from Earth. I have to catch up on what's been done while I've been gone and work up a plan to speed up the instrumentation. I don't have time for this."

Klane sighed, but his eyes didn't waver. "Which is precisely the reason why you're the only possible choice. The rest of the staff has already been

scheduled, but you're still officially unassigned. It would be nice to have you back at work effective immediately, but we've done without you for several months, and another week won't hurt as much as breaking up one of the existing teams."

"But..."

"You already know Crandall better than any of the rest of us, and you're less specialized than a lot of other people I considered. Besides, you'll be able to bring yourself up to date on the Mons project at the same time. Kashimoto has made considerable progress overcoming the wind stress problem."

She argued a bit longer, but Klane remained unmoved and she eventually surrendered to the inevitable.

It took only a few minutes to unpack in the small cubicle that would be home for the duration of his visit. The weight limit for personal possessions was low, and he'd reserved most of it for his collection of Martian novels, actual paperbacks rather than dataspools, including *The Sword of Rhiannon*, the book which had started his fascination with Mars. He planned to reread each during his stay, convinced that the setting would make the experience one that would remain with him ever after.

He had little time to read in the week that followed. Zhuli was determined to teach him everything he needed to know in record time so that she could return to her research. She started with an exhaustive tour of Dune City, and a brief description of the other stations scattered across the planet - Red Dust Junction, Cliffwalk, Crater City, and Perdition. Although each had its own hydroponic gardens, Crater City was the only settlement extensive enough to support livestock. He had resigned himself to a diet free of red meat; poultry and artificial cheese being the main sources of protein here. He was surprised, however, to learn that there was also fresh fish.

"It was impractical for a long time," Zhuli explained. "There's water frozen in the ground a meter or so down, but once you've extracted what you're sitting on, it replenishes very slowly."

"I thought Polar City was built to draw water from the icecap."

"That's only during summer. Most of the cap is carbon dioxide, not water. Population growth was restricted until we sank the first shaft down through the hardpan and tapped into an underground reservoir. There's plenty of water if you dig far enough. Mars used to have rivers beside which the Amazon would look small. You have to remember that the first two meters underfoot are frozen solid. The record high temperature is 21 degrees centigrade, and the average is about 55 below. But once you get beneath that, there's lots of water."

Todd was shown how to signal a general alarm and apply a pressure patch. "Mars is stable, at least compared to Earth, but we still have some minor local shifting and settling, and sometimes it's enough to ruin a seal. There's usually plenty of time to call for help, but if possible, you deal with the situation yourself first."

Todd studied and drilled and listened and

repeated back and ate and slept and then studied some more. The days were long, almost an hour more than on Earth, but Todd's body adjusted to the longer cycle.

"Don't you ever read for entertainment, Zhuli?" She was sitting in a polymorphic chair in the tiny lounge, a holobook in her hand. The label read: "Phototropic Sensors: The Uses of Biogenetics in an Engineering Environment".

She looked up. "I don't have time to waste on fantasy."

He couldn't believe she was serious. "Waste? Science finds ways to make dreams into reality, but someone has to create the dream first."

"Come off it, Todd. You're a bright kid; don't try to tell me you believe that nonsense. Humanity's greatest achievement is control of the physical environment, first on Earth, now on Mars, eventually other worlds as well."

"Are you saying that fiction isn't important?"

"It has value to those who appreciate such things, I suppose, but it's just entertainment."

Zhuli spoke with such absolute certainty, Todd wandered off, shaking his head in amazement.

When it was finally decided that Todd could be left unsupervised, Zhuli made no effort to conceal her relief. But she had a surprise for him.

"Have they found anything useful for you to do yet?"

Todd nodded. "I'm going to be monitoring temperature readings for Dr. Nkura as soon as the sensors are in place."

"Nothing for the next couple of days though?"

"Nope."

She hesitated, and smiled for almost the first time since he'd known her. "I'm going to take one of the crawlers into the Labyrinth to check some of the instruments we've placed there. The Martian sand is a real problem. If it doesn't get inside and gum up the works, it covers the sensors. If you're interested, there's room in the crawler for a passenger. But remember it's a three day round trip, and the accommodations are pretty crude."

"Sure, that'd be great."

The trip was monotonous but he wasn't bored. Every time they crested one dune, they faced another. As time and kilometers passed, each rise became progressively gentler, with lower crests, and before long they were travelling over a comparatively level expanse, trailing a cloud of disturbed dust that settled slowly in their wake.

"We won't be able to keep this pace much longer. Broken ground ahead."

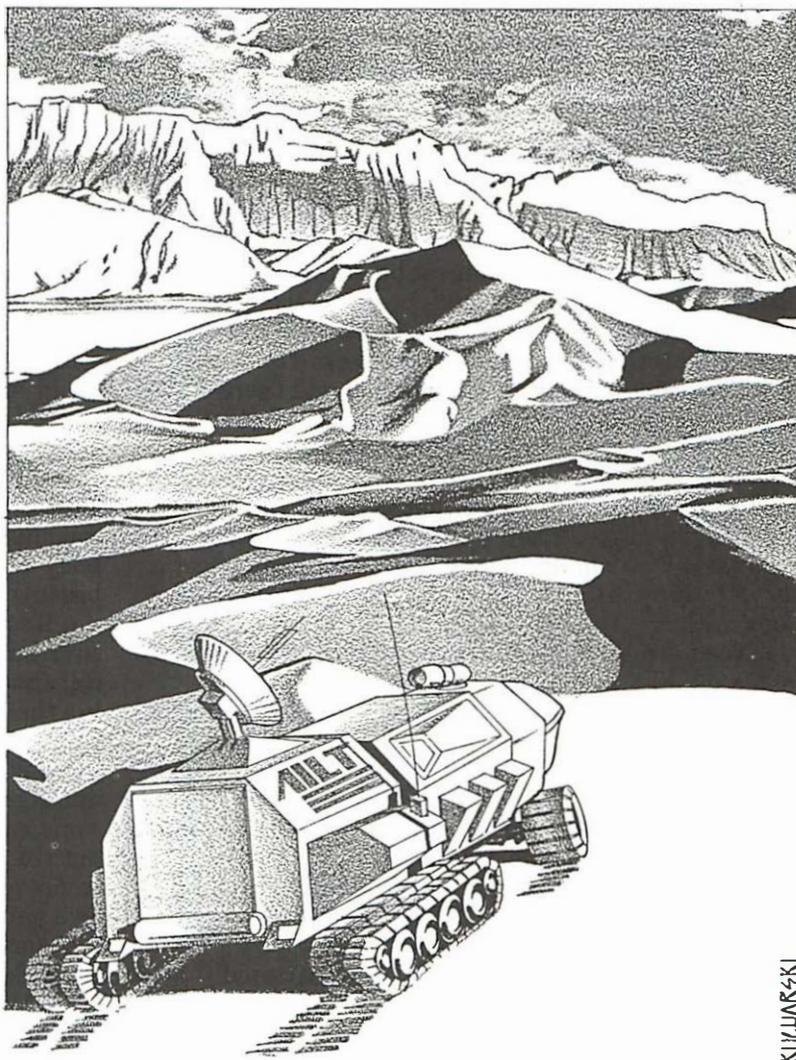
Todd had been imagining he was Gordon

Holder, sole survivor of the first expedition to Mars, trying to communicate with the superintelligences that lived in the wastelands. He glanced past Zhuli's shoulder; the driver's seat was forward, and slightly roomier. Very slightly. Varicolored hills were rising out of the horizon in a series of chaotic tiers.

"Looks rough."

She shrugged. "It's not as bad as all that. This part of the Labyrinth is pretty well mapped and explored and it's geologically stable. We haven't recorded a significant quake or landslide in this area. This should be a piece of cake."

Todd shook his head. "Never say that; it's bad luck."



"You've been reading too many stories," she replied curtly.

They spent the night parked close to a cliff face, adjacent to an unmanned waystation. The seats transformed into bunks, the passenger's pivoting forward as the driver's rose and cammed back. Although the crawler was theoretically good for seventy-two hours without a recharge, Zhuli had linked up to an umbilical from the waystation to boost their reserve power back to maximum.

"Never hurts to be overcautious," she told him. "Had a crawler lost in a sandstorm for three days once."

Phobos was visible in the night sky, along with

an array of bright, relatively unblinking stars. With the fall of darkness, the wind had risen, gusts spattering finely grained sand against the scarred and pitted sides of the crawler. Todd tried to fashion the sounds of the Martian night into the clash of swords, the scream of a banth, and imagined beautiful princesses running through the dunes.

They set off at first light. Todd was still half asleep when Zhuli finished retracting the umbilical and checked the crawler's diagnostics.

Moments later, they were moving across the broken landscape of the outer Labyrinth.

At mid-morning, they reached a substation equipped to monitor temperature, windspeed, pressure, and seismic activity. While Zhuli cleared and recalibrated the equipment, Todd marvelled at the deeply striated walls of rock that surrounded them.

They had been gradually descending for most of the day, emerging onto a wedge shaped plateau. There was less sand here; the irregular windstorms alternately scoured and buried the more densely packed surface. It was barren and unwelcoming, but Todd found it beautiful as well.

They serviced two other substations that afternoon. "We're a little behind schedule," she told him as they topped a small rise. A steeply chiselled canyon stretched out and away from them. "The next waystation's quite a bit further and there's not many sheltered places along the way. We'll camp just ahead and get an early start tomorrow."

Zhuli radioed a terse report to Dune City a short while later, bouncing the message off one of the orbiting satellites. They were supposed to report at intervals of twelve hours, but it was difficult to get a clear communications angle from deep in the Labyrinth.

"We have a weather advisory," she told him moments later.

"Let me guess. Heavy rain squalls, followed by partly cloudy?"

"Close, Substitute 'sand' for 'rain' and you're right on target."

Todd shrugged. "So what's new?" They'd seen distant sandstorms twice that day.

She seemed unusually thoughtful. "Maybe we should have kept going. I'd feel a lot better with a full charge."

As it turned out, it wouldn't have mattered.

They had reached the floor of the valley, from which two smaller, subsidiary declines led to chasm-like arms pointing to either side. These were both currently inaccessible, although substations had been set up at the mouth of each.

"We'll have to backtrack a bit to service them," she explained, "but first priority right now is a recharge." Todd didn't understand her haste; they would be well within the operational limits of their vehicle even if they visited both sites prior to the waystation.

Crawlers progressed by means of a system of treads which adjusted to the surface of the terrain over which they travelled, their conformation governed by a computer linked to sophisticated sensors. The technology was almost a century old and was so

redundant that only major damage to the computer core itself could result in a dangerous malfunction.

But no system is perfect.

They had reached a narrow, level area that bridged a deep crevasse. The surface was almost entirely clear of sand, gravel, and rock, a ramp leading to the main valley beyond. Todd heard the engine whine and felt the surge of acceleration as Zhuli increased their speed, had just turned to say something when disaster struck.

A section of the ramp collapsed beneath them, falling away to reveal a wide cavity about six meters deep. The computer attempted to compensate, treads seeking firm ground, but the pit widened too rapidly.

The crawler toppled forward into the darkness, its headlights revealing a rocky knob. The impact was as violent as it was unexpected.

His head hurt.

Todd blinked and looked around. Zhuli was slumped against the controls and he reached hesitantly, then gripped her shoulder. She moaned softly but remained unconscious.

Todd was relieved that the internal lights were on, which meant they still had power. He unstrapped himself and knelt on his seat so that he could examine the telltales on the front of Zhuli's suit.

A trickle of blood had run out from under the respirator shield and down the left side of her face. There was more blood on one thigh and a funny rasp in her breath. According to the suit gauges, her body temperature was okay, respiration and heart beat strong but uneven.

Remembering his training, Todd applied pressure bandages to both open wounds, satisfied himself that her bleeding had stopped before investigating their predicament.

The crawler was in bad shape. They were suspended at a forty five degree angle, with heavy damage to the shell and treads. There had been some small rupturing of the passenger compartment but this had been automatically sealed with fastfoam to prevent air loss. Todd replaced Zhuli's respirator as a safety precaution and tied it directly into the crawler's atmospheric tanks so that she wouldn't be dependent upon her limited suit supply.

The radio was smashed and the emergency beeper's malfunction light flashed ruby red. He later discovered that the transmitter had been scraped off the outer hull during the accident.

Todd Crandall stood on the Martian surface, staring down into the pit where Zhuli Ronson slumped unconscious in their disabled vehicle. The feeble sun was directly overhead, its rays sending a cascade of colors down the sloping walls. Breathing it might well be but he was feeling less than romantic about Mars just now. Although they were scheduled to radio in during the evening, he knew that there would be no alarm raised for at least a couple of hours past their reporting window, and in all likelihood a rescue operation would not be launched in the darkness. At best, a power sled

would be sent out at first light to locate them visually and drop an emergency team.

He doubted Zhuli would last that long. He was pretty sure she was bleeding internally.

The map he held was a computer augmented survey photograph. He was confident of his ability to locate either of the two substations. The question was, which could he reach more quickly. They were equally distant, but the marked crawler routes were both circuitous, one to bypass a web of crevices to the east, the other skirted an atypical ridge that marched from north to south like the spine of some ancient Martian dragon.



Cursing his indecision, he started toward the west. There was another reason for haste; his suit held only enough air for approximately four hours of moderate activity, although he could recharge at the substation. Unfortunately, the walk that faced him would not leave much margin for error.

Todd constantly checked his suit to see if it was picking up a homing signal from the substation, but it was over an hour before the indicator flashed weakly. He had left the natural rampway and was ascending over broken ground toward the valley wall, which now towered dizzily above his head.

It was early afternoon, and deep shadows were reaching across the valley floor. The sun was out of sight behind an eroded peak and the sky was hazy, filled with dust particles suspended by a mild but persistent breeze. Todd turned on his suit lights briefly, then extinguished them, reluctant to expend the energy until it became necessary.

He mounted a gentle swell of land and, as expected, found himself facing the rocky spine. The crawler would have veered to the north here, bypassing the worst of the barrier, crossing only when the extrusion had settled back toward the surface. Todd didn't have the luxury of choosing the easier route. He began to climb.

It had taken an hour and a half to cover the first eight kilometers. It took almost as long to reach the crest of the spine and descend the opposite side. Although his calves and the soles of his feet were sore, Todd felt increasingly confident. He had anticipated an even longer delay at the ridge, and now believed he'd arrive at the substation with at least half an hour to spare. He could activate the emergency beacon, replenish his oxygen tank, and maybe even return to the crawler in time to signal the rescuers with his shorter range suit radio.

Unfortunately, Mars had another surprise waiting.

The sandstorm came up so suddenly that it was rattling across the front of his respirator almost before he realized what was happening. Although he'd never actually been out in one before, Todd had watched these transient squalls of flying dust and sand from Dune City. The wind itself was too weak to seriously slow him down, but the dust was disorienting and made his footing treacherous. Todd began to stumble across the uneven surface, terrified he might fall and damage his suit.

The map indicated he would have to cross a shallow ravine, but he misjudged its distance, realized his error only when he lost his footing and went rolling down a mercifully smooth slope. When he finally came to a stop, he lay panting heavily. The sandstorm showed no indication of weakening. A suit breach could be deadly now, but he had no choice but to go on.

He moved forward leadenly, determined to reach the substation. He began to experience some difficulty breathing, felt the prick of needles as his suit tried desperately to compensate for the fatigue toxins in his blood.

At that moment, Mars was no longer a place of romance. Todd was an island of life in a sterile and merciless sea of sand. He could barely make out his

gloved hand when he raised it in front of his respirator shield. Bands of fire ran up the backs of his legs. His lips felt dry even when he sucked on the water tube and his skin itched as though some of the Martian sand had infiltrated his suit.

Five minutes later Todd paused, realizing that he was drifting off course, and when he turned back toward the signal from the substation, his left ankle turned treacherously.

He fell heavily, faced pressed into the shifting sand. Twice he attempted unsuccessfully to regain his feet. After the second failure, he closed his eyes, deciding that a brief nap would give him the necessary strength.

He drifted off.

When he opened his eyes, something cold and moist rested across the top half of his face. Todd reached up and pulled away the damp cloth, found himself in a large bed covered with pillows. He was still wearing his suit, but the respirator had been unfastened and was lying across his chest, still attached by the oxygen lead. He rose onto his elbows and looked around.

He was in a bedroom, small by Earthly standards but unimaginably spacious for the planet Mars. There were no windows, a single door to his right, currently closed. The only sound he could hear was a faint, unidentifiable murmuring.

"I have to be dreaming," he told himself, but it didn't feel like a dream. The floor was reassuringly solid when he slipped out of the bed, crossed to the door, and cautiously inched it open.

Outside the room was a narrow walkway bordered by a carved railing. Todd stepped forward, gripped the rail tightly with both hands, and looked down at the landscape passing below.

Broad red plains spread in every direction, ribbed with green fringed lines of blue. Vegetation grew only in the vicinity of the elaborate canal system, and although he saw occasional animals wandering across the sand, they were concentrated mostly near the patches of green. The view was panoramic and constantly changing because the airship upon which he rode was evidently moving at quite a rapid pace. He glanced up and saw that the humming originated in the scores of propellers which whirred above, holding the ship aloft.

"I see you're awake."

Todd turned at the sound, a deep male voice, subtly accented. What he saw was even more unbelievable than his presence aboard an impossible airship.

A meter or two away stood Matt Carse, hero of *The Sword of Rhiannon*. Todd had seen him before, of course; he had read the book over a dozen times. But always inside his head, never in the flesh.

"Come. The others are waiting for you." Carse started to move down the walkway. Todd shook his head, not believing, but followed.

On the main deck, two or three dozen people stood scattered in small groups. Not all of them were human.

He recognized each and every one, of course. The scantily clad beauty talking to the ugly green

Martian was Dejah Thoris, the skinny teenaged girl who watched him with a slightly mocking grin was surely Poddy Fries, and the two men comparing the quality of their swords were John Carter and Lieutenant Gulliver Jones. There were many others as well, Harry Thorne, Willis the Bouncer, Arnie Kott, Tweel, Dolph Haertel, and Martin Gibson. Each looked and acted exactly as Todd had imagined they would.

Which was quite impossible, of course, since they were all characters from books.

Am I dead? Todd wondered.

Carse touched his arm. "Don't be alarmed. You're in no danger here."

"I'm dreaming all this. You're not real."

Carse frowned and shook his head.

"Don't say that. We can't help you unless you believe in us."

Todd realized he must be hallucinating. Oxygen deprivation, he thought resignedly. I'm going to die of asphyxiation in a Martian sandstorm. Not quite the way I'd have chosen to go, but certainly ironic. "You're all fictional characters, people from books."

Carse made a noncommittal gesture. "Perhaps we are, but that doesn't make us less real."

They were flying away from the Martian plains, drifting toward a broad mountain range. The individual peaks were red, orange, scarlet, purple, brown, and black.

"I suppose this is some kind of Martian Valhalla," he said softly. "A gathering of heroes."

"In a manner of speaking," Carse replied. "If that's how you see things."

"This has to be some kind of a dream."

"If that's what you prefer to believe, then that is what we are. The human mind interprets what it doesn't understand by using images of other things which it does. Your mind gives shape to our existence. Imagination is a creative process."

The constant hum changed tone as the propellers slowed. The deck lurched slightly underfoot and tilted forward as the airship began to angle down toward the mountain chain.

Carse looked forward and beckoned. "Come along, you must leave us here."

Todd remained confused, half convinced he was dreaming, half convinced he was not.

The airship dropped quickly, then began to hover in place as Carse reached the forward rail. Todd threw off his paralysis just as Carse dropped a rope ladder over the side. It unrolled as it fell toward the ground.

"It's time for you to go." Carse turned, reached out and grasped Todd's hand, gripping it firmly. The hand felt undeniably real. Todd opened his mouth, but words refused to come. He turned and climbed over the rail.

Because of the narrowness of the canyon walls, the airship was still quite high. Todd descended the rope ladder rhythmically, feet and arms moving in relentless repetition. He concentrated on the task at hand. Cramps knotted the muscles in his legs and those in his arms began to feel as though they were taut violin strings, recently plucked.

Three meters above the ground, he missed a

step, failed to compensate, and fell.

A blast of cold air was an almost physical blow across his face. Todd sat up, discovered that his respirator had become detached from its housing, the shield open, exposing his face to the near zero centigrade temperature. He hastily reseated the shield. It was difficult to breathe and he knew that his air supply was almost completely exhausted. The dream was evidence his mind was being affected by oxygen starvation. The sandstorm had weakened during the past few seconds, and he looked around desperately, still unwilling to surrender his life without a fight.

A few meters away, barely visible through the blowing dust and sand, stood an artifact. It was partially buried by a new-born dune, but enough of its shape was visible to be recognizable.

It was the substation.

Todd activated the emergency beacon, following the procedure he'd been taught. It would only be a few hours before a power sled was sent to drop an emergency team. The sandstorm was subsiding and briefly he considered trekking back to the crawler. But when he stood up, the pain in his overworked muscles threatened to knot them into cramps, and he collapsed back onto the sand, accepting that he'd done everything he could.

Todd was semi-conscious when the rescue team arrived. He recovered long enough to direct them toward the ruined crawler, then collapsed before they could administer a sedative. When he next opened his eyes, he was in a hospital room in Dune City.

Artus Klane stood beside the bed.

"Zhuli?" Todd started to rise on his elbows, but Klane gently pushed him back down.

"She'll be fine, thanks to you."

"Great." He drew a deep breath and relaxed.

"Todd, do you remember what happened out there? Is your memory clear?"

"Sure. I've got a kingsized headache, but that's all."

"We'd like to know how you managed to supplement your oxygen while you were away from the crawler."

Todd frowned. "What do you mean? I was just lucky that we were within range of the substation."

Klane nodded. "According to the crawler's black box, the accident occurred five hours before you activated the substation beacon."

"That's about right. I topped up the tank just before I left."

"But we didn't reach you until almost three hours later."

What was this all about? "There's an emergency tank at the substation."

"And you refilled your suit tank there?"

Todd shrugged. "I don't remember doing it, but I must have done it without thinking. What difference does it make?"

"Substation L544 was last inspected by a crawler crew several months ago. They reported that the emergency tank had leaked its contents into the atmosphere."

Todd thought about it for a moment. "They must have been mistaken."

"That's not possible. They brought the defective tank back for repair. It has not yet been replaced."

Todd thought of his brief conversation with Hawk Carse and smiled, settling back into the pillows. Klane would not be satisfied but Todd was pretty sure he knew the answer.

"I guess I just imagined it then." ■

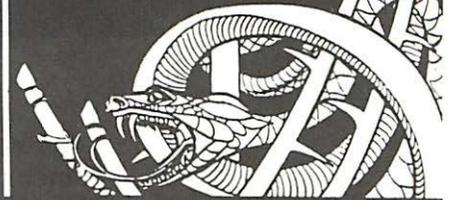
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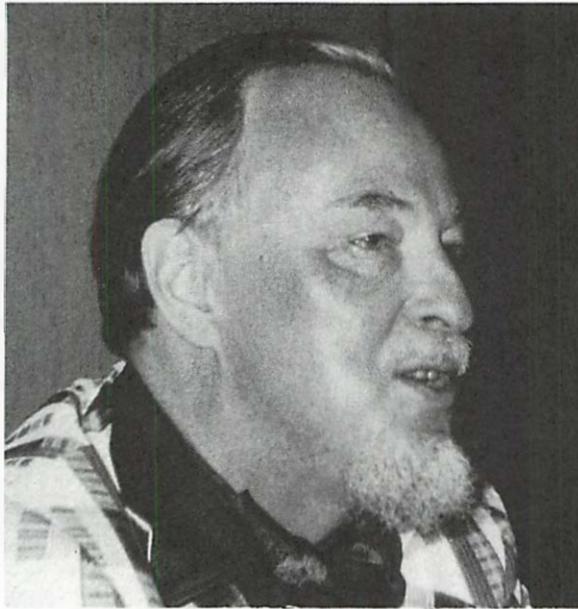
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JOHN

You have been quoted as saying that since we're all being dragged into the future, the purpose of science fiction is to make one a tourist there, rather than an exile. Is SF then, for you, a matter of looking ahead to the probable future, or of trying to prevent the probable future?

Brunner: A little bit of both, of course. During the time that I've been selling professionally, since the 1950s, much science fiction has been dystopic. The age of the utopia seems to have gone by the board. In fact, it is the one remaining challenge that I have never dared to set myself: to write a utopia. I'm convinced that any utopia I created would be regarded by a large portion of the human species as unutterable and indescribable *hell*. But, apart from the actual dystopic elements of science fiction, I tend to think that our *genre* can provide a kind of laboratory of the mind in which one can conduct thought-experiments, freed from the sloganizing and *partis pris* [French for "side having been taken," i.e. committed or prejudiced, --

J.B.) positions of the real world. All the best science fiction stories that I can recall have had some element of serious speculation underlying the action. And, even though the history of the 20th century has been a history of how more and more of the attractive futures have been closed off from us, this does remain one of the principal functions, I think, of science fiction.

Mightn't the problem with writing a utopia also have to do with the more common difficulty that if it's a utopia, and everything is wonderful, there's no conflict and the book is boring?

Brunner: To some extent, yes. One of the few totally successful utopias produced by a writer actually working within the science-fiction field was Theodore Sturgeon's *Venus Plus X*, and even there he had to introduce a dramatic element -- not simply describe the utopian society, but put in somebody who disagreed, argued, and sometimes quarrelled with these people. In other words, the introduction of an Achilles heel, a serpent in the gar-

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den, whatever -- yes, this is absolutely true.

But far more fundamental from my point of view, if I were to try to write a utopia, would be the difficulty of making certain that *my* vision of what is desirable corresponded to the maximum number of other people's visions. As you know, I was very active in the Campaign for Nuclear Disarmament for about a quarter of a century, and in CND we used to have a standard joke: If you have twelve CND supporters in one room, you have thirteen different views of how to run the world after the Bomb has been banned.

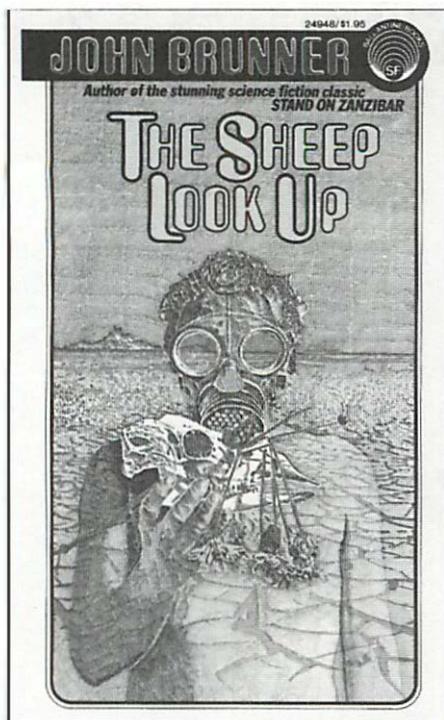
Why is it necessary that your utopia be acceptable to the largest number of people? If this is a thought experiment, isn't this the place to work out your own, quirky personal utopia?

Brunner: A personal utopia for me would have a lot of factors in it that would be highly undesirable to people from different cultures, different religious backgrounds, any of that sort of

thing. The nearest I've ever come to creating a utopia was in *Quicksand*, the novel I wrote immediately before *Stand On Zanzibar*, and the utopia there turns out to be . . . a lie. It's sort of propaganda used as mental defense for Urchin, who has been hurled back in time; or who may *not* have been hurled back in time, but who may simply be laboring under an impenetrable delusion.

Most of your dystopic works can be very broadly described as the world running down and slowly drowning in its own garbage. Do you think books like this have any actual potential for preventing that?

Brunner: I can only cite one anecdotal piece of evidence. Immediately after the publication of *The Sheep Look Up*, I was at a convention in the United States, and on the Friday evening two people came up to me and said, "We've just read *The Sheep Look Up*." It had been published, I think, the previous week. They may have had review copies. It might not even have been published yet. And they said,



"We are going to *do* something. We don't know what, because we only finished it on Wednesday and today is Friday, but we're going to *do something*." If that's any kind of evidence at all, then yes, the books *do* have an influence.

How do you balance the strictly didactic elements against the demands of the novel?

Brunner: Sneakily! In most of my books that deal with what I think of as close-focus science fiction, like *Stand On Zanzibar*, *The Jagged Orbit*, *The Sheep Look Up*, and *Shockwave Rider*, I have a character whose function in the story is to be right. For example, Austin Train in *The Sheep Look Up*. Or Chad Mulligan in *Stand On Zanzibar*. He performs the function of the wise man. And while I won't say that he is a mouthpiece for myself, because, after all, the opinions expressed have to be projected into the future along with the rest of the action, nonetheless I do feel that this is a way of getting around the problem of preaching directly to the audience. You have to let a character do it for you. He can present the argument. You can put

characters in to oppose him. The one thing that one must at all costs avoid is speaking *directly* to the reader in the manner of a Victorian morality tale.

I've always admired the way Chad Mulligan pontificates humorously, rather than in the manner of an insufferable wise man in a later Heinlein novel.

Brunner: Somebody once said that all Heinlein's characters talk alike. Heinlein's heroes speak like Heinlein's janitors and the wives of Heinlein's janitors. I try and avoid that kind of thing.

You mentioned earlier that you, to some extent, feel overshadowed by *Stand On Zanzibar*, in that this is a book you wrote more than twenty years ago and this is the one everybody talks about. My first thought when you said that was that it's better to have written a great book -- it doesn't particularly matter when in your career you do it -- than not. I think, for instance, that L. Sprague de Camp's best book is his first, *Lest Darkness Fall*.

Brunner: It's very frustrating to discover that things one has done later on, which may be more craftsmanly, more accomplished, indeed objectively better written in a certain sense, are not at the forefront of the minds of people who want to talk about your work. In fact, when I went to the Düsseldorf SF Tague (in Germany), I made it a point to say in my public interview, "Look, in the first half hour I want to talk about what I have been writing in the past ten years, and only afterwards will I talk about what I wrote twenty years ago."

Quite frankly, there's an element of boredom involved. Not only that, but *Stand On Zanzibar* in particular, which I am of course enormously proud of -- the first novel by a non-American writer to win the Hugo -- has almost be-

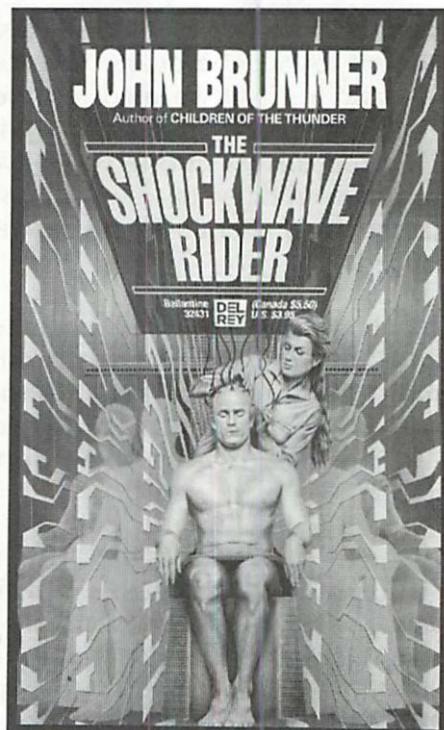
come an albatross around my neck. I've had to talk about it so often that I cannot any longer be *interesting* about it in front of an audience. It is terribly difficult to be equally enthusiastic and interesting about something about which you have talked maybe forty, fifty, or a hundred times. That's why in Düsseldorf I said, "I want to talk about what I've done recently." The obvious reason, of course, was that I wanted people to go out and buy some of my recent books.

I imagine that H.G. Wells all throughout his life had people asking him about *The Time Machine*.

Brunner: And didn't H.G. Wells's work get bad toward the end? Was it not didactic in the worst possible way?

Yes, in the worst possible way. He somehow lost his visionary powers quite early, and he continued writing for about another forty years, having lost his spark. Probably his best later work is non-fiction.

Brunner: I would be inclined to



agree. Anybody who could produce that one-volume history of the world deserves admiration. It may be a flawed book. Nonetheless, it was as near to a useful compendium of the story of mankind as anybody had then achieved.

I suppose that what happened to Wells was that he was much too busy saving the world, rather than writing vivid stories. He thought of his early science-fiction stories as fantasies and described them in terms of being gripping dreams rather than realistic projections; whereas you've got a balance between realistic projection and what is indeed a vivid dream.

Brunner: This brings me to an image that I use when trying to explain to people what it is like to be a writer. Everyone has had the experience of trying to recapture a dream. You have a vivid one just before you wake, and then the alarm goes off and breakfast gets in the way, and suddenly during the morning someone says something or you read something, or something happens, that reminds you that you had this dream and you try to bring it back. It's difficult.

For me, writing a novel is like having to recapture the same dream every bloody day for months on end. The dream element is extremely important in writing fiction, and I can well see how H.G. Wells, as he became more and more involved in political movements, would have lost this dream element which was so crucial to his earlier work.

I might suggest that there is some of this dream -- or experience -- in *Stand On Zanzibar*, which gives it such staying power. The events of the world are forking away from the future scenario you projected and in another generation it'll be a kind of alternate history, but it still

remains vivid and valid in a way that a purely didactic work wouldn't.

Brunner: This is something that took me completely by surprise. I wrote it in the London of the 1960s. I wasn't really involved with the King's Road type of London scene, but it had never dawned on me that perhaps London rather than Paris might be the place that good Americans wanted to go to before they died. And the sense of change, the sense of social forces at work shifting the foundations of our ingrained assumptions, was enormously vivid at the time. Not only that, but I'd also just started visiting the States. I first went there in 1964, and in fact in the late '60s I spent a full month in the United States, and that was just prior to my starting work on *Stand On Zanzibar*.

What I sensed was a change in the pattern of expectation all around me. In other words, what had been taken for granted was challenged on every level from the social to the sexual -- particularly the sexual, of course -- and a new kind of morality seemed to be shaping up. That was one of the forces that I detected at work around me. So I threw everything that I could sense about this form of change into the book. I thought of it as very much a novel of its time.

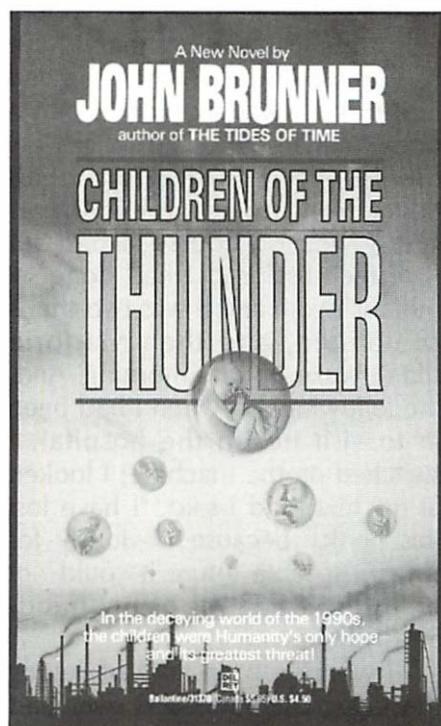
I thought that it would probably run for five years, seven if I was lucky. Ten years to the week after the book was published, my German publishers flew me to Munich to launch the German translation. It's still in print.

I suspect that the secret of the book's survival is that it's about the process of change, not the specifics.

Brunner: That's a very interesting comment, and though I hadn't thought of it that way before, I must say at first blush I entirely

agree. Yes.

In your recent *Children of the Thunder*, I notice that you've mixed a realistic vision of the future, with its numerous convincing details -- people carrying cards to show they've been checked for AIDS and a flourishing black market in fakes of these cards; and that sort of thing -- you've mixed this with an overtly fantastic element of super-children who control people by means of scent, as it turns out. Now this book cannot be so much a projection of a



realistic future as a more fantastic story set against a realistic future.

Brunner: It's still a little too close to me for me to be able to make an objective judgment about *Children of the Thunder*. I often find it difficult to talk about the success or failure of a book or the intention that I had in my mind until the book has receded into the past to the point where I can look at it as though I were coming to it fresh. *Children of the Thunder* is still too close to me and too vivid for me to pass any judgment on it.

You say that for you writing a novel is like having the same dream for months on end. I believe you mentioned in another interview somewhere that you have a whole drawer full of aborted novel beginnings. Are these cases where you lost the dream before finishing the book?

Brunner: In essence, yes. I distract very easily. It's not just a drawer, by the way. It's an entire bloody cupboard full of hanging files. I think there are twenty-eight aborted novels in there now.

I distract easily, and since Marjorie died in 1986, I have had many more distractions than I have had before. Indeed, when she had her stroke, I was six months into a novel that I was going to get my biggest-ever advance for. I had taken front-money for it. I was pretty well on course. I had set nine months for it. I had done six months' work and it was two-thirds completed, and then Marjorie didn't wake up one morning. And, the following day when I had been in to visit her in the hospital, I switched on the machine; I looked at my text; and I said, "I have lost this book," because obviously for the foreseeable future it could not be in the forefront of my mind. She must be.

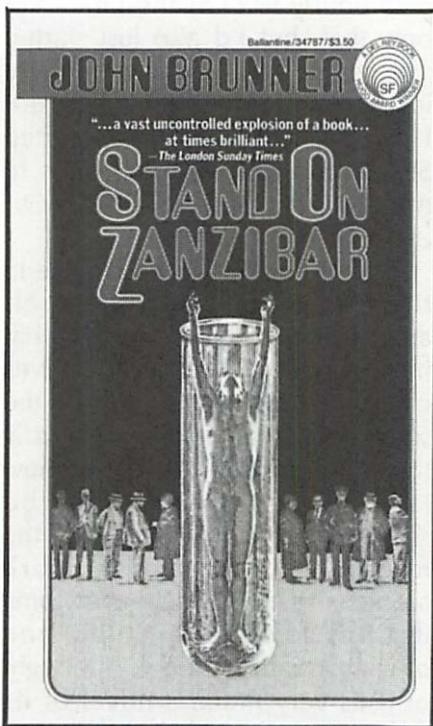
I wound up, instead of getting the biggest advance I'd ever had for a book, owing my American publishers fifteen thousand dollars, and it took me four years to dig myself out of that hole. I had hoped to do it in two, but it has been four years. *That* is the largest single abandoned novel I have. It's not hanging in the files; it's on disks, of course; but I don't think I shall ever be able to go back and look at what's on those disks again because it's too full of miserable memories.

How about some of the others, even in the sense of collaborating with your former self on a partial novel that earlier self had

written?

Brunner: I don't think I'm going to be able to, because many of them were books I had started without very much enthusiasm. They were something to pay the next three months' rent, that sort of thing. If I had really been gripped by any of these projects, I wouldn't have been distracted from them so easily.

Isn't it best then to write a novel in a great frenzy, as fast as possible, lest it be dropped?



Brunner: Not quite like that. Going back to *Stand On Zanzibar*, which I have to keep quoting -- you're quite right; I can't get rid of this albatross around my writing neck -- it took me only five months. At Doubleday's count it was 250,000 words. So most people think of this as pretty high speed production. What they don't realize is that I had been thinking about it for two solid years before I dared set a single word of it on paper. The hard work happens in the head. The rest is typing.

You've written so much now that it seems remarkable. You started quite young, and have been writing for almost forty years now without ever burning out. There are a lot of people in our field who sell something in their late teens, sell a great deal in their twenties, and by the time they're thirty-five they're a burnt-out husk. Somehow you've avoided this.

Brunner: The only way I've found to keep from going stale is to make each successive project as different as possible from the previous one. Sometimes this has been self-defeating. For example, at the present moment I have two complete novels out to market which have not sold and I suspect never will, and a certain amount of atypical short material. Each of the novels took me about nine months and the short material would have taken up a few more. So it's as if I'd written for going on two years with no pay at all. But this was because I needed to tackle something as radically different from the last project as I possibly could. I think I can often pull my readers with me, if the publishers will allow me to put the stuff across to the readers. Often I've become very frustrated that I seem to have been typecast, in a sense.

In the sense they want you to write a book just like the last one?

Brunner: I once had some dealings with a film producer, who had been frustrated in an attempt to buy the rights to A.J. Budrys's *Who?* My agent took me along to meet him, and we sat in this film company's office in London and we chatted for a while. It very shortly became obvious that what he wanted was a story *exactly* like *Who?* that didn't infringe the copyright. Exactly the same, only different, you might say. I am afraid a lot of the publishers seem

to have the same kind of attitude.

It's like television: if it worked, you keep doing it again and again until it doesn't. Then blame the writer. But at least you seem to have avoided the curse of endless sequels.

Brunner: Yes. People have sometimes asked me, for example, if there is going to be a sequel to *The Crucible of Time*, because they liked this book in which there are no human characters whatsoever. I'm very proud of it, but that book is in itself a series. It's in seven self-contained episodes. I don't want to go back to that planet. It's a Helliconia planet. It's the story of the important thing that happened to this non-human, intelligent race, and I've told the story of the important thing, and I'm going to leave it at that.

We notice that sequels to famous classics seldom add much to the reputations of the authors involved. Who particularly cares about Dune Novel #5?

Brunner: I suppose I shouldn't say this, but Frank Herbert can no longer hear me. I read the original *Dune* in its serialization in the original *Analog*, and I thought, hmm, very impressive. Fascinating. Extremely vivid. So I bought the second one, and I couldn't finish it. I didn't read the rest.

I guess then we must respect the integrity and judgment of John W. Campbell, who turned it down, despite the obviously tremendous sales he would have gotten by publishing it.

Brunner: I didn't know, in fact, that he had turned it down for serialization, but, yes, it would have been one of his wiser editorial decisions.

How do marketing forces push you around? Obviously some of

your publishers must secretly crave a sequel to *Stand On Zanzibar* so they can cash in on that book's classic status.

Brunner: If anyone attempted to persuade me to that, I would say, "Well, thank you very much for the lunch. You pay the bill."

In addition to your science fiction, you've also written some distinguished, and very different fantasy. How does this work for you? Presumably the speculative element found in books like *Stand On Zanzibar* is absent, so you have only the dream.

Brunner: You're talking, probably, about *The Compleat Traveller In Black*.

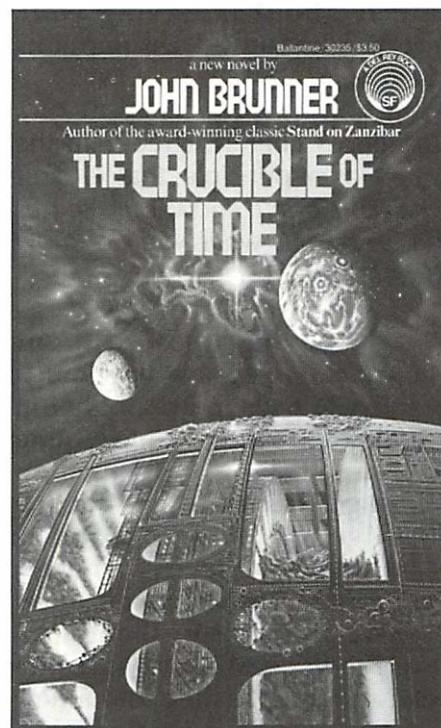
Or *Father of Lies* or any of the stories you had in *Science Fantasy* in the early '60s.

Brunner: Yes. *Science Fantasy* in those days was a wonderful market, because there was originally a small stable of writers that Ted Carnell was encouraging. It was an open market for people who came up with short stories that were well worth writing, but, much more to the point, it always ran one very long novelet or even novella as its lead story.

In both science fiction and fantasy the novella is a very comfortable length, because you need the additional space to set the parameters of your background, whether fantasy or science fiction. This means that in relation to the story content, you need more wordage, more room to spread the information. It's no good saying in a foreword that runs half a page, this story takes place on a planet where magic works, there are intelligent dinosaurs, and somebody is looking for the golden ring. That kind of thing doesn't work. You need to feed the information to the reader, and whether you're talking about a future society with tech-

nology we haven't yet developed, or whether you're talking about a fantasy society with techniques that never actually existed, you do need to explain, or imply at least, an awful lot of things that don't happen to you if you walk down the street to the nearest store.

Science Fantasy was providing, not only for me, but for Ken Bulmer, Ted Tubb, and a number of other writers more or less my contemporaries, an opportunity for experimentation in stories that did not stand up to the demands of a novel. You couldn't expand them to 70,000 words or so. One par-



ticular case that must come to mind is J.C. Ballard's *The Drowned World*. The original 30,000-word version appeared in *Science Fantasy*. In many respects I prefer it to the full-length novel. It had more intensity. It was more concentrated.

Ted Carnell must have been one editor who definitely shaped the direction of your career and what you've come to write. Could you name some others?

Brunner: I've had very few close personal relationships with editors,

because so many of my editors have been American. Ted Carnell was operating in London. I used to meet him almost weekly at the London Science Fiction Circle. So there was a much more direct contact, and I could even ask him in advance whether or not he was interested in a story I had in mind. He would say, "Yes. Sounds good. Go ahead and write it," or turn it down, saying, "No, I had something too similar to that six months ago." That kind of thing was enormously helpful to me.

A good deal of what science fiction is about is having your "everybody knows" assumptions challenged.

Brunner: I entirely agree with the well-known principle that *It ain't what you don't know that causes the harm, but what you do know that ain't so.*

Which touches on a different subject. I don't know how much of this you have in Britain, but in the United States we have quite a lot of people very wrapped up in things which are not so: the New Age movement and Shirley MacLaine and so on. There's probably a science-fiction novel in there somewhere, about a future in which Shirley MacLaine wins and people slide into a new Dark Age clutching magic rocks.

Brunner: I sincerely hope that if *Doonesbury* is widely enough read, this will be nipped in the bud. I was highly amused by the fact that the Hunk-Ra, for whom Boopsie channels, completely ruined the prospect of her getting married. I don't know if you've been following the strip . . . But, in fact, this notion is not by any means new.

It must be, I suppose, pushing forty years ago now that the late Arthur J. Burks was working on a novel set on a planet where astrology actually worked, and as the

sun moved through the local zodiac -- not ours, but the zodiac of this particular planet -- groups within this society became more or less dominant. So you could, as it were, have a political weather forecast on an astrological basis. At the end of each part of the cycle, those who had been in charge during the previous three months or so would have to yield to those whose energies were just coming up because the sun was entering the correct sign.

I don't think Arthur Burks ever finished this. I saw excerpts from it in George Scithers's magazine *Amra* years ago. It struck me as an idea which should have been brought to completion. I don't think anybody else has ever tackled the same theme.

Did you ever want to do it yourself?

Brunner: I'd be conscious of having read part of the Arthur Burks story, and I would probably feel a bit guilty about plagiarizing.

It's always seemed important to me that in science-fiction we must remain skeptical about this sort of thing -- astrology, channelling, magic crystals, and whatnot -- simply because we are in the business of making things up, and must know what is made-up and what isn't in order to have a solid basis in reality from which to extrapolate.

Brunner: Damn right. I am a long-time subscriber to *The Skeptical Inquirer*.

So I found it a bit dismaying some years ago when I saw a prominent *Analog* contributor giving perfectly serious Tarot readings.

Brunner: So long as one understands what things like the Tarot and the *I-Ching* and all this ragbag of divination is actually doing, it's

safe. If you think there's something supernatural about it, then it becomes dangerous.

My chief experience has been with the *I-Ching*. What it does, essentially, is force you to go back and question your own assumptions. And I like that. Anything that will force me to question whether or not I have made a wrong assumption and am therefore going to make a mistaken decision -- that's useful. But I think of it entirely as a kind of mental discipline. I do not think there is any intrinsic power in this. I am a complete skeptic on that level, but I recognize that human beings have needed, throughout the centuries and millennia of our evolution, something that will fix consciousness free from outside distractions so that we can really stop and take stock of what we're doing and what we know, in particular.

Indeed, if I were dictator of Earth, the first thing I would probably do is say that there is going to be no more research and development for at least one generation. We're going to spend twenty-five years going back and looking at what we already know and is being forgotten.

Can you give an example of what is being forgotten?

Brunner: Essentially, what I'm thinking of is our current tendency to invent the square wheel. Somebody comes along and says "I have this problem. What are we going to do about it?" The first logical step ought to be to check the literature. You may be able to go back even to the Middle Ages and find that the problem has cropped up before. Basically, we do not have a system of data-retrieval that will enable us to stop re-inventing things. There have been many devices in the past which did excellent jobs very cheaply.

For instance, I come from very close to the part of England that spearheaded the *first* industrial

revolution, the one that, generally speaking, does not get taught in history courses. It wasn't the steam and iron one -- it was iron to some extent -- but it was the one that was powered by water. Fifty years before the advent of a successful steam engine, there was a major industry in the eastern part of my county, Somerset, which was powered by water-driven triphammers. We were supplying agricultural tools for virtually the whole of England. (I say "we" -- I'm adopted into the county; I've been there sixteen years.) Ecologically speaking, we bloody well ought to go back to having water-driven triphammers for those jobs that water-driven triphammers are good for.

Outside this building that we're in [the Congresgebouw] there is a child's inflatable play castle. You've probably seen it, one of these plastic things you can jump on and bounce up and down on and so forth. It has a small, electrically-driven compressor attached to it that is running constantly. I walked past it this morning, with the sun beating down, the temperature approaching the eighties, and I said, "Why the hell are they using electricity to keep that thing inflated? There are no kids on it." In any case it should have been possible to design the bloody thing so that when the weather warms up, it would inflate and stay inflated. I do not believe in multiplying entities beyond necessity.

Another possible example might have occurred in the design of spacesuits. I don't suppose the designers studied medieval armor to observe the marvelous articulation of the joints. Instead, they probably spent millions inventing a way to articulate the joints.

Brunner: Although there is one problem with a spacesuit that doesn't occur in armor, and that's

the fact that because you're in vacuum, even small pressure inside the suit will tend to spring the joints straight.

If you were dictator of Earth, what would you emphasize in education? An example might be history. Most Americans seem to have no sense of history, and therefore they repeat it. What do you think we're forgetting?

Brunner: Who was it that said, "History always repeats itself, the first time as tragedy, the second time as farce"? I forget who, but it's probably true. Okay, you're feeding my personal power dream, and I think that science-fiction writers, whether they admit it or not, have power dreams, and probably all writers of whatever stamp. I would abolish religion, because, as Shelley said, "faith is the foulest child of time." And unless we start reasoning with our brains and stop listening to our bellies and our gonads, we are done for.

If you abolish religion, how are you going to fill the need that religion fills? It seems to me that all this New Age and flying saucer stuff is simply filling in where religion is failing. That is, mankind has always tended to populate the unknown with alternative, superior versions of the human race, be they gods, fairies, or UFO-nauts. And, today, for many people, miracle-working saints have been replaced by professional psychics. But it's the same phenomenon. So, if you abolished all extant religions, how would you prevent these same tendencies from creating more?

Brunner: That I do not know. I have to confess I do not know. But you did ask me what I would do rather than what I would put in its place. You just struck a slight chord of memory. There has lately been republished a dictionary -- it's

been updated -- in which the entry for *wing* in the earlier editions said something to the effect, "The organ by which a creature may fly, as birds, bats, angels, etc." In the current edition, I am glad to see, they have taken out "angel."

I recall you making a comment once -- in an interview, or possibly in a letter published somewhere -- about our being in a "post-religious age." I wonder if this is really true considering the way world politics are going, or even American politics. Remember Pat Robertson? He was running for president, seriously. He was and presumably still is a commercial preacher on television, and he actually believed that because he had led his congregation to pray appropriately, they had diverted a hurricane from the Carolinas. Millions of people apparently believed him. And of course religion is a frequent cause of conflict in the Middle East. So, can we possibly be in a post-religious age?

Brunner: What I actually said was "a post-Christian, post-Freudian age." No, we aren't. The assumption that we have entered a post-religious age overlooks the fact that as you yourself just said, there has simply been the displacement of the religious impulse in other directions.

I wonder if some of that displacement isn't in the direction of science fiction. The subject matter of much of the work of Olaf Stapledon or Arthur C. Clarke would, were it not in a scientific context, be distinctly religious.

Brunner: Yes. Between the two world wars there was an awful lot of literature of that kind, which offered an alternative vision. However, I think that most of the grandiosity of that sort of future has been closed off from us. I find it

very hard to believe, as I did with almost religious fervor in my teens, in mankind's glorious future among the stars. If I have to write something set in the distant future now, I call it a far-future fantasy. I don't call it science fiction any longer, because I don't think of it as science fiction.

Well, the Earth will probably still be here in a million years. It might even be inhabited. Quite possibly, nothing going on then will be comprehensible to us. The advocates of nanotechnology suggest that the threshold of incomprehensibility will come much sooner, because we will have so changed what human beings are that nothing those future people do will make sense in terms of our present experience.

Brunner: Yes. If we start meddling with our own nature, if we start altering the human genetic code -- and some idiot is bound to do that; it's our monkey ancestry at work, I'm afraid -- it's not impossible that we will achieve some kind of discontinuity in the evolution of humanity. I think we might very possibly be able to communicate with somebody from the very early Stone Age, if he were brought forward in time, because essentially what made us human is still making us human. But, well, I suppose the definitive example of this is Frederick Pohl's *Day Million*, in which he pointed out how many of the assumptions that we have today would not be shared by somebody like Attila the Hun.

I am sure that when the possibilities arise, many people won't see it as such a bad thing to redesign the human species to make us smarter and more physically capable and maybe add a few frills, as we would

see a modern car as an improvement over a Model-T. There certainly is a temptation to do this.

Brunner: This brings to mind the poem by Lawrence Lerner that I used in the reading I was just giving a while ago, in which the computer offers to take over from the chromosome as the driving power of evolution, and the final line is, "Turn me on and wait for trial and terror."

Most of us want to see ourselves improved, but really wouldn't like to see these improvements extended to everyone. If everyone lived for five hundred years, for example, the world would get both very crowded and very stagnant. But we individually would like to live for five hundred years.

Brunner: Yes and no. I think that if I had the chance to live for five hundred years, I would only take it if it were a gift to me alone, because I want to see what other people are going to do. I can't remember who wrote it, but there was a delightful, rather silly story that had an underlying core of rather painful truth to it -- in *Fantasy and Science Fiction*, I believe, probably in the Sixties or early Seventies -- in which this guy is woken up after spending twelve thousand years in cryogenic preservation. They let him out of the hospital and a guy comes to meet him and says, "Hello. I'd like to help you adjust to this new world. Suppose you come by our place about six and we'll have some dinner and we'll go out bowling afterwards." That kind of thing. And the guy says, "Look, I've been in cold storage for twelve thousand years . . . this sounds exactly like what I was doing in California in the 1960s." The other guy

says, "Yes, I know. If you know a better way to live, we'd like to hear about it. We're getting awfully bored."

Possibly if they'd read enough utopian novels, they might have some idea.

Brunner: Yes indeed. But I have a horrible suspicion, as I said before, that some of the utopias would be very unpleasant. Thomas Disch once wrote a utopia in which everybody had to go through an artificial period of schizophrenia. I don't quite understand why he thought that was utopian, but he believed that it was necessary. Perhaps it has something to do with his preference as a writer. But, frankly, I wouldn't fancy that at all.

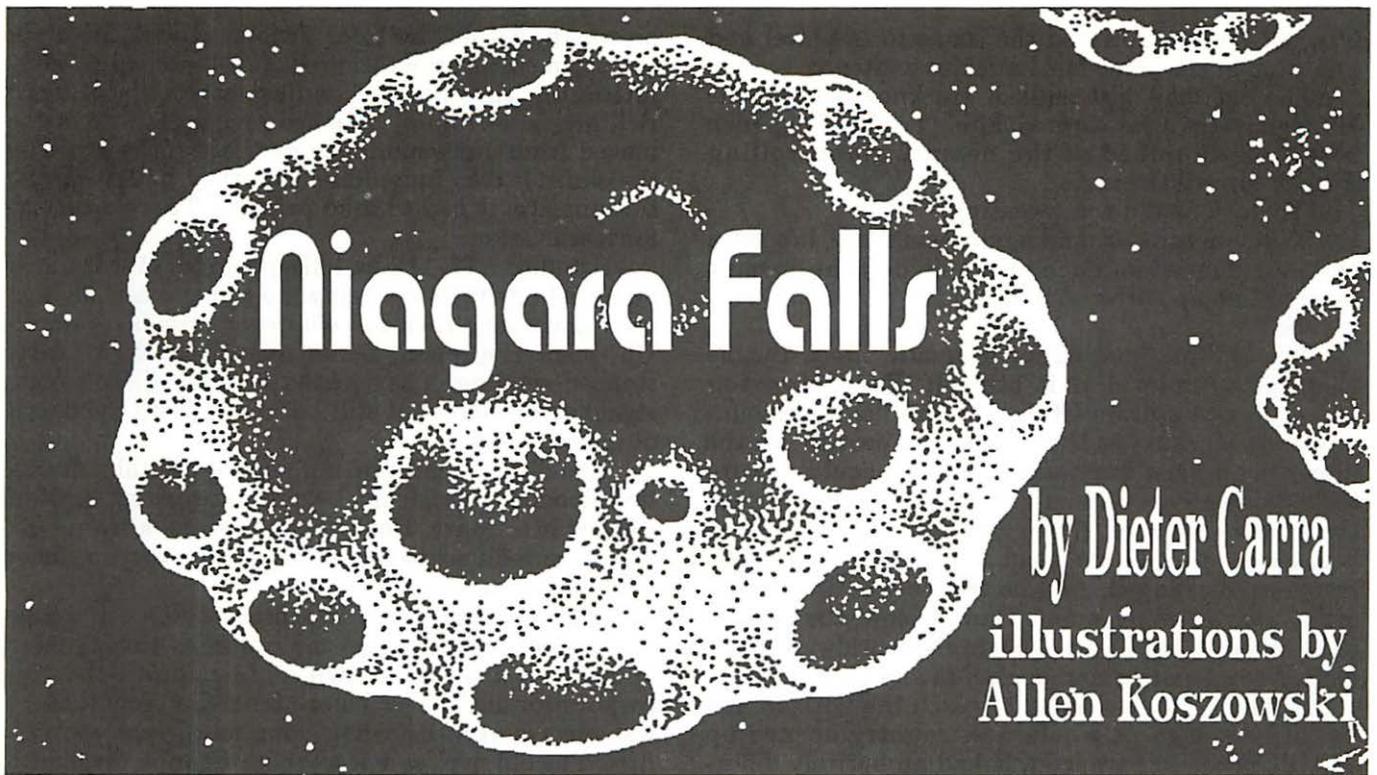
There were a lot of people in the Sixties -- Timothy Leary was one -- who thought you could achieve the Millennium and a perfect society just by putting LSD into the drinking water. I am glad nobody tried that on us, because that way lies William Tenn's . . . what was it? "The Lemon-Green Spaghetti-Loud Dynamite Dribble Day" I think was the title of the story.

I believe there were a few such attempts on a smaller scale, but people who try this rapidly discover that LSD in water dissolves and breaks down.

Brunner: Thank goodness for that.

Do you have any project you're working on now that you'd like to talk about?

Brunner: After this convention I'm going home to start research on a new novel, and, as usual it's going to be about as far away from my last novel as you can possibly imagine. ■



"Old man, how do you get that thing to dangle like that?"

The "old man" was only a few years older than the kid. But he'd been employed as a belt miner for the past ten. The kid, on the other hand, was new. This was his first day. Hopefully, not his last.

A lucky charm spun slowly at the end of a taut line, apparently *hanging* from a knob on the control panel just above their seats. It seemed to defy the weightlessness in their cramped cabin, dangling "down". Occasionally, like a compass, it pointed toward the nearest large body or gravitational source. Once in a while, it would point for no good reason, as to ghosts of things that used to be. Massive things, for which space still held place.

The old man reached over and caught it in mid-spin between a thumb and forefinger. He rubbed it. He always rubbed it before entering the belt zone. The dark grey patina had long been worn away. His caressing thumb had polished it over the years to a bright metallic sheen. He credited it with his safe passage through the asteroids. And in ten years, it had never failed him. Or, so he said.

"I found this on *my* first mission," the old man said. "In fact, it came from a rock in this here grouping." He pointed out the starboard window.

The kid stretched over to see out the small triangular slit. The glass was pitted and scarred from years of service. Much of the protective coatings were stripped off. So the sunlight shone through as bright white glare. He wiped it with his fingers but the oils from his skin became a prism of reds and greens and blues. Still, he said he saw the rocks.

There were a thousand or so boulders. Maybe a

hundred mountains. A dozen or two actual planetoids. And enough gravel and sand to fill a city-size hourglass. From this distance, they looked harmless enough. A tranquil cloud of snowflakes suspended aloft against the inky black night, gracefully tumbling to some unseen choreography.

The sun, some ninety-three million miles distant, painted their edges with yellow-orange highlights. Its rays shot out through the dust like a hot fiery breath; a furnace blasting over the stones; a beacon warning *Stay off the rocks*.

Their utility craft was a frail toothpick, covered with barbed appliances and headed by a module just large enough to be called Command. It veered into the swarm and the sand and small pebbles immediately began to pelt the outer hull like a hailstorm on a tin roof. The nearest asteroid towered above their puny ship by miles.

The kid fell back into his chair and tightened the shoulder harness. He started fingering the charm himself and the old man knew he was scared.

The kid shook his head. "You found this on an asteroid? This looks man-made!"

The old man grinned. His gold tooth sparkled - the one with the rocket cut-out. He knew he had him now. "That's right, Kid. It *is* man-made!"

"You're tellin' me you found a man-made artifact on some stray boulder in the asteroid belt?"

C'mon!" The kid lowered the scope to eye-level and took hold of the yoke. His knuckles whitened.

The old man just smiled. He knew he had the kid right where he wanted him. "See this big rock here?" He thumbed at the nearest giant, rolling silently toward them.

"Yeah." The kid was sweating.

"When it rolls around again, you'll see, it's got a peculiar curved surface on one side that doesn't seem to line up with the rest of it."

"So?"

The old man paused for dramatic effect. But he also had to marvel at it himself. Even after ten years, he was still awestruck by the floating mountains. He strained at the fuzzy little port to see the upper peak. One moment, he felt he could picture their diminutive speck of a vessel floating alongside the monstrous rock. Then, all of a sudden, maybe because he turned his head too quickly, his whole perspective changed. And he felt he was drifting, in orbit, over a rolling waste. Down below, the shadow of their craft kept pace, flowing smoothly over the foothills and valleys and pocked tawny plains.

Suddenly, they seemed to reach the horizon and fall off the edge. A whole new country opened up and, like the old man said, it had an entirely different shape. It looked like a fragment of a huge shattered shell.

"Some say, there used to be a planet here." The old man cast an eye on the kid's reaction. He seemed ready to take the bait. "And when you find a geography like this, what you're actually seeing is a piece of the planet's original crust." The old man took control of the joystick and steered away, toward another asteroid, farther off. By this time, they were past the region of heaviest particle concentrations. The showers gave way to an eerie silence.

"I found this" the old man explained, once more stroking the aged charm, "on a rock like that."

"You think there was a planet here once, with intelligent life on it maybe?"

"A lot of miners believe it."

"You think there's still artifacts to be found down there?"

"Yeap."

The kid stared out the window as the huge monolith fell softly away. "You mean, on rocks with curved surfaces like that there might still be the remains of some alien civilization?"

"That's where I found this."

"What do you suppose it was?"

The old man eyed the piece, staring down the length of his nose at it. He mocked a scholarly reflection as he adjusted it for best light. "I don't know, maybe it was some kind of religious relic. A sacred utensil or something." He squinted a little harder, as if to bring out more detail. "Probably third dynasty..."

"That's incredible!" By now, the huge asteroid they just left had blended with the stars. "Well, what did we leave it for? I'd like to go down and have a look."

"Don't worry about it, kid, there's lots of stuff like that around here!" The old man knew what the kid was thinking. He thought the same things when

he was first told the tale. Visions of lost cities and forgotten cultures; weathered, sun-bleached columns jutting up through the endless stretches of sand; rich artifacts from a vanished civilization as far removed from our experience as these rocks are from the sun... It *was* incredible! But they had a mission to complete. It had to take priority. There'd be time for fossils later.

Satellite LTZ-112 had disappeared. It was one of many set adrift in the belt zone to meticulously map each and every rock for whatever possible value to Universal Hydrogen. Some months back, LTZ-112 stopped sending. They feared it crashed. A homing signal grew weak, but still beckoned from the depths of the region.

Usually, a wealth of high-speed digital information flooded through the belt. A network of satellites relayed it to Mars. But when the signals from LTZ-112 were reduced to a standby tone, everyone knew there was a problem.

Triangulation from two other ships on the periphery of the belt placed the source of the signal on or near an asteroid known as Metzler's Folly. The corporation had never before landed a crew there. It was always exciting when your footprints were the first. The old man saw it as the human equivalent to a dog marking its turf.

From one angle, as it slowly rolled through the shadows, it looked like a large pie slice. Its base was a rounding plain. On the inside of the arc a mountainous wedge rose to a ragged peak. The peak remained sharply defined, while toward its base the features had been eroded under scores of impacts.

The old man immediately noticed the oddity of its curved face. Though the asteroid was clearly of a rocky composition, its curved side was covered by a frozen sea. Its smoothness, like a fragment from a polished marble ball, was in stark contrast to the rough-hewn nature of the wedge.

Several distinct flows had poured off the edges and solidified like drips of wax on a candle, forming complex river networks that climbed up the wedge. He assumed a large gravitational source had drawn the molten fluid toward the peak, then, broken free, left the rivers to freeze in place. They resembled jagged arteries pointing up toward a missing head.

Suddenly, Metzler's Folly halted in its minuet and the background starfield took up a ballet. Their ship was now synchronized to the motions of the asteroid. They couldn't match its occasional wobble, and so it still seemed to totter slightly beneath them.

The kid scratched at the monitor with his fingernail. A small greasy fleck of scum scraped loose. Underneath, the blip indicated where the signal was strongest. The probable location of LTZ-112, near the edge of the bowed plain, at the base of the wedge.

"The signal's not moving..." The kid made an adjustment, fine tuning...

"So, it's not ahhh, not in orbit?"

"No, it's definitely downed!"

The old man rubbed his brow, squeezing out a thought. "Well..." Landing on odd-shaped rocks was never easy, but when they tumbled unpredictably it became all the more tricky. Still, he realized there

was no better way. "Find me a smooth spot near the crash site."

"You mean we're going to land?"

"Yeap."

"I don't think there's a smooth spot down there!"

The kid pulled out a pair of binoculars and a food bar. He munched idly as he scanned the terrain through the port slit.

Crumbs began to fill the cabin, hovering around the old man's nose like a swarm of malcontent gnats. He shoed them away, brushing the air, but they whooshed back in the wake of his palm. They began to form a miniature of the belt outside. And the old man began to realize that the kid was taking this all too casually.

"You want me to land it?" The kid seemed to have found a soft spot.

"Look, kid, a landing like this can be pretty hairy!"

The kid took another bite, this time more slowly, staring at the old man as if to say *So, are you going to let me land?*

They began their descent. Rumble from the engines knocked something loose in back of the ship. The kid unbuckled, glided out of his chair and backwards through the hatchway into the narrow corridor behind the cockpit that lead to the airlocks. While he was gone, checking on the noise, the old man pulled out his duffel bag. Inside a side pocket he kept his stash of "alien" artifacts. He glanced back to see the kid secure a locker, then he quickly stuffed a handful into the leg-pocket of his spacesuit.

He disguised a laugh, clearing his throat as the kid came back. Then he returned to the task of landing.

Out the starboard window, he watched a sea of frozen crests roll toward him and disappear under the ship. The depths of their troughs were buried in a shadow that blended with the color of space. The weathered hills were lowlands at the base of the wedge, leading toward the edge of the smooth rounding plain. Their ship was descending at a gradual angle. Already, even at an altitude of more than two miles, a few boulders were becoming visible.

Something like a beach appeared on the far bank of a frozen river. It led to a range of jagged peaks that knifed up suddenly. *That* quickly, they were headed right for the rock face. The old man pulled up hard...

A shuddering vibration was conveyed through the ship. The hot glow of the engines lit up the cabin through the triangular ports. Embers blew past in droves, apparently kicked up off the rock wall. If they missed, the old man realized, they would miss by inches!

Then suddenly, the cliffs gave way to a starfield. The engines seemed quieter now. The old man pressed up against the glass and saw a new horizon falling away beneath them. It was the huge curving plain, resembling the normal horizon of a planet. They were over the edge.

Signals from the satellite, vector feedback from sister craft outside the belt, all were suddenly lost in a wash of static. Like the sudden cataclysmic end

that must have hit this planet, their radio links with the outside world just quit. The old man concluded that the cliffs blocked the signals when they quite literally fell off the side.

He quickly rotated the craft. Stars sped horizontally past both ports. Rocky spires spun into view and bounced to a halt like a fence at the end of a merry-go-round ride. "This is where we get off!" the old man warned. Hopping over the edge, they dropped like a faulty elevator. And they could once more see the river.

The old man deftly braked and the ship hovered down the rock face, toward the beach. The crumbs flew up and stuck to the ceiling.

Surface details were becoming clearer. Weathered dunes rippled in endless formation until they blurred together. A few craters, scattered here and there, were the only flaws to their perfect symmetry. A few airstreamed boulders stood awkwardly about like random game pieces, awaiting further moves. From so high, they were all children's toys and mere playthings.

"We are one-zero-five miles from target and closing. One-zero-two-five miles from target. One mile..." The kid kept calling out fractions till the old man yelled *Okay, okay!*

The ground brightened and a violent blast of smoke and fiery debris was sucked off in every direction. A final shock wave rippled out across the gloomy vista, momentarily smearing the focus on an otherwise sharp horizon. The ship touched down with a mild thud and a hesitant quake as the landing gear settled into place. And the loud rumble fell instantly silent.

They busily switched off volatile systems and got ready. The kid made one last check of the telemetry before fastening his helmet in place. The fog from his breath obscured his face in the glassy bubble. It quickly cleared when he switched on the air supply. Telemetry showed the crashed satellite a short walk from the ship.

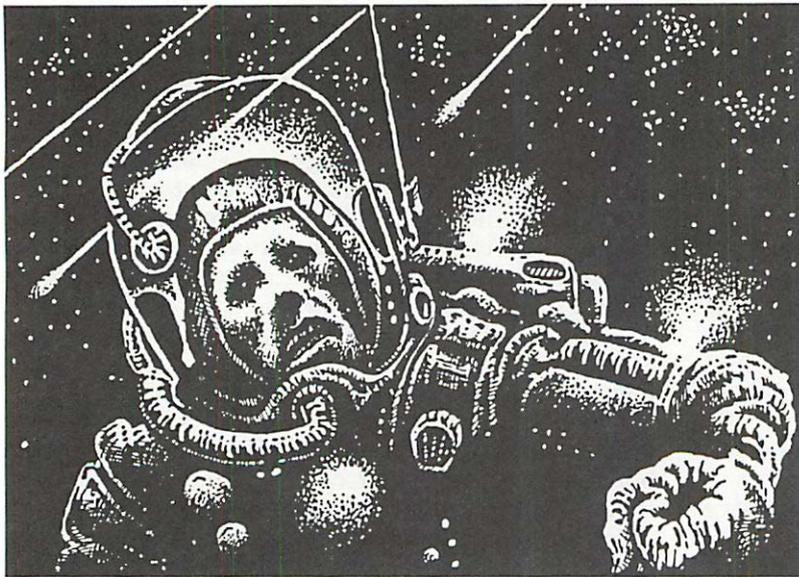
"Well, old man, bet I find it before you do!"

"I bet you do..." The old man could see his reflection in the starboard window. He could see that the glare on his helmet had covered his grin.

They clanged down, single-file, the metal grates in the narrow corridor behind the cockpit. Accumulated grease from years of use stained the walls and glistened in the muddy amber lighting that barely divided the shadows. Normal procedure involved sealing themselves in the airlock, then depressurizing before opening the outer hatch. But the outer hatch had never been fixed, so only the inner hatch could be sealed shut.

They gripped the handrails and the kid started cranking. It was a task made doubly difficult by the vacuum outside that tended to hold the door in place. But eventually, the hissing became a gust. And then gale force winds sucked out all the air. It condensed to a whitish haze as it dissolved away outside their craft.

The kid stepped out first. He seemed to have an idea where the wreck was lying and immediately began to search for it with his field glasses. That suited the old man just fine as he hopped off on his



‘The old man started running... He didn’t have much time, and the pace was insufferable, like running through knee-deep water...’

own course.

He felt around his leg-pocket. The cargo was still there. He figured he’d go out about a hundred yards or so, far enough to be adequately concealed by the dunes, then start spreading the stuff around. He’d make a slow circle around the kid’s position, seeding the whole area.

It was one of the oldest jokes in the business. Every new kid on the job, almost since the beginning of belt mining, had been hazed like this. You might say it was a tradition. In fact, that’s where the old man got his charm in the first place.

There was so little gravity on the rock, the old man feared the tiny objects wouldn’t settle to the ground fast enough to escape the kid’s quick gaze.

The old man couldn’t help but chuckle as he returned to the ship. The kid was still gone. Footprints led away to the northwest, finally disappearing in the wavy counterpoint of sand and shadow that itself disappeared in a larger movement of dunes. The old man figured he’d just have to be patient, and not give it away.

He reached around back, to a utility haversack that contained his scope. The eyepiece was contoured to fit around the curve of his helmet. Its rubbery gasket formed an occlusive seal with the surface of his visor.

He followed the footprints out and panned the horizon. Digital numbers rolled by feverishly as the scope tried to focus on fast-moving objects and calculate the distance. Readings were always short, maybe due to the proximity of the horizon.

Low-light enhancement rendered the world a cool blue-green, with darkest shadows a deep blue cobalt. He zoomed in until pronounced lines of resolution cut through the image like a horizontal grate. Interference occasionally scrambled the picture, turning it into a subliminally quick flash of knotted scan lines and static. Then it would roll back to normal.

Finally, the old man thought he saw something. Like broken glass, catching the sun. He zoomed in closer. Fuzzy shards of glistening metal, strewn across a dark distant field. He had found the satel-

lite.

But where was the kid? He checked his clock. They’d both be out of air in another thirty minutes or so. He switched on his headset, "Hey kid, time to come in!" A burst of static responded. It reminded him of why he liked the radio turned off. "Hey kid!"

Again, a burst of static responded. This time, a muddled voice seemed hidden in the noise. Then silence. *Could be echoes off the mountains*, he thought. But then, another blast of static. Unprovoked. And a distinct voice rose for a moment above the noise floor.

"Kid, are you okay?"

He continued to scan. At a certain frequency, the kid’s incoming signal would jar the picture. *It might work like a homing device!* The greater the distortion, the closer to the kid’s position.

He checked his clock again. If the kid was in trouble, he’d have to find him soon.

Belt mining could be a very hazardous profession. The old man remembered landing on a snowball once. His partner’s suit was still warm from being on the ship. When he stepped off, he immediately sank through the melting methane. The gases closed up overtop and instantly refroze. *The stuff got as hard as rock!* They couldn’t get him out in time. In fact, they never found the body.

Picture distortion seemed most severe a few degrees to the west of the satellite debris. The old man started running. Actually, it was more of a hop and a skip. He didn’t have much time, and the pace was insufferable, like running through knee-deep water. The suit resisted each step. And the low gravity didn’t help much either.

The closer he got, the more distinct the static became. When he was nearly on top of the glittering fragments of the shattered satellite, a shadowy figure suddenly emerged over the roundness of a nearby dune. As soon as the figure’s distinctive bubble helmet and backpack cleared the sandy crest, the old man knew the kid was alright and the radio cleared.

"I found it!" The kid was excited, filled with an exuberance that seemed recklessly incapable of

weighing the risks.

Well...he didn't get himself killed and the old man resolved not to feel angry about it, at least I won't have to file an accident report!

"I found an artifact! Look at this!" The kid waved around his treasure.

The old man had intended to play it straight until they got back to the station, but he couldn't hold it. He knew the hysteria would be especially poignant if the laughs could erupt at once from the entire crew, but he couldn't stop himself. It just came out.

"What are you laughing at, old man?" The kid was indignant. "Jealous I found a bigger one?"

The old man couldn't breathe. Every time he did, his laughter intensified. His helmet was fogging up. He nearly fell over backwards, but caught himself in time. *The oldest gag in the business, and the kid fell for it!* The old man could now welcome him into the fraternity.

Generations had ventured forth into space, driven by the same quest. Each sought to vindicate their own strained place in the universe and find assurances for their continued existence in the discovery of other cultures that had survived there. And every Belt miner, in the end, came to the same great realization. When the laughter died down, and they were left holding their *artifact*, they knew that the universe was actually quite dead. It led to a certain pragmatism. Yet, in turn, they themselves would keep the gag going.

The old man's laugh slowed to a soft chuckle, then coughed to a stop. He thought he'd indulge the kid a little and try to salvage some of the fun for the aftershocks back at the station. *It may not be too late to get serious, and play it straight* he thought as he reached for the artifact. He would examine it convincingly and offer some plausible explanation that would preserve a sense of wonder.

It was a metallic object, obviously man-made, circular in design, like a dish. A shallow bowl-shape was formed in the middle. Around the rim, on two sides, were indentations - apparently rests for some sort of instruments. On the other two sides of the rim, the metal had been sculpted to resemble a natural formation. It depicted what appeared to be a lava flow pouring over into the bowl, or a waterfall.

"I figure it must be some kind of primitive religious object. You know, a libation bowl for drink offerings!" Then the kid pointed out what looked like badly worn print carved into the side of the bowl.

The old man pursed his lips and thought for a moment. *If I didn't bring it here, then who did?* He speculated for a moment as to its possible origins, *maybe it was a strangely misshapen part broken off of the satellite.*

He wiped away some of the carbon, revealing in finer detail the unusual characters etched in the metal around the rim. *Could it be some kind of schematic code?* The old man had never seen a language like this before.

N-I-A-G-A-R-A F-A-L-L-S

What-the-hell is this? The old man faced the end of a long tradition. The kid had found a *real* artifact! ■

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You've read science fiction books, you've watched science fiction movies... But have you heard science fiction music?

One of my greatest pleasures as a disc jockey for a progressive rock station during the early 1980's was the frequent phone calls from enthusiastic listeners commenting on what was then the still fledgling genre of "space", or the term I prefer, "cosmic" music.

That was little over 10 years ago when record stores, if they carried anything even resembling cosmic music, stuck it unobtrusively in the jazz bin along with all the other "stuff" the record store people never quite knew what to do with. Most record stores at the time had only three, at the most four, distinct sections of music. There was the classical section, the rock section, the jazz section and, sometimes, the country western section.

The introduction of cosmic music must have indeed left many a skinny sixteen year old wannabearockmusician record store clerk scratching his head. While cosmic music fits all of the above categories, it fits none of them. One of the main reasons that cosmic music is so nebulous to define is the fact that it is not specifically a musical style in itself. There's no particular beat or rhythm (although sometimes there is a lack thereof) that one can point to as "typical". Cosmic music contains elements of many styles of music intertwined with a distinct identity of its own. Cosmic music is better defined in terms of theme, rather than style. Themes such as space, the universe and science fiction are typical of the cosmic music genre. One of my old disc jockey cohorts used to aptly

Cosmic Music?

R E B E C C A
 D A H M S
 L I O I

describe it as "music that expands the consciousness," mentally, emotionally and spiritually.

Thematically speaking, cosmic music is as old as music itself. Music and literature through the ages is littered with allusions to the cosmos and the "great whatever" that exists beyond physical bounds. Even what is known today as "classical" music was often inspired by thoughts of other worlds. Virtually every classically trained pianist must at one time or another be assigned Claude Debussy's immortal "Au Claire de la Lune" or, in English, "Song of the Moon".

The obtainability and popularization of the synthe-

sizer in the late 1960's and early 1970's launched cosmic music into the genre status known today. Early synthesizers were towers with masses of jacks and tangled wires topped with an impressive oscilloscope. New realms of sound were now available to the musician. Electronic, experimental, and often unpredictable, the synthesizer quickly became the medium and heartbeat of cosmic music.

Europeans, in particular, the Germans, were the main pioneers in cosmic music. The early and mid '70's produced a profusion of electronic music which rarely made it further west than England. Jean-Michel Jarre's "Oxygene" became a huge success on the European music market. Other European artists such as Klaus Schulze, Deuter, Kraftwerk, Vangelis and the immensely prolific Tangerine Dream soon became standards in European record collections.

America lagged behind a bit on the cosmic music scene. I attribute much of this to the rigidity of American commercial radio along with staunch unwillingness on the part of megarecord companies to sign artists with smaller listening audiences. It is interesting to note that some American artists had to sign with European record companies to have their music shipped back to America as an import.

The film industry was instrumental in the popularization of cosmic music in America. The release of "Star Wars" left a glut of sci-fi movies and television shows following in its wake. Suddenly, the well established Europeans were given their first serious glance from the American film and music industry. Many European artists were asked to do soundtracks for science fiction movies. Thus, cosmic music trickled into mainstream American music via the soundtrack. Although not thematically a "space music" album, "Chariots of Fire" by Greek musician Vangelis was a landmark in the cosmic music field. It was the first album by a veteran European cosmic musician to really "make it big" in America.

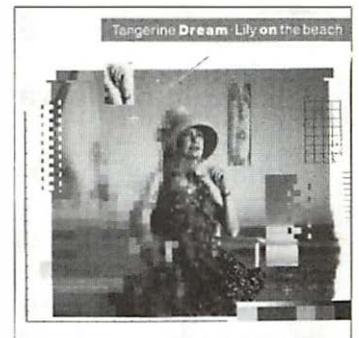
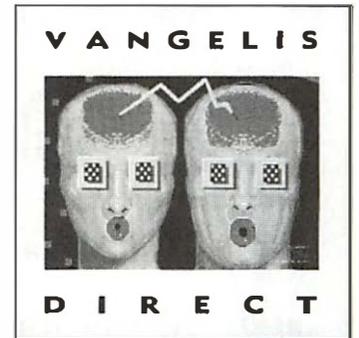
The influence of science fiction shows up continuously in cosmic music. In many instances, cosmic music is

science fiction set to music. For example, the cut "Aldebaran" off of FM's "Black Noise" album, sets to music a recurring theme in science fiction literature - the last of a race setting off in space ships in search of a new world. Other tracks on the album utilize similar recurring science fiction themes. British band Hawkwind takes an even more direct influence from science fiction literature. Any well-read science fiction fan would recognize song titles from almost any given Hawkwind album as having literary counterparts. But Hawkwind didn't stop there. Sci-fi/fantasy writer Michael Moorcock, who had already inspired much of Hawkwind's music (and, arguably, even the band's name) actually became a member of the band to add another venue for his writing.

Cosmic music made mild appearances on the commercial music charts, especially during the late 70's. Bands like Yes and Styx were able to cross over musical genre lines by capitalizing on cosmic themes while maintaining status as "rock" bands. The Alan Parsons Project "I, Robot" and Gary Wright's "Dreamweaver" albums boasted #1 singles with definitely cosmic themes.

The 1980's saw the daring launches of several small record companies dedicated to filling the ever-growing niche for cosmic music in the record industry. Labels such as Windam Hill, Narada, Private Music produced quality music at a slightly higher price and were welcomed by the market. Syndicated radio shows devoted solely to cosmic music began to appear followed by commercial radio stations delving into what was previously left in the realm of college radio.

Today, cosmic music finds itself well-established in the music industry. Steady growth of public awareness and appreciation has characterized the past two decades of cosmic music. Larger record companies are taking the music form seriously and signing cosmic musicians giving their music worldwide accessibility. And I must admit that I rarely have to root through the jazz bins anymore to find what rightfully belongs in a category by itself. ■



The Rubies of Brandenburg

by Adam Corbin Fusco

illustrations by Michael Kucharski

When Alexandre Kell got up to shave and looked at himself in the mirror he saw a jellyfish. His eyes stared back within a mass of ghostly flesh, forehead glistening white as pus.

He pushed away from the counter, heart beating rapidly, panicking. *How long is this going to go on?* he thought. He would have to avoid mirrors again today.

He still needed to shave. He bent over the sink, turned on the water, and splashed his face. Pores tightened with its chill. Without looking into the mirror he lathered as best he could, feeling the contours of his jaw, the firmness of his cheeks. His face was normal. *I have to peek*, he thought, gripping his razor. *Just to get my bearings*. He inched his eyes upward. *Just a glance*.

Flinching, he saw white skin jibbering around his mouth and a tentacle caressing his chin. He turned away, stood some moments catching his breath, nausea swirling in his stomach. He had to get through this. He drew the razor blindly down his cheek, fully expecting to feel a nick that would pop the jelly and make it ooze into the sink. But all he felt was his firm flesh. He proceeded to shave. He didn't look back into the mirror.

His wife Hettie had his favorite breakfast ready for him: runny eggs and burnt toast. He bit into the toast and enjoyed its bitterness. He wasn't in the mood for the eggs. Hettie, already dressed for work in blue secretarial, sat across from him and flung her fashion ponytail to the side before digging into her meal. "I packed your lunch," she said. "Pickles and cheese."

"Thanks. I like pickles and cheese."

"Are you going to see when we'll get the clone checks today?" she asked, not looking up from her food.

"I checked four months ago," he said, biting into his toast.

"That was four months ago. We've had them for two years."

"The Institute said they would take care of it."

"They haven't, Alex."

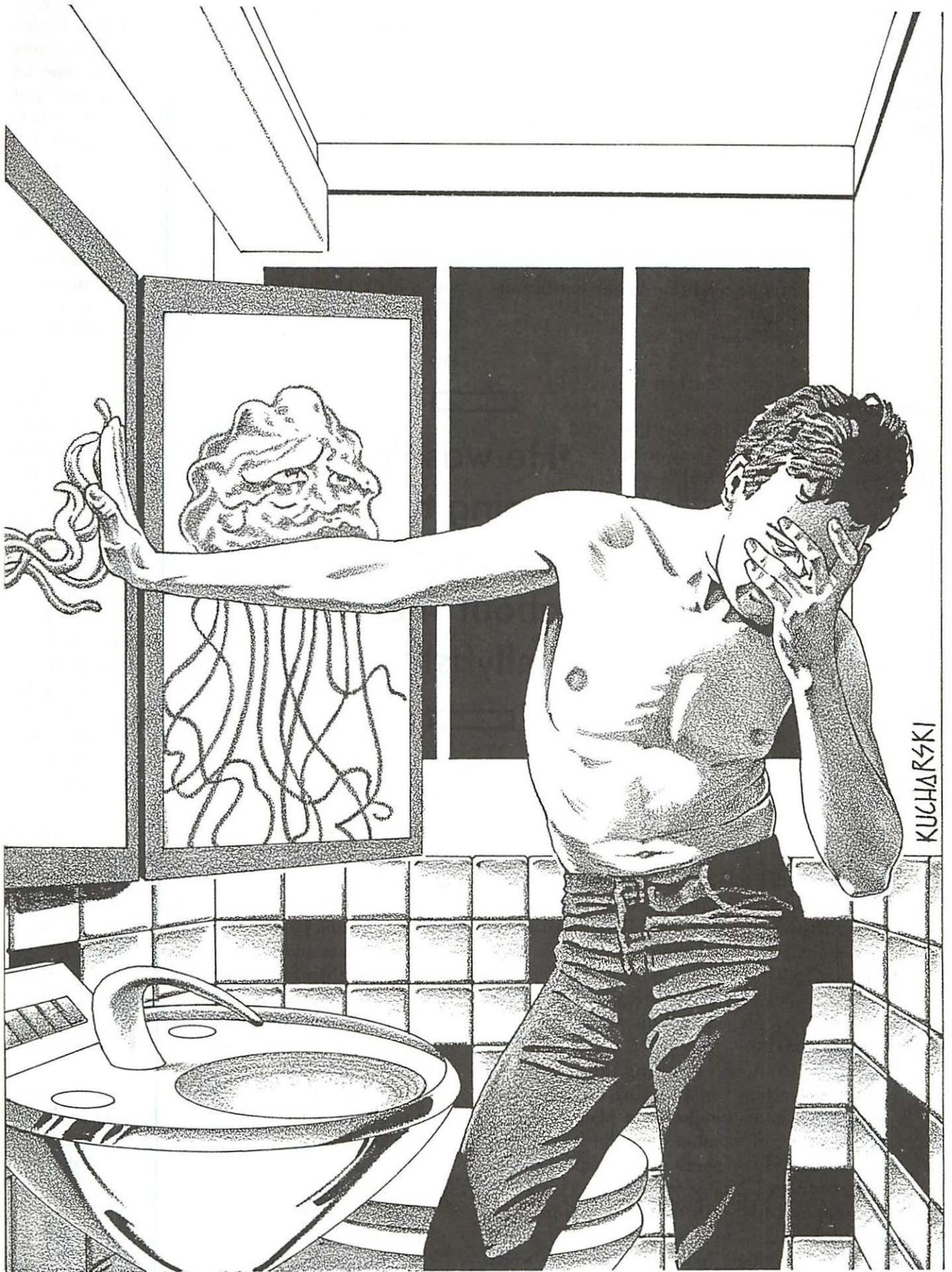
He didn't like the tone of condescension in her voice, as if he were irresponsible. He had tried to get the clone checks matter cleared up, but other things kept getting in the way, like the jellyfish. That occupied most of his worry-time. But he hated being a disappointment to her; it was one reason why he didn't ask about the checks more often. "I'll go there today and see."

"Okay." She looked at him thoughtfully. "You're cute in the morning."

"So are you." He knew she felt obligated to say things like that, to draw him out; but she didn't mean it. She was the one who was cute in the mornings.

"Are you all right?" She bent forward to look into his eyes.

"I'm fine," he said. "I'm just not hungry this



KUCHARSKI

morning." He managed to smile. He wasn't going to tell her about the jellyfish. Obviously he didn't look like a jellyfish to her. If he told her about it she would coo over him and make him feel like he was saying it to get attention. He already felt that their relationship was tenuous since the clone checks weren't arriving. They needed the money. She might leave him if he didn't get the extra money, or if she knew that he was actually a weakling who saw things in the mirror. He was deeply in love with her, with her strength and independence. He wanted to show her that he was strong too. If she lost faith in him he might never see her beautiful gumbdrop eyes again.

"You cut yourself shaving."

"Did I?"

"Hmmm. See?" She reached toward him with a napkin.

"I'll get it." He dabbed at his chin. The napkin came away with pinpricks of red. "It's not bad."

"You always cut yourself shaving. Why?"

He stuffed toast into his mouth. "How should I know?"

"You should get that shaving cream for baby skin. You know? Hensen's Sensitive Skin or something."

"I don't need anything like that."

"Okay," she said abruptly. Was she angry? She took a last mouthful and stood. "Finished with that?"

He nodded. She scooped his plate and he dressed for work.

He boarded the rail-bus on the corner across from their apartment building. He hoped she wasn't mad at him. It was just that the jellyfish had given him a good scare, and he wasn't in the mood for discussions.

The bus folded him into its egg-white interior and hummed away. He avoided his reflection in the polarized glass and the shiny shell, and took a seat away from the window, clutching the lunch bag Hettie planted on him while kissing him goodbye. A flower-print lady sat crocheting a blanket, incorporating the smell of exhaust fumes in its creases, while a man turned the pages of a newspaper back and forth, reading each page twice.

Alex touched his chin to see if it were still bleeding. The toast in his stomach churned at the thought of the jellyfish. Today had been the worst episode of all. Other times his skin had a pallor

like candle wax, or an inflated, bulbous quality, or there were folds of slimy white layering his cheeks. Or if it weren't a jellyfish it was a bird, feathers curving around his ears. Or a fish. Each time he felt the dislocating conviction that he was not looking at himself at all, and it turned his bowels to water. It wasn't a feeling that he had changed, but that he had been replaced. By something amorphous. Something ugly. His chin was dry.

He exited at the entrance to Schliemann Industries and was careful to keep his head down while spinning through the glass doors. Across the foyer was a bank of chromium elevators. With practiced effort he shuffled forward, keeping his eyes on the backs of his co-workers to avoid the mirrored surface. They regarded his withdrawal with scorn.

The factory floor busily filled with workers. Alexandre scooted to his work station. At the sound of the whistle the belt began to roll while the generators whined and the pouring machines hissed. After donning gloves and goggles he grabbed the first mold from the belt and struck it open with a hammer. A square of shiny brass tumbled out, a threaded hole through its center. His job was to sand the rough edges on a belt sander, toss the square into a bin, and dump the used mold into a return cart. He didn't know what the square was

called or what it was used for, only that they made it on this floor over and over; if he were daring he would call it a *doohickey*.

Alex plunged into the numbing, mechanical pace. He liked this job for that; he was able to let his mind roam free. But he always kept a fast pace. The shiny surface of the doohickey made him finish with it as fast as possible in order not to look into it -- but there was another just a second behind.

He began to enjoy the day, made better by Hettie's lunch. Toward sunset his supervisor Svena clopped toward him in her high heels. "Oh, Alex -- come quick. It's another one." She disappeared around the corner.

Nodding to the other men to cover him, Alex went to Svena's desk. She pointed under it, fluttering her hands. "Hurry!"

He bent and saw a spider scurrying up the desk leg. "It's a little one."

"I know that. Get it."

Frowning, he squished it with her newspaper.

"I hate those things," she said. "Oh, thank you, Alex." She smiled her horse-jaw smile and seemed

‘He wasn't
going to
tell her
about the
jellyfish’

to expect something more from him.

"S'nothing. But you should get some spray or something for that. You always have spiders." He threw the newspaper into the trash. Why did she always ask him to squoosh the spiders? Sometimes he thought maybe she was sweet on him, but then would dismiss the thought entirely. "I better get back to work." Svena nodded.

As he turned he faced a sheet of brass being carried by two workers from the melting detail, the very workers who came in by the hour and whom he had avoided all day. Before he could spin away he caught his shadowed form reflected on its surface and saw his neck narrowed to a single point where his head should be.

"Oh my dear God," he breathed, backing into Svena's desk. His knees wobbled. The shadow wasn't even his. Not his at all.

"Alex, what's wrong?" asked Svena.

What could possibly be happening to him? He clutched his chest, breathing hard. He inched his hands along his neck, up his face, and felt his head. Normal. It was all normal. "I need to see a doctor."

Svena looked frightened. "Are you all right?"

He rubbed his cheek and that calmed him, knowing it was there, and normal. "I'd like to leave early today."

"Well, I suppose that'll be all right," she said, tapping her clipboard. "The others will cover."

He thanked her and left the building. The air cooled his skin. He rejected a rail-bus; the Institute was close enough to walk, and walking would make him feel better. There was no reflective glass around. The sooted brick of the factories he passed sketched charcoal lines in the air.

He was going to the Institute anyway; by leaving early he had time to see one of the doctors there. Dr. Michter, preferably. She was the one who had supervised his cloning two years ago; she had been kind to him then. Maybe she would be able to figure out his condition. Maybe the jellyfish was a side effect of the cloning.

A set of workmen, two pairs of twins, hauled ropes to lower a cement dumper into the pit of a construction site. A group of quads hammered rivets in unison into the rusty skeleton of a building. Construction was remaking the city.

All five of Alex's clones were indentured to small companies around town. He was to get a per-

centage of their earnings but he hadn't seen a check yet. The Institute, no doubt, was earning their cut, no hassles.

By the time he entered the lobby his stomach had settled and his knees were stronger. He stepped to the service window. "Hello. My name is Alexandre Kell. I have a problem concerning my clone checks. I haven't received any and the clones have been working for two years."

The girl twirled a pigtail with pink-lacquered nails. "Two years?" She sorted through the files absently. "Kell, Kell...here we go. Two years. Well, Mr. Kell, all I can say is that there is usually a backlog in processing -- processing the checks? And, um -- it is advised that you continue to wait for the allotted period and in the meantime you may file a complaint and we'll see to it that your case is handled in a timely fashion."

"That's what they said last time."

"Probably so."

"May I see Dr. Michter?"

She blinked. "I just told you -- "

"No. This is for something else. I'm ill, and I think it's a result of the cloning."

"That's impossible."

"Could I see her? It's an emergency."

"She's not in charge of check processing, Mr. Kell," she said,

thumbing her schedule book. "Dr. Michter is unavailable, but you may see Dr. Frye."

"That'll be fine."

"In an hour."

He waited. A set of male triplets in overalls filed past the counter girl and out the door. She smiled at their backs. Alex wished that Hettie were with him. She had been with him during the cloning and had been a comfort to him. With a sudden shock he remembered that he was supposed to fix dinner tonight. He was going to be late.

Alex had to go to the bathroom. He found it quickly enough, the one he had used two years ago, and placed his hand on the knob.

Dear God, he thought, *which side are the mirrors on?* He felt a panicky tingle in his loins to accompany the pressure in his bladder. *Are they on the left or on the right?* He pictured the interior of the bathroom as he remembered it, but it felt just as appropriate that the mirrors be on the left as on the right. His memory flip-flopped, a photographic slide. *Left*, he thought. *They're on the left.*

He bullied through the door facing right and

▬
‘Maybe the
jellyfish
was a side
effect of
cloning’
▬

met the urinals. He sighed with relief.

When he was done he turned toward the door. Was it a wall of mirrors or just a few small mirrors? If they were small mirrors he could wash his hands. His hands were still blackened from sweating in his work gloves.

He walked slowly to the sinks with head bent, keeping his eyes on the floor. He noted that the tile was a black and white checkerboard. The white porcelain lip of a sink came into view. He stepped closer. An unnatural compulsion urged him to look up, but he resisted. He ran his hand along the sink and leaned forward to get to the faucet. He caught a glimpse of an aluminum shelf. He ran the water, seized a bar of soap from the shelf, and washed his hands, leaving the soap in the sink.

Where the hell are the towels? He wouldn't look around; he couldn't. *The wall along the door, that's where,* he thought. *Got to be.* He swiveled his head, aiming his gaze along the floor tiles till it met the baseboard of the further wall, then up the wall, and there, the dispenser of towels, whose burnished aluminum surface caught his shape within its frame.

Dear God no. His breath hitched. It wasn't his shadow, but had the shape of a man.

Ice chilled his spine. *What does it look like? What does it look like now? If I go crazy, they'll be able to help me. I'm safe here. I can risk looking, just to see. I have to see.*

He looked into the mirror and saw shriveled eyes with pupils puckered into squares -- and nothing else.

The doorknob slipped in his frantic hand -- then he was in the hallway, gasping, trying to choose a direction in which to flee.

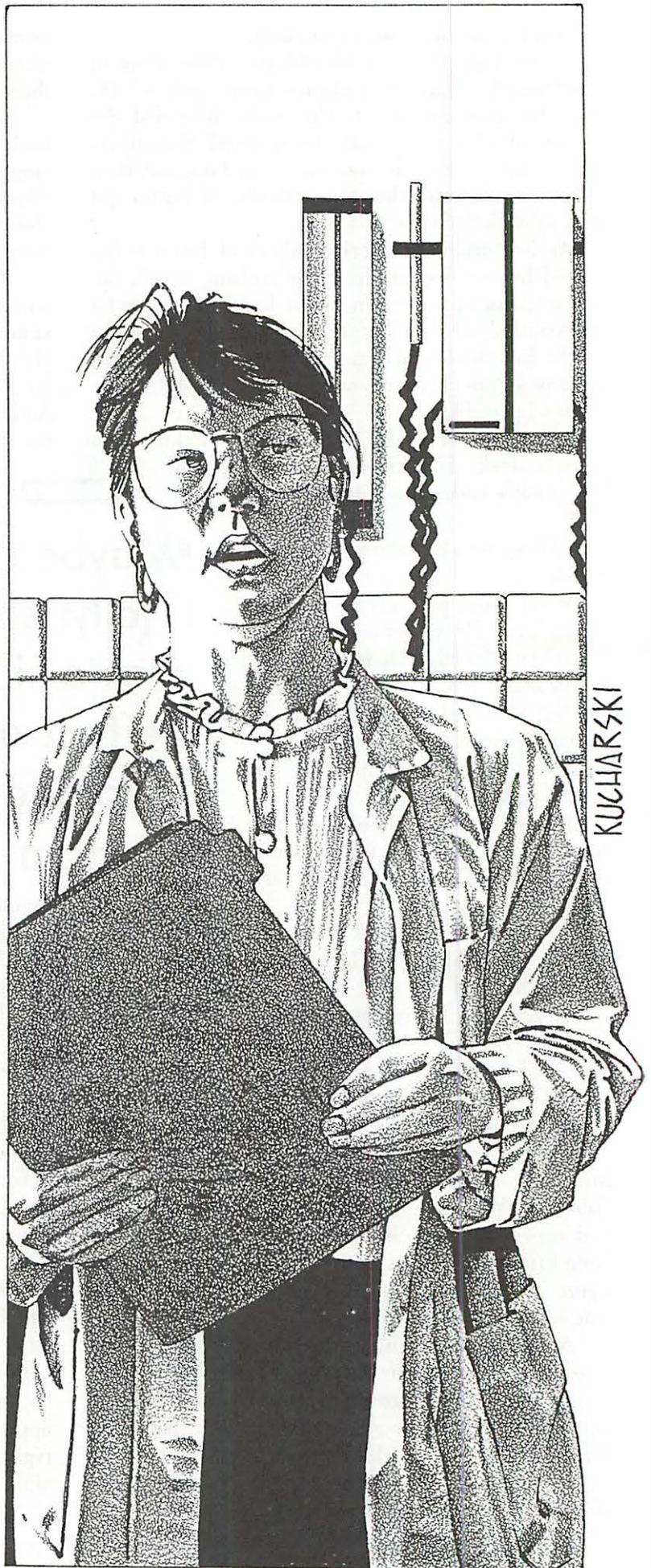
"Mr. Kell, whatever is the matter?" A woman in a white smock came running.

"My eyes -- my eyes!" he cried.

"There's nothing wrong with your eyes. You're all right. There, there." She patted him on the arm. "I'm Dr. Frye. It's pleasant to meet you. Come along with me. It'll be fine." She took his hand and lead him along the hall.

"Something's wrong with my eyes."

"So you seem to think, but they look



fine to me." She lead him to an examination room and sat him in a chair. She opened up a folder and clicked a pen. "Can you see?"

He blinked. "Yes."

"Do your eyes hurt?"

"No."

"Indeed. Well now, why don't you start by telling me why you came here?" Dr. Frye perched on a stool. She was short and plump, wriggling uncomfortably in a brown polyester skirt. She wore a frilly thing at her neck.

Alex swallowed. He felt better now that someone was with him. "I came here to see about my clone checks, but also because I have a problem. A medical one." He took a deep breath. "When I look in the mirror, I don't see myself. I see...a monster. A jellyfish. Or a sick bird. Or just eyes."

She looked concerned. "My, that sounds serious."

"I think it is. I was here and got cloned two years ago. I think that has something to do with it. They took away my identity or something when they cloned me."

"Oh, no," she laughed. "That wouldn't happen. Let's just take a look see at your file." She flipped through the pages. "Yes. Hmmm. Huh. Yes. Oh, yes."

"It's been happening for a while."

"How long, would you say?"

"A year. Maybe two. I don't know. But it's gotten worse."

She tapped the folder with her pen. "Have you had schizophrenic episodes in the past, Mr. Kell?"

"I...don't think so."

"Have you been diagnosed with schizophrenia or any other mental illness?"

"No."

She fiddled with the frilly thing. "And your health is fine besides?"

"Yes."

"Well, I'll tell you what, Mr. Kell -- this may only be a result of job stress. How is your work environment?"

"I like my job."

"But is it stressful?"

"Well...somewhat."

"There you go then!" Smiling, she made notes.

She wasn't competent, he thought, was just playing at being competent, humoring him. She was likely some intern studying under Dr. Michter and he was her guinea pig for the day.

"I recommend rest and relaxation," she said. "Take a vacation and you'll feel fine. There is nothing to worry about."

"But isn't this a result of the cloning?"

"Not at all. Now we could run tests to check for mental illness, but that would be lengthy. Why don't we just keep an eye on you for a while. If the problem persists, come on back." She slapped her thigh and shut the folder. Case closed.

Alex stood up slowly. "Thank you."

He waited for the rail-bus, feeling foolish. Not even the doctor believed that anything was serious. If nobody believed him then he would have to carry it around with him the rest of his life, and if somebody found out about it they could take advantage of him. He had a fantasy of getting into trouble with the law where as punishment the police lock him in a cell whose walls, floor, and ceiling are all mirrors, and he can never escape himself -- even though it isn't *himself* in the mirrors at all.

The rail-bus was half-full. He carefully chose an aisle seat and sat with his head bent. A vibration tickled his toes as it pulled into traffic. A man up front was humming the same bars from a popular tune over and over.

"Smoke?" Nicotined fingers offered a packet of longfellows.

Alex raised his eyes a bit to see a man's deeply-lined weasel chin below a mouth grinning with the glint of a gold tooth. Alex shook his head.

"Ahhh. Shy, eh?"

"I don't smoke," Alex said.

"Can't you look at me? You're not the shy sort. Just scared of something, eh? Am I scary, love?" The packet disappeared. "Go to the Institute often?"

Alex wished he would leave him alone; the man had already noticed that he had come from the Institute. "I was just waiting for the bus."

"We're all just waiting, love." The man bent across the aisle and ducked his head into Alex's line of sight. "Windows, is it? Can't look into windows?"

Alex shifted uncomfortably. The humming man up front had started his tenth round. "The sun hurts my eyes."

"I told you not to be shy." His face smiled but his pale eyes scorned. Ash from the longfellow in his fingers dropped to the floor.

"Yes, I was at the Institute. Who are you?"

—
‘When I
look in the
mirror...I
see...a
monster’
—

The man leaned back, scratched himself under his plaid shirt. "Name's Ruby. I bet that's your name too."

"No, it isn't."

The man mocked a frown, dragged on the 'fellow. "Hard to fool a Ruby, even though they fool others."

The rail-bus turned a corner. Alex could catch a glimpse out the front windows without getting a reflection. The walls of brick buildings, grey posters fluttering on their sides, rumbled past. Day old exhaust tickled his nose. Alex wished the ride were over.

"Ahem. Uh -- do you know about rubies?" the man asked.

"No," said Alex curtly.

The corners of the grin turned down. The man dragged a thumb along his stubbled cheek, yellow smoke staining the air.

Alex felt sorry for being cross. "They're...gems."

"Well, gems." The man cleared his throat. "No, see -- let me learn you about something. When they make fake rubies -- they do that, you know -- they put this doping agent in them, see, so that they turn yellow under an ultraviolet, which real rubies don't do of course." The gold tooth winked. "You, love, are a ruby. And I can introduce you to others. Down at Brandy's Diner. We'll get something to eat. Have a laugh. And on the way, see, you'll get to know why I'm a ruby too."

Alex's palms were sweaty. What the man said intrigued him, but he was already late in getting home. Ruby had known about his avoidance of windows; had figured it out, even when a doctor had not so much as acknowledged that he had a problem. What did he know? Alex had sought for an answer today, hadn't gotten one, and faced a confrontation with Hettie about the delay of the clone checks. If a stranger on a bus offered an alternative he had nothing more to lose.

Alex nodded. Ruby pressed the chime.

The rail-bus deposited them outside an establishment whose lifeless neon tubing had been scavenged: Brande B & Grill. As the bus pulled away Ruby's jaw tightened. He grabbed Alex by the arm and hustled him across the sidewalk. Ruby's nails dug into him, sweat running down his cheek, longfellow fleeing from his hand. His eyes goggled. Alex knew what the face of fear was. Nabbing the door, he scooted the man inside.

Ruby leaned against the wall. "Someday I'm not gonna make it. Someday it's gonna tickle me balls so much that I'll fall flat on me face and never get up. It's the outsides, the open air with me. But...it never killed anyone yet." He swallowed hard and drew Alex to the stools.

Like its sign, the place seemed to have had pieces of itself removed over the years and never replaced: missing wall tile gaped brown plaster; the polished surface of the amber counter was grooved with rough patches; the stools oozed yellow foam where they had been holed.

They sat down on the stools. A large woman with red hair piled into a hive wiped the insides of a mug with a towel and smiled at them. Nearby, a man whose plump cheeks pushed his eyes into slits sat humming the very tune Alex had heard on the rail-bus. He wondered if the guy had somehow slipped in behind them.

Ruby lit up and gestured with the glowing tip. "That's Anastasia, proprietor, and that there's Mr. Jackman, but they're both Ruby, you understand. Lady and gentleman, this here's Ruby." He faced Alex. "Now you know what mine is. Tell us what yours is."

"My what?"

"Oh, come on, love -- fear is what we're talking about."

Alex looked at them. Perhaps here were some who could understand. Ruby knew so much already. Reluctantly, he told them about the mirrors.

"That's a tough one," said Anastasia, polishing furiously. Mr. Jackman bobbed in his seat.

"I don't understand," said Alex.

Ruby sighed impatiently. "You're Ruby, which in scientific parlance is a clone. And they've got a flaw in you, which is to tell you apart from the real ones. Like rubies."

Alex's heart flubbed. "I'm -- I'm a clone?"

"You just don't know it."

"What? But I'm *me*."

"You are you, all right. Just not the original."

He shook his head. "A flaw?"

"That bit o'business about mirrors."

Alex didn't know whether to believe him. He looked at Anastasia and Mr. Jackman, who wore sympathetic smiles. Patrons at the tables tinkled silverware. He turned to Ruby. "With you it's...about being outside?"

"Not incapacitating, you understand. I can get around as long as the walk's not far from the bus. It

—
**‘They've got a
flaw in you,
to tell you
apart from
the real ones’**
—

doesn't hole you up completely. Just a little something to distinguish you from the original. And keep you in line, so you don't get out of hand. *And* keep you at menial jobs, which is what you're good for -- we're good for."

"My supervisor -- she hates spiders."

"You see!"

"I saw a man read the newspaper twice today."

"That's it. Mr. Jackman here -- you can hear his deal. And his brother clone was riding the bus with us. I spoke to 'im before you boarded."

Anastasia drooped a doughy eyelid. "We're spreading the word. Help each other out. You can come in here any time you please if you got a problem. Need an ear. Come in here and talk to a ruby. Spread the word yourself."

Ruby nudged him. "I do it by riding the bus."

Alex placed his hands on the counter to steady himself. *He* was a clone? Who -- *where* was the original? But did it matter? He was he. Yet it felt as if his life was projected on a screen and he had stepped across to the other side to look the other way. "That's why I haven't gotten any clone checks."

"There's a bit o' tax from *your* paycheck that they take out," said Ruby. "Goes to the original." He leaned close, his voice turning low and serious. "Now here's the important part. If you know that it's something planted inside of you, that the problem isn't *you*, then you can overcome it. Know that it's a part of you, but not the whole you, and you can lick it." Ruby dotted the air with the longfellow.

Mr. Jackman began another round of humming.

Anastasia finished polishing; she had worked on the same mug the entire time. She placed it in front of Alex. "Have a drink, Ruby."

Hettie flung her ponytail, eyebrows arched, waiting patiently. "I hope you're late from being at the Institute."

"I was at the Institute."

"And what did they say about the clone checks?"

"There aren't going to be any checks."

"Why not?"

"They stopped the program." He wouldn't tell her he was a clone. It didn't matter; he was he.

"I can't believe this." She sank onto a couch.

"Neither can I." He sat down beside her, wishing he could comfort her about the missing checks, but he was too overcome. He was a clone. He was flawed. Tears blurred his vision.

"Alex -- what's the matter?"

He was supposed to fix dinner, and flubbed it. He was supposed to be an original human being, and had flubbed that too. He was supposed to look in the mirror and see himself, and couldn't.

"Alex."

"You'll hate me. You'll leave me."

"What's the matter?"

"Why are you so *angry* with me?"

She sat back. "I am not angry with you," she said gently.

He could tell her. He could tell her because it wasn't a problem about him; it was from the outside, not inside. They had implanted it in him. And yet...*flawed*. "I didn't go to the Institute just for the clone checks. There was something else. A problem I have."

"Tell me."

She would be disgusted. She would think he was a freak and walk right out on him. *It isn't me; just something in me. Just part of me; not the whole me.* "When I look in the mirror, I see something hideous. Something ugly. Not me. It's frightening." He described what he saw in the mornings.

"Why didn't you tell me?"

"How could I?" Anger flared his lungs. "You hate me now. You think I'm a monster."

She smiled at him, ran a hand along his chin. "You kidding? Now I know about your shaving, silly fool."

"The, uh, Institute said it was from job stress. But I don't think it's going to go away."

"I'm really sorry you have a problem." She giggled. "But you know, it's kind of funny."

He was relieved. "Funny?"

"You'll just have to keep nicking yourself, I guess." She kissed him lightly on the cheek. "I don't think it's that much of a problem. You know why?"

"Why?"

"Because I think we can deal with it. Come here."

She drew him into the bathroom. She turned her head to look at him in the mirror. He kept his eyes on her. "When *I* look in the mirror at you, I don't see that," she said. "I see a handsome man. I see someone I love. No monster. No creature. You. I love you." She looked at him. "Now you look. You look in the mirror."

Tension drained out of his shoulders. She was beautiful. What a gentle, strong person she was. He wanted to look, but instead lost himself in her eyes; it was much more important to gaze into their loving softness. He put his arms around her. "I don't need to." ■

ANTHROPIC CONVERSATIONS

BY

with
Jersey

SC LOFTON

Sometimes Andrew B. Carter believed his good luck cursed him; other times, in a karma kind of way, he felt blessed. Old-timers living in the mote-zone were lucky, immunity lucky, but *living* stretched the word. Prison didn't necessarily mean guards and guns, towers and walls -- it meant survival and loss of freedom.

Yesterday, Andrew lucked out good.

He'd heard the wreck first, followed the oily-colored smoke plume through ruined homes and businesses to the crash site. Upon arrival, he'd found a remotely-piloted, thoroughly-mangled shipping craft, and due to its sturdy packing, one survivor: a fancy giraffe. It had survived with a minor cut to its hind quarter. Nothing a vet couldn't treat. His new animal friend equaled generous opportunity in freedom and movement. Before the Insiders from Parco Arcology could converge on their smoldering vessel, he left them a ransom note written in blood: INSIDERS, I HAVE YOUR GIRAFFE. ALIVE AND WELL. MEET ME TOMORROW AT RIVERSIDE BRIDGE AS PARCO'S SHADOW COVERS IT. I WILL RETURN YOUR ANIMAL FOR ONE INHALER PASSPORT. NOTHING MORE OR LESS! - ANDYMAN.

Today, Andrew woke up feeling optimistic. He didn't get up from his pallet right away, but let his day start slowly. Sunshine entered his basement home through a fiberoptic sieve. Hundreds of light spots covered his body, small dots that warmed his aching and stiff muscles. First thing, he figured, he would give the animal a sponge bath.

He ran as deep as an old rickety well, an old crank and bucket of a man

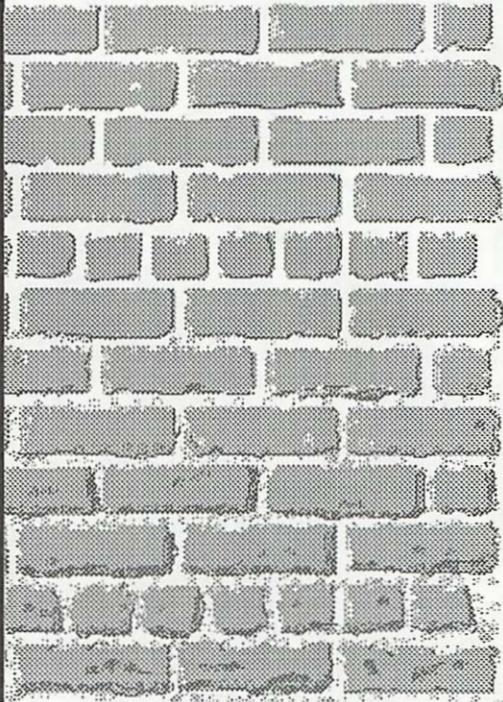
ILLUSTRATIONS

BY BOB E HOBBS



with a ropy streak of luck. Chest-length braids hung in his greyish beard. The thick beard and braids helped protect his neck from anyone who might try cutting his throat. Splotches of black, purple, and puke yellow covered his skin -- immunity scars -- caused by a 2Z-grade airborne virus, but these days, he didn't have enough vanity left in him to care. Even *Dracunculus medinensis*, a guinea worm, made him look uglier than he should, but he didn't mind: function mattered more than appearance. The two-foot, wire-thick parasite wrapped around and coiled under the skin of his left arm, visible and sore; a friend that itched and burned painfully when radon levels got high. He wouldn't pick it out. Sometimes ripple tuberculosis put a chunky hack into his voice and subtle ridges around his brown eyes. No mind, he could hack it with the best.

SO HE NAMED IT JERSEY...



At sixty-two years of age, he'd spent the last seventeen years surviving interstate viral wars, rioting, and plain old greedy humans fighting for their miserable land. He enjoyed thinking his own inner beast treaded more softly than others. Throughout the power struggle of corporate and government conflicts, of tussles between the haves and want-mores and have-nots, he had used his veterinary skill on more people than animals. History's same old song and dance, except Texas wound up giving the Gulf of Mexico a cold. What life the microscopic weapons didn't kill, starvation and social disorganization weeded out. Many ran to vertical cities or space arcologies which sprang up overnight, to a catastrophic evolutionist's glee. Andrew had stayed landbound and open-skied, a prideful, hopeful monster, more or less. None really had control of their destinies.

To his left, pigeons nested in old mailboxes, cooing

loudly. His feather-footed crested English Trumpeters cooed the loudest. He didn't eat Trumpeters. They were show pigeons at heart. Runt and King pigeons produced the meatiest squabs that sustained his life, and he kept four pairs of English Trumpeters to show his appreciation for the feathered species. They shared his troubles and his basement home equally.

Andrew lived by himself, little to do with choice, in Parco's mote-zone. A debris-strewn, ruins area surrounding the two-mile high vertical city. Often enough, he wondered what it was like living in Parco VC. Insiders definitely looked well-fed and healthy, but his homely basement wasn't bad, either. Through diligent scavenging, he acquired massive bundles of fiber optics to pipe sunshine to his ramshackled, underground home; supplying his tiny hydroponic garden of string

beans, peas, supersoy, and, occasionally, a tomato plant with filtered sunlight. Heavy wave-baffles, covered naturally in ivy, kept nosy satellites out of his business, his exile from human population, and provided a gutter system to collect rain water. Everything he owned that meant something to him barely filled a plastic chest: books, ones that microbes declined to eat; antivirus pharmaceuticals that he'd brought on the exodus from Florida; weapons of survival and other what-nots. He could not disown his ghost memories, though, of family and of living a real life. His wife, Carol, and his son, Jeremy, were buried yards from his functional home, killed by Mitro-V cellular parasites that destroyed the cell's

energy-producing mitochondrion. His daughter, Robin, had survived that natural selection nightmare by leaving Florida before it hit. He hoped she still lived; hoped it, didn't think about it much. He remained, life remained. He proved it every day.

Once his thoughts cleared cobwebs from a night's sleep, he sat up and called out, "Jersey, you okay over there?" He talked to anything that moved, anything that didn't try to kill him.

Not for pure gold could he figure out what sex the giraffe was, so he named it Jersey. Seemed generic enough. He always liked the smell of Jersey pine, anyway.

Jersey spent its first night in a dysfunctional electric furnace. Andrew had solar cells, but none good enough to power a furnace; he used the rectangled frame to breed his King pigeons. When he'd first

sighted the giraffe, he thought it was a baby, although, on closer inspection, he saw that Jersey was not a yearling. College memories of zoology came back to him, seemingly a million years ago, offering a different version of reality: baby giraffes were around six feet tall at birth. Jersey was no taller than a yardstick, and full grown! Some Insider's vulgarly expensive pet; someone who, he hoped dearly, would want it back.

Andrew climbed from his musty pallet and padded over to Jersey through thousands of small sunbeams. *Surely*, he reasoned, *a passport didn't mean anything important to an Insider from Parco Arcology.*

Already, Jersey had softened Andrew's feelings. Feeling great, he pulled back the fiberglass door and hunched down close to the giraffe. His grinning wouldn't stop.

Jersey rested with its legs folded under its belly, head up.

"Now, aren't you comfortable? Your bigger kin -- if they are still kin -- would have problems lying down at their fancy."

Jersey gave him a naturally long face. *A sad face*, thought Andrew. *No wonder, this bantam giraffe must have been accustomed to plusher surroundings.* "Come on," he coaxed, picking up Jersey, who kicked some. "Let's check your injury and clean you up special."

The petite giraffe radiated heat and a scented fragrance, a healthy warmth that reminded Andrew of the many times he had handed over a healthy animal to a smiling child: a cat, a bird, once a Skink lizard missing a tail. Children loved their pets the most. Jersey's head peeked over his. He hugged the giraffe and carried it over to a chipped enamel bathtub. He didn't bathe, but implemented the tub to boil his clothes after trekking through Parco's mote-zone.

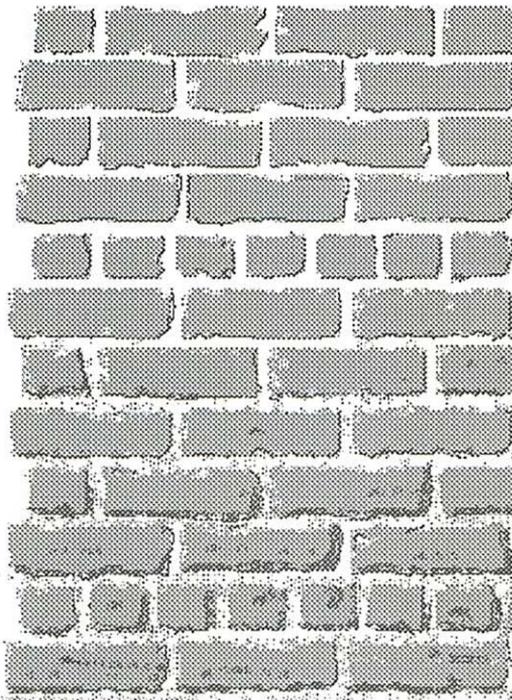
He hoped Jersey had immunity for this area.

Jersey's hooves clacked noisily on the tub's bottom; its head and neck bobbed left and right a couple of times, but it seemed used to baths. It didn't try bolting off, dog-style. He didn't think Jersey would fetch anything, either. Andrew stepped back and rubbed a callused hand through his beard. "Okay, buddy, stay there. I got work to do."

Rowdy mayhem and an overall sort of good cheer filled the otherwise gloomy basement. Andrew rooted around in milk crates of assorted junk looking for a small bar of scented soap. Finding it, he gathered a

cloth rag, water from the collector, and his squat stool. He adjusted the mirror configuration to reflect light from his hydro-garden onto Jersey, a center-stage spotlight, albeit a square and oblong one. He moved in and out of sunlit spots, humming and whistling a few favorite bird calls. His English Trumpeters cooed in their rhythmical style, coined by their breed. Who knew, maybe they could detect happiness.

Andrew settled down on his stool next to his new friend. Gently, he peeled the dried foam band-aid off Jersey's rump, exposing three suture staples. The laceration appeared swollen, but the bleeding had stopped. Jersey would probably heal quickly. This pleased him. "Sorry I had to stick you in that smelly coop last night, little one," he apologized, "but I didn't have the available light to clean you up nice. And I can-



A PASSPORT DIDN'T MEAN ANYTHING...TO AN INSIDER

not have you running around my place stepping in one of my traps."

He scratched Jersey between its skin-covered horns, removing some black, burnt plastic. Jersey's head and neck bobbed and rolled, making its short, brown mane twist and swish.

"Last time I gave a bath to an animal, it was a black lab." He looked in the giraffe's dark eyes. "Have you seen any dogs lately...? I bet your Insider friends have some in that hive of a city, don't they?"

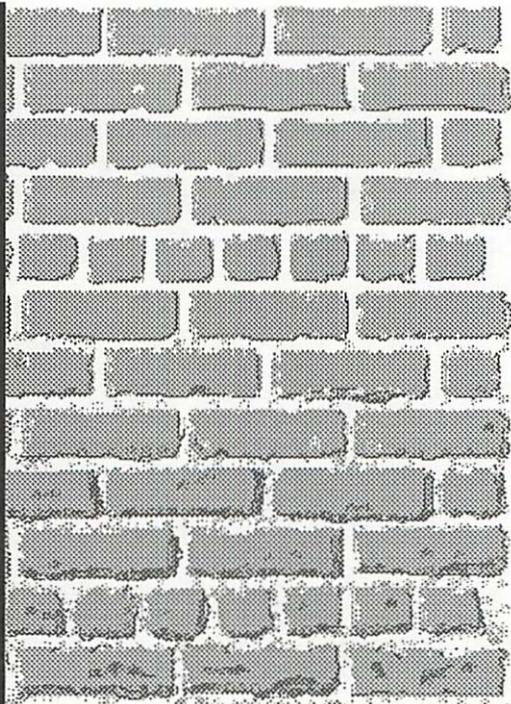
Andrew smiled inside and poured cool water over Jersey, that, not surprisingly, startled the giraffe. Hooves clacked. "Hold there now," he calmed, seriously considering keeping the small animal for his own. Yet, however tenderly he cared for the unnatural beastie, he believed that keeping it would not work.

But he washed off Jersey's dust, grime, and dried

blood as he would for any animal he cared over, genetically new fangled or not. Its dark, reddish blotches easily came clean; a fine coat if he ever saw one. With a knife, he cut off the singed hair from Jersey's tail tuff. He shined up the seamless gold-colored band that circled its right front ankle, possibly its pastern. He recalled that horses had pasterns above their hooves. Though Jersey wasn't sporting miniature horseshoes. Curiously, he examined the band. Show pigeons were similarly life-banded after hatching to prove their yearling status at show time. He didn't think Jersey was a show animal, and ten to one he'd wager, the band contained its genetic configuration, but a library band could easily be removed to dissuade ownership.

On an insight, he turned Jersey's long head toward the light and flipped open its big lips. *Yep, just like the*

**KNIVES
DON'T
HAVE
SOULS...**



old horse breeders did it. There was a number tattooed on its lower lip. No indication of sex, though. For the life of him -- and he checked again, thoroughly -- he could not determine if Jersey was male or female. Its teeth were as white as fresh milk, too, not a green stain on them, which suggested a specialized diet. Any ideas of keeping the mini-giraffe, lingering in the cold, flew south. He hugged Jersey's supple neck. "I'd rather keep you, but you'd probably starve."

Clack, clack...

Absolutely amazed and equally lonely, he wondered what the Insiders were doing to the genepool as he stroked Jersey's thick-skinned back. Jersey emitted marvel, he couldn't deny it; how much life was passing him by. He twisted a braid thoughtfully through his fingers. *What was Earth up to these days?* Interstate conflicts had burned themselves out, leaving low popu-

lated regrets, ashes of isolation, and fatal viral niches. *What new world made beauty as figurine as Jersey?* What human activities replaced the laughter of his children, Jeremy and Robin, on picnic afternoons... plastic microwave art on rainy days with an inquisitive brown-eyed kid...chilly nights in the arms of his wife. Too many ghost memories. Life came and went too quickly.

Haunting loneliness spooked his future, squared the present. He took solace in petting Jersey; curiosity imbued his spirit. "What have your eyes seen? What special primordial soup did you come from, little one?" he asked in a retrospective, dingy tone.

"Don't be sad, Jersey. I'll tell you, they said we all came from the bitter-tasting soup. Carbon hate, thankless oxygen...nitrogen, hydrogen, inanimate matter that came alive by chance; stuff of the universe. See here, buddy," he said sincerely, picking up his high-carbon, steel knife, "as I contemplate this blade, one small part of the universe is contemplating another small part of itself."

"There might be some of our ancestors in this knife. You know, they cremated my grandfather, part of him could be in this weapon. He really despised weapons, too, Jersey. Knives don't have souls."

Laying the knife down, he whispered, more to himself than to the giraffe, "What are we going to do about a soulless cosmos?"

Too many bane nights couldn't be reckoned with in one hopeful day; depression scurried from under its rotten cabinet, a mean cockroach coming out, lured by the smell of doubts and fears, to chew on faith in something other than oblivion.

Placing his arms across the tub rim, he laid his head down. He should have tended the parasite in his arm. He usually did daily; instead, he petted Jersey, which he decided was infinitely more relaxing.

"What are we going to do after dying, Jersey? Are you up to it, buddy?" He asked himself this every day, it seemed. "Darwin gives us no choice -- give me aliens, or give me God. Could God be worse than government?"

"At least humanity would live in a grander universe instead of the birth/millisecond life/death-cycle one it's squirming around in now, aye? God would have to put His souls somewhere. Maybe we all got a place in His other universe. *'Butterfly souls after the cocoons'* my Carol used to say.

"I miss her, Jersey."

He noticed silence. The pigeons had stopped cooing.

He raised up, not inclined to stir up his murky life any more than he had to. "Yeah, I know, little gener. If clocks could think, how would they perceive time? So let's get you home, and me a passport out of the zone...I hope."

He removed Jersey from the tub and set it down. "Here you go. You're safe back in this area. Now don't bother the birds."

Jersey didn't shake off, but swished its tail and moseyed around Andrew's brick pigeon coops.

The optic strands dangling from the ceiling had grown dimmer, indicating Parco's shadow was covering his place. Lately, living underground weighed on his courage enough to get him thinking about moving to the mote-zone's south side. He could use more sun hours. Hopefully, after today, he wouldn't need to; he could backpack just about anywhere he pleased with Pollyanna on his side. He prepared for travel to Riverside Bridge.

Andrew put on leather pants and heavy-duty boots that laced up to his knees, then armed himself with a hand-sized crossbow, a ceramic machete, and a .32 pistol. Four bullets left. He donned his Kevlar long-coat, studded with small pieces of anti-satellite baffle, although he couldn't be sure the SkyEyes were still hawking. It gave him peace of mind to wear semi-protective cloaking. Sometimes, peace of mind gave him an edge, confidence in a meat-grind fight to tread on. Regardless of fear. There is in hope a better tomorrow. He'd preached hope to his family, damn if he wouldn't live it. Even when hope had been a lie, when words of any sort were useless against invisible weapons that could drop dead a restaurant full of people. Leaving a survivor -- *maybe!* -- who'd happened to have a quirk in his or her immune system. *Un-natural* selection, in effect.

There is in hope a better tomorrow. And Andrew hoped the Insiders wanted their fancy giraffe.

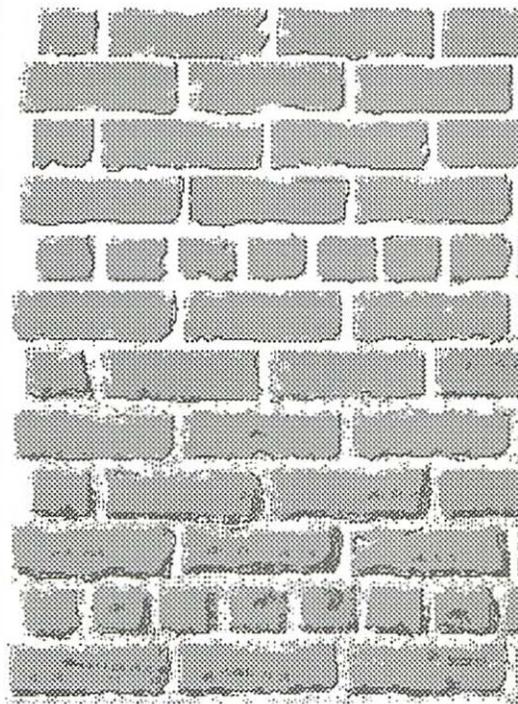
"Let's go, Jersey," he said, tying a boot lace around its neck, leash style. Then he scooped up the giraffe. "You feel like a stroll?"

They headed for the mote-zone.

Several exits led from his basement. Each time he left the basement, he used a different one to prevent making a worn path. Today's exit was through a hatch-back car body. He pushed open the creaking, rusted

door, careful not to bump Jersey's head. The dusty exit stirred memories, searing him with phantom pain. Loss of limbs, loss of significant lives. Carol and Jeremy were buried a few feet away in weed-covered groves, unmarked graves, because markers encouraged grave-diggers. Tombstones didn't matter to him, anyway. He knew they were there, deep in the Earth. He paid homage from time to time by planting weeds over them.

Like a creaking door, he slammed bad times deeper into forgetfulness; freedom might be found today in the warm, breezy weather. His family would have wanted him to be free. Carol would have wanted him free to explore America for any piece of soul that might remain, and Jeremy would have quoted some defiant metal lyric about *'goin' for it, let the dead be dead for-*



LET
THE DEAD
BE DEAD
FOREVER

ever.'

He gave Jersey some slack and surveyed the mote-zone ruins for any dangers, real or imagined. Months passed between contacts with other old-timers in the mote; interpersonal contact was rare. Survivors never knew when a neighbor might spawn a mutative strain. Recently, Andrew had noticed lots of Insiders, more than usual, rummaging around in the mote. None were out today. He smelled rain and wondered if his Insiders would show before it fell. Three hours of daylight remained.

To his north loomed Parco Arcology, gorgeously jutting two miles upward and framed in a purple-streaked and red-bleeding sky. Low clouds raced over the vertical city's precipices of brightly-lit docking grids like smoke in a wind tunnel model. How would Jersey's owner interpret his ransom note?

Getting killed -- *no, murdered* -- crossed his mind.

He would allow neither fear nor harm's way to stop his chance, a slim one, of getting an inhaler passport. Personally, he never saw any Insider inflict harm, and he would have helped one as he had helped Jersey. Turning the injured away did not suit his soul, or conscience, or upbringing. He wasn't sure which applied to the human obligation: to care for life or the revulsion that surfaced in his nightmares when *survivor* became another hip-hop word for murderer.

Hopefully, his rendezvous at Riverside would be fruitful.

The nice day encouraged him. Confidently, with his loaded crossbow balanced on his shoulder, his senses alert, Andrew strolled through rubble and vine, keeping away from potential ambush areas. When Jersey

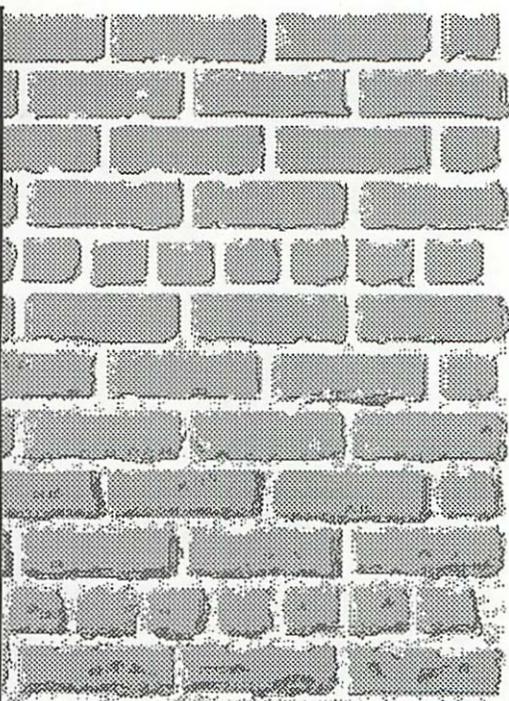
survival could only be an animal instinct to continue the bloodline; only humanity would choose to flirt with extinction. He sang a survivor's song, "We will not forget this mistake. We will remember Earth's cinders. Never again! Never again!" But they *would* forget. Humans never remembered the dead's painful sighs. Only survivors remembered, then they died.

He would not die, though, without a stompdown fight. One thing about the mote-zone, it bled with reminders of an earlier life. His life. Crushed mailboxes brought back memories of dumb, sentimental cards from his in-laws; telephone poles that still stood unscavenged for their wood reminded him of his teenage kids fighting over a portable phone; piles of picked-through trash lined his way like trophies of wasted, but memorable days. He wanted his world back.

Glancing down at Jersey, he could not help thinking it was an unlikely Phoenix to rise from the heat vapors of a liquid history.

Crime . . . pollution . . . injustice . . . death and disease...politicians and corruption, all manner of vice had screamed from the media orifice: he missed that scream. Its cry of pain had a face, an ugly face, but a visible one that America fought and tussled with, knowing it still remained possible to win a battle and ease an ill. Andrew had come from a hearty generation, a generation unprepared for Geners and their invisible mistakes, genetic behavior programs, military and corporate manufactured viruses, and viral back alley counter attacks. Angry mobs with their pitchforks and

WE WILL
REMEMBER
EARTH'S
CINDERS



couldn't negotiate obstacles of brick, a caved-in sewer line, or a tumbled wall, he carried the giraffe. Occasionally, he observed Jersey's stride, which was small, but every bit as graceful as its giant kin. It walked peculiarly by pacing: both its feet on one side carried forward at the same time. Jersey had reawakened Andrew's childhood awe of living things, great and small.

Would living things ever be great again?

Walking almost casually through the mote-zone with Jersey in tow constantly reminded him that his past, a whole generation's past, was liquid and, through time, would evaporate. Faster even than the hollowed, empty homes, shatter-windowed businesses, and rusty bicycle frames which lay in ruin before him. Fodder and mystery for future archaeologists and anthropologists. The ruins would never let him forget that

pistols, ideas and revolution did not mean a thing because weapons and counter attacks evolved into disease, with its own political platform: punctuated equilibrium. Good intentions or evil plots, plans had gone awry for all the right reasons, or the wrong ones, and had been turned to catastrophic ruin. The tombstone would read, "Homo sapiens, REST IN PEACE!" All springing from a simple oversight: humanity could control *nothing* indefinitely. "Oh peace, oh peace," he sang an old protest song. "Give us back our nukes and our serial killers."

Andrew decided to sit down, to stall awhile. His approach tunnel was nearby, and he wasn't in a serious hurry to give Jersey back. The act felt like giving hope away.

They stopped between two upturned railroad boxcars which were missing all their wheels. A few wheels

stuck together made a decent anvil. He had one back in his basement. Keeping the giraffe close to him, he watched distorted flies, called *Gun Flies* by survivors, as they buzzed around a collapsed building eating lime from the mortar. They were survivors too, packing deadly organisms, waiting for a host-ride. Concepts of fences and walls, boundaries and borders, had long since become extinct; local viruses mutated in their place, making human interaction deadly. Even traveling to another county could kill a person who ran into a microbe lingering in its niche. Natural selection had taken its toll. Millions died before Del Monaco orbital station developed a smart immune system. Andrew had immunity for the ruins mote around Parco VC, but he would not let one of the Gun Flies get near Jersey.

Jersey stood directly in front of him, its head level with his. He stroked Jersey's back and twiddled with its mule-like ears.

"Beautiful." He laughed, a good solid laugh that bounced off the crusty boxcars. Jersey didn't even flinch.

"You're a sight, little one," Andrew proclaimed, thinking about Charles Darwin. "What would Charles do about you? And he thought the human eye was amazing; I bet he'd be fretting over you, Jersey.

"Evolutionary leaps, missing fossils, genetic stability, random this and that...the Geners really raked old Charlie over the coals, didn't they? But the old man never said *'evolution.'*"

Andrew's bubble of procrastination didn't last long. "Come on, Jersey, we have things to do, and Insiders to meet," he said, giving Parco vertical city a hard look.

Not more than twenty yards from their boxcar rest area was a concrete waterway; one of its sides leaned off in broken sections. Dry as a bone, it ran for three blocks to form a crooked, but reliable, tunnel. He'd chosen Riverside because of it: he and Jersey would have solid cover when approaching the bridge. At the tunnel's entrance, he smeared a dab of homemade repellent pheromone on his boots and Jersey's tiny hooves to keep any wild dogs at bay. "...nor shall animals be free of the gene," he invoked.

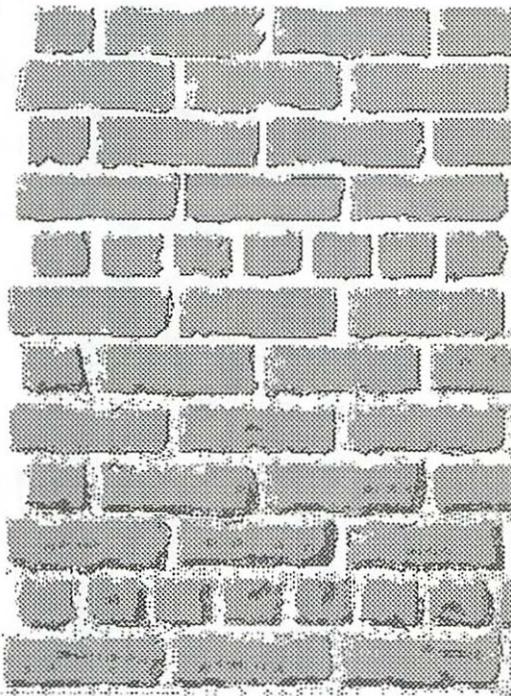
They entered, Andrew carrying Jersey. Sunshine streamed through cracks, providing enough light to see the path, but he moved cautiously out of habit. About halfway through, he heard a transport humming by overhead, a good clue that Insiders were coming.

Jersey made a stealthy partner, too; Andrew had yet to hear it utter a sound. He left Jersey several feet within the tunnel, among tall gypson weeds.

Parco's shadow was all he could see of the arcology. The overhead bridge pretty much blotted out everything else. A strong breeze, piggybacking scents of poisonous weeds, moaned through rusted girders. He quietly climbed the dirt-packed incline beneath the bridge. Then up through a gnarled, tangled hole of rebar and weed-packed asphalt, taking cover behind Riverside's dilapidated toll booth. Andrew paused a moment to let his raspy breath subside; he wouldn't pretend calmness. He *would* be calm. When calm came, he peeked around a fractured corner on the booth.

Bingo!

Beside a midnight-blue transport stood two hel-



NATURAL
SELECTION
HAD TAKEN
ITS TOLL

meted, flight leather-clad Insiders, one a foot taller than the other.

He removed the safety from his .32 and slipped the pistol up his sleeve. Chances were, an Insider would assume that he carried only one projectile weapon and wouldn't think to search for a pistol. He stashed the machete inside his coat.

Andrew tightened up -- *do or die!* -- and stepped into full view. "Over here!" he shouted.

He watched them approach; he listened to the wind tell him about fairies wearing boots who died in molten-red pools of whispers. Meeting Insiders like this gave him a weird feeling.

As they got closer, Andrew positioned himself so that he had a straight line to the hole he had crawled up. Colorful insignias decorated the tall Insider's chest. "Where is our giraffe?"

Andrew couldn't see their faces through their tinted visors, but a voice, even an accented one, could sometimes reveal the speaker. "Stupid question," he countered, considering whether their flight leather concealed body armor. "I'll taste-test my passport first. Then I'll give you fine people your giraffe."

The short Insider handed over a palm-sized metallic inhaler. He seized it. Anticipation raised his neck hairs. The passport was sterile-looking, cool to touch. One hit, and cellular-sized robots would fill his lungs. From there, they would migrate to his atrophic thymus gland and bone marrow where they would begin colonizing and fortifying his immune system, providing an intelligent, bullet-proof vest against hostile microbes and viruses. The stem cells that naturally flowed from his bone marrow, bound for *T lymphocyte* basic training, would enter a regenerated smart-thymus, reconstructed to recognize any microscopic threat that invaded his body.

Was it screams he heard from the inhaler? *Should I be this lucky, he asked himself, free to move back into a population of human beings...is it in my destiny...*

Just when Andrew was about to shove aside second thoughts, the short Insider

flipped up her helmet visor, revealing a woman's face. A pretty face checkered in pink and blue. "Do not worry, father, the inhaler is safe to use," she said in a sweet tone. "I hoped, even prayed, it was you."

He instantly pocketed the passport inhaler as a bull of suspicion crashed through his store of memories: *a brown-eyed girl, grinning through strawberry icing on her fourth birthday; heated, sometimes funny, shouting matches over trivial matters that only her mother could successfully referee; the day she left them in Florida to join Fight Against Negligent Genetics, FANG...* She did resemble his daughter, but suspicion had sharp horns. Not letting the crossbow waver, not letting his expression give away his sorrow, he snapped, "The Robin I know despised makeup."

"I'm not wearing cosmetics. This is my skin, Father. It is butterfly season in Parco."

Tall One opened his visor, too, revealing a broad African face, striped in red. "My giraffe is safe?"

Andrew ignored Tall One. "You just happen to come along?" he asked the woman, unsure.

"Of course not. You signed your morbid note *Andyman*."

"What's that to me, half genes?"

"Mother gave you that nickname the day you repaired our kitchen runner board. No one ever fixed anything in our home; Mom called you our *Andyman* around the house.

"Remember? We all cracked up laughing, except Jeremy. He was in one of his speed-metal death moods and stalked out of the kitchen." She spoke quietly, just over the wind. "How are Jeremy and Mom doing these days?"

He shot the bolt in the ground, then dropped the crossbow. "How do you think they're doin'? Six feet under."

He would have known had he been her, but he would have asked anyway, too. Hopeful to the last. He saw pain flash across her face. A familiar look that he'd seen many times during hell spells of bacteria attacks.

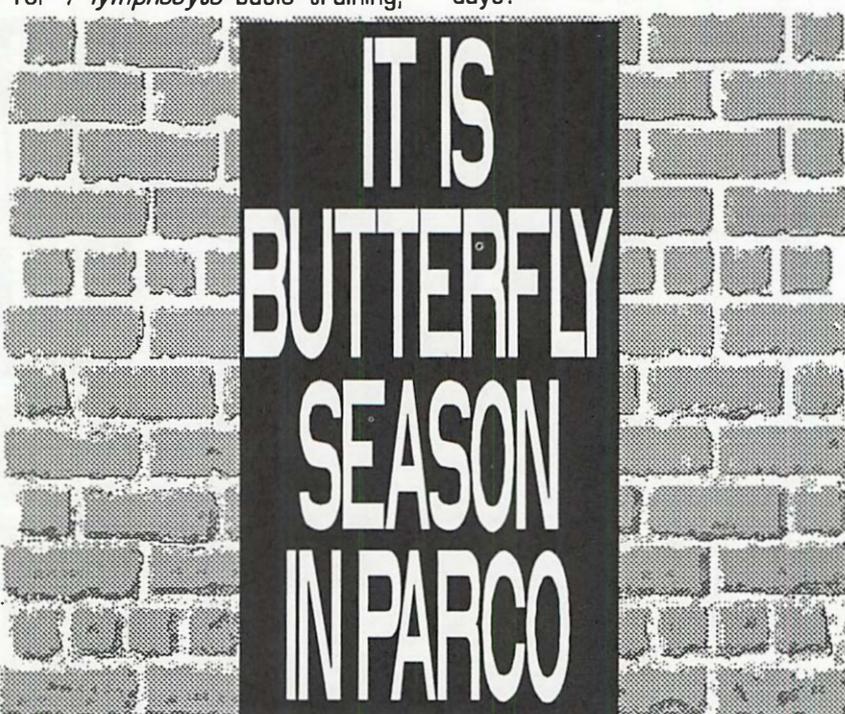
"Then come with us to Parco VC. We could use

vets, really; it's a different world inside Parco." She still sounded eager, energetic after many trials.

He felt hungry and thirsty. He trembled some, covering it by stroking his beard. Guilt, if it had claws, would have been choking Andrew "Andyman" Carter. *Who judged survivors?* He had questioned this many times. Why should he see a better day? And too many times, his son had asked him, "Does my contribution justify my existence?" No answers. Never. He seriously feared a better life now that it had arrived with a bouquet of flowers; he'd always expected to die alone, cold.

Haunted, he turned from the Insiders, from his Robin, alive and well. "Look hard." He pointed to the mote-zone ruins. "Why have the arcologies abandoned us to make miniature giraffes?"

Tall One answered. "We -- Insiders, you say -- have



IT IS
BUTTERFLY
SEASON
IN PARCO

not abandoned you. Have you visited Parco's entrance ground base?"

"Never."

"Go to see, Mr. Carter, there are signs in four languages that read, *'All Are Welcome In Parco Vertical City.'* The signs have been posted for seven years; we put them up on the day we signed the Microbe Treaty Ban.

"All are welcome, but regardless, you Landers hide cleverly, ignore our broadcasts, attack us. No need, sir. Parco is wealthy. This you shall see. Orbital Land Council has given Parco VC -- as you say, the go-ahead -- to reclaim 200 square miles of land to rebuild and restore agriculture to its Mother." His voice was rich, enthusiastic, and to Andrew's sight, believable.

"You going to run the show?"

"No, Dad, I run the show," interjected Robin. "I am the vice mayor of Parco Arcology."

Nothing but the wind sounded, its woe lonely and deep; yet, despite guilt's painful prods, he wanted to go. *What the hell*, he felt proud of Robin. *Vice mayor, no less.* He turned back to Tall One. "Jersey is down this hill, just inside that tunnel."

Tall One smiled, distorting his stripes. "Jersey?"

"Your giraffe, buddy. I'm not going up and down this

hill again."

Without hesitation, Tall One awkwardly descended the tunnel.

Andrew abruptly asked Robin, "Hey, is that giraffe male or female?"

"Physically, neither. Scale-animals aren't given reproductive capacities. However, *Marteena* is genetically female.

He turned a strange eye on Parco; curiosity ran rampant through him. "Robin, you all have mini-people up there?"

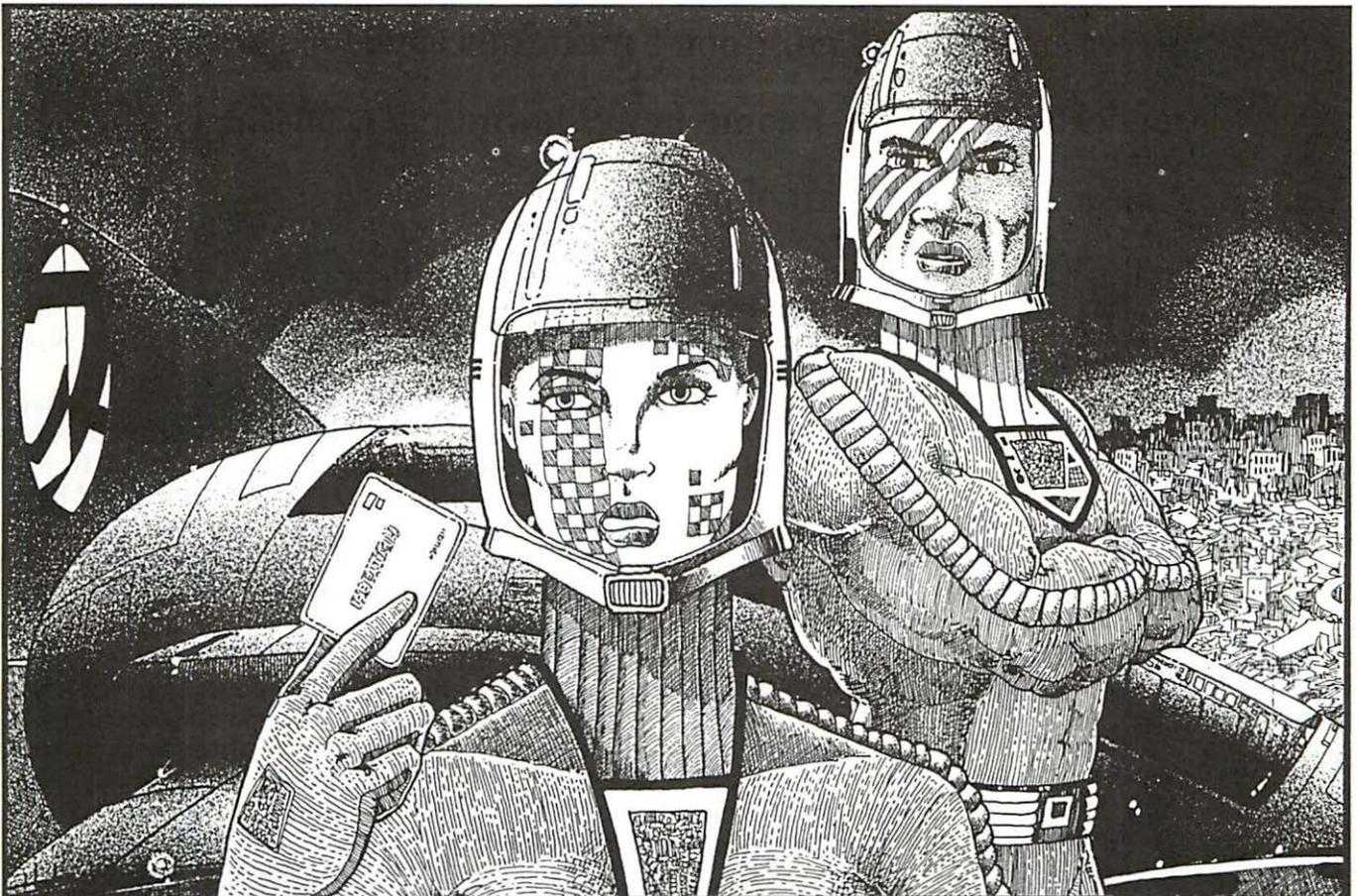
She laughed. "No sir, but I'd think someone is working on it."

She removed a glove and extended her hand. "Welcome to Parco Arcology."

He slowly clasped her delicate hand. He remembered a touch had once equaled death for the weaker immunity -- he didn't push for contact. A hug, a kiss on the cheek...it would take time to recover from isolation whiplash. "So," he asked, "can I get my pigeons before I see your fine city?"

"Yes, indeed."

Andrew wondered what butterfly season meant. ■



The Cayuse

by L. Sprague de Camp

illustrations by Allen Koszowski

Yes, Mr. Ahmadi, we use asses for transport on these time safaris -- oh, the proper Arabic plural is *safariin*? Very well, *safariin* it shall be. But as I was saying, when we have to move supplies and equipment, we use asses -- no, I don't mean our arses or rumps. That's a bloody Americanism. Where I come from, down-under, an ass is a beast I ride on, while an arse is the part of me I sit on.

Why not power vehicles? Several reasons. One, only the smallest kind can fit into Prochaska's transition chamber and leave space for the necessary equipment and personnel. Two: There's no source of fuel in case we run out. Three: No roads. Four: If anything goes wrong with your off-trail vehicle, you're stuck. And finally, in an emergency you can eat an ass, which you cannot do with an OTV.

I suppose that, if one made enough trips in the transition chamber and brought back enough supporting equipment and people, one could put such a vehicle to effective use. It's like our guns. In theory, if we were stuck back there long enough, we might run out of ammunition and have to try making ourselves bows and arrows, which probably wouldn't work worth a wombat's arse. Even if we were competent bowmen and fletchers, the game's too bloody big. If you shot an arrow into a big theropod, you'd only rile him up to come looking for you to eat you. So we allow a large safety factor in extra ammunition.

Power vehicles are, you might say, on the border-

line between what is practical and what is not. I was once talked into trying one out, and the results made it pretty plain that they weren't for Rivers and Aiyar, Time Safaris.

You want the story? Okay. It was seven or eight years ago, when Charles Redmond, the manufacturer, signed up for one of our trips. Like most trophy hunters, he wanted to go to the Cretaceous and bring back a theropod head for his new mansion --

What's a theropod? The Theropoda is one of the suborders of the Saurischia, which is one of the two orders of reptiles that in common speech are lumped together as "dinosaurs." The suborder Theropoda includes all the meat eaters: *Allosaurus*, *Tyrannosaurus*, and such down to little ones the size of a chook. The big theropods are the only really dangerous dinosaurs. They will not only go after any other creature that looks edible, but in addition they're smarter than the plant eaters. Not that any reptile is an animal genius; but theropods are less stupid than most. All the others, the plant eaters, will generally



leave you alone if you do the same with them.

Redmond was the head of Superior Motors, which builds all those lorries and recreational vehicles. From all I'd heard, he built the company up from nothing, and it was a major independent motor maker until one of the Big Three bought control a few years ago.

Redmond had the reputation of a whiz as a businessman, and he had got fantastically rich in the process. He turned out a pretty average sort of bloke: middle-aged, middle-sized, and well-set-up except for a bit of a paunch. But that happens to most men, especially if they lead sedentary lives.

Anyway, he came in with a gorgeous dollybird half his age on his arm. He introduced her as "Mrs. Redmond" and asked if we could set up a safari for the pair of them.

"Sorry," I said, "but we don't take ladies. To be exact, we don't take parties mixed as to sex."

Redmond started to argue: "Now look, Mr. Rivers--" in that forceful way of his, intense but still smiling and friendly, so it was hard to work up a real snit against him. That mannerism was probably half the secret of his success. But then the twist put a hand on his arm, saying:

"Oh, please don't insist, Charles! You know I never really wanted to go. You go alone, and I'll spend the time choosing rugs and curtains for the new house."

After more talk, Redmond gave in, saying: "Oh, all right, darling, if you don't mind my going alone."

So we made arrangements to whisk him, and one other sahib who had signed up for that slot, back to the Cretaceous. By this time we were well-enough organized so that it wasn't necessary for both Aiyar and me to go on every time safari. He was out in the Pliocene, and when he got back I should take Redmond and our other client while the Raja held down the office. I call Chandra Aiyar "Raja" because by descent he actually is lord of some place in India called Janpur, though nowadays that's purely honorary. He swears he wouldn't go back there and king it even if the Janpuris came and begged him to. He's safe in saying that, because we all know that will never happen.

Redmond signed up and then launched into a sales talk on Superior Motors and their new off-trail vehicle, the Cayuse. He was a hard man to say "no" to. Some people just have that ability. They become president, dictators, leaders of cults and religions, or tycoons like Redmond. At last, to shut him up as much as anything, I agreed to come round to his

sales room nearby and at least take a look at the Cayuse.

What's a Cayuse? I understand it's the name of some tribe of Red Indians -- Native Americans, they call them nowadays. Then the word was used for the horses the Native Americans rode in the old days, before the whites beat them into submission; and in the western states it's often used as a slang term for any horse.

Anyway, I left the office in charge of Miss Minakuchi and went down the street with the Redmonds to their agency and showroom. There in the center of the floor with a big sign stood the Cayuse. I can best describe it as a four-wheeled motorcycle, with two seats in tandem and no top.

"You see, Reginald," said Redmond. He followed the Yank sales pitch of immediately calling prospects by their given names as if they were old friends. "You see, it meets the objection you cited, of taking up too

much room in the transition chamber. It's as compact as it can be made."

"What's its fuel?"

"Diesel 432."

"How far does it get on a liter?"

"Eighteen on a paved road. That's almost as good as some motorcycles."

He went on and on and finally said: "Look, Reginald, I have an idea. I'll arrange to give you a Cayuse, free, if you'll take it on our safari and let us get some publicity out of it."

"Just think of the freedom it would give you! Back in the Cretaceous you won't have to

worry about some environmentalist nut popping up to say: You can't shoot that critter, it's an endangered species! Or another eco-freak saying: You can't run your jeep here; it'll tear up a fragile environment! You're free of all that long-haired nonsense, the way our ancestors -- yours and mine -- were when they first settled empty continents."

It struck me that the Native Americans and the Native Australians might see the process a little differently, since to them North America and Australia weren't "empty" at all. But it would not have been good business to argue the point. It was also plain that Redmond was the kind of businessman who would regard as "long-haired nonsense" anything that interfered in the slightest with the sale of their product. I did say:

"And suppose we're in the Cretaceous outback, and your Cayuse breaks down? Are you a bonzer mechanic, who can fix it?"

He hesitated. "Not really, Reginald. I can change a

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tire and things like that, but I'm not up to fiddling in the vehicle's guts. Tell you what! We've got a first-class mechanic here at the agency, Joe Voth. I'll bring him along with us."

"At the usual rates?" I said, not wanting him to come the raw prawn with me.

"Sure," he said. "Since Melissa's not going, it won't cost me any more than I'd already budgeted. Less, in fact, since the company will pay and it'll be income-tax deductible."

He started another sales pitch, about the wonders of Superior Motors and the Cayuse in particular. I cut him off, saying:

"Thanks a lot, Charles. I shall have to discuss your offer with my partner, who gets back from the Pliocene later this week. Now I've got to return to the office."

Actually, I didn't go back to the office. I went around to the Herald Building. I had a friend on the *Herald*, who had looked up the other sahib's record for me; and now I asked him to look up Redmond's.

The other client? He'd already signed up. He was Rex Ligonier, and what I learned through my journalistic friend was that he had inherited a stack, blown it by high living and bad investments, and tried to make it up by marrying an heiress. He hadn't held a steady job since, because this wife was always jerking him away to fix the plumbing in their summer home and the like.

Time was when a man in his situation would have simply settled down to enjoy life as a gentleman of leisure, but no more. Nowadays any grown man feels he has to *do* something to justify his existence: either to earn money or, if he's already rich, to volunteer for some unpaid do-good post. The Yanks started it with their Protestant work ethic; or maybe it was the Germans. In any case, it's spread to the rest of the Western world. I don't know if it's got to your country yet; but if it hasn't, it will.

Poor Rex Ligonier had tried several jobs, which his connections among the upper crust and pleasant personality enabled him to get despite lack of special training. But none had lasted long, because the wife would snatch him away. I'm no psychiatrist, but I suspect she did that as much as anything to prevent him from getting too independent and to keep him under her thumb. So now he suffered guilt about living on his wife's money without earning any of his own.

He had signed up with Rivers and Aiyar because,

like the Redmonds, the Ligoniers had just built a big new house -- a mansion, really. I thought my wife and I had a nice house, but Rex's made ours look like a dunny. Mrs. Ligonier thought the space over one of the fireless fireplaces needed the head of some prehistoric beast. She didn't care whether it was Permian or Pleistocene, so long as it was big and ugly -- a "conversation piece." So she sent Ligonier to us.

Come to think, I suppose the Raja and I are as responsible as anyone for this new rich man's fad of hanging heads of extinct animals on their walls. A century or two ago, it was common to mount the heads of game animals -- mostly deer of one kind or another, with glass eyes. But people who could afford the travel often mounted Asian and African species, like buffalo and rhinoceros.

Nowadays that's practically impossible, since what little wildlife is left is confined to preserves and sanctuaries, and the rangers are likely to shoot first

and ask if you're a poacher later. I've turned down offers for the Raja and me to go back by ourselves and fetch the head of some particular prehistoric species, so one of these blighters can hang it up and tell tall tales of how he got it.

But that's not sporting. I tell 'em, if you want a dinosaur head, you can bloody well come back with us and collect it yourself. I shan't say I mightn't weaken if the bribe were big enough; I've got two children in college. But so far it hasn't been.

As for Rex Ligonier, he was a pretty average bloke in size and appearance; but younger than Redmond, with more hair. Redmond had lost most of his, and what remained was silvery gray. Ligonier had a much less aggressive manner than Redmond; in fact, downright modest and retiring. Where Redmond was ready to argue anything, especially if he could work in a plug for Superior Motors, Ligonier avoided argument. If you gave him a hot sell on the idea that the world was flat, he'd only say:

"I'm sure you're right."

As for Charles Redmond, what I learned on the business side was all to the good. He was honest, fair, shrewd, and had energy enough for two.

On the personal side his record was spottier. The wife I had met was his fifth; he was one of those rich men who collect trophy wives. As fast as one began to look a little shelf-worn, he'd dump her and go after a younger one. One would think the girls would learn of his track record and catch on. Perhaps they figured they could shake him down in the divorce settlement

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for enough to live on forever. Not my idea of family life; but that wasn't our business.

The Raja got back with his Pliocene party on schedule. He hadn't lost any clients, and they brought back a couple of mastodon heads and heads of several kinds of buck. These were relatives of the present American pronghorn, with weird horn arrangements. One had four horns; one, two long, straight horns with a spiral twist; and one, a forked horn on the nose as well as a pair in the usual place.

While we tidied up from the Pliocene safari, I told the Raja about our next expedition, with Redmond and Ligonier to the Cretaceous. He was enthusiastic over the Cayuse; but then, Chandra Aiyar is enthusiastic over every new idea, whether good, bad, or indifferent.

The original plan had been for him to hold down the office while I nursemaided Redmond and Ligonier; but the prospect of driving the Cayuse around the Mesozoic outback so excited him that he begged to come along, too, leaving Miss Minakuchi in charge. I gave in, largely because our schedule for the rest of the year was already pretty full. There were bloody few time slots left in Prochaska's schedule that we could have fitted a safari into, between those already reserved for the scientists.

So on a fine spring morning we gathered in Professor Prochaska's building, outside the transition chamber. Besides the Raja and me there were Charles Redmond, Rex Ligonier, and Joseph Voth, Redmond's mechanic. Voth was a short, hairy bloke who looked like something left over from the Pleistocene; but he was quiet and respectful enough, seldom saying anything but "Yes, Mr. Redmond" and "No, Mr. Redmond." And of course there were Beauregard Black and his crew, together with the camp equipment and the dozen asses to haul the stuff when we shifted camp.

We had chosen a time a millennium after one of our first safaris (or *safarin*, if you prefer), the one on which we lost a client to a tyrannosaur because the other client of the pair wouldn't follow orders. At this period, the chamber materializes on top of a rocky rise, from which you can see the Kansas Sea to the west, the big sauropod swamp around the bayhead, and to the north the low range that the Raja named the Janpur Hills after his ancestors' kingdom. Sixty or seventy million years earlier, there had been an active volcano to northward in sight of the place, but in the

later Cretaceous that had long since been extinct and eroded away. A geologist tells me that in the Janpur Hills he'd found remnants of lava flows from that volcano.

The Raja and I and the sahibs crowded into the chamber with our packs and guns, and the Cayuse was wheeled in. It was a tight fit, which we managed only by having two of us -- Redmond and the Raja -- sit on the tandem bucket seats. I gave Bruce Cohen, the chamber wallah, the all-clear signal, and he spun his dials and pushed his buttons.

The transition through time is bloody upsetting the first time you experience it. You get vibration, nausea, and vertigo, to the point where Cohen has equipped the chamber with airsickness bags for those who feel crook. He's fussy about keeping his transition chamber neat.

As usual, the Raja and I got out first with our guns ready, just in case. Then the others; we had to manhandle the Cayuse out because the slope of the ground put the floor of the chamber half a meter above the ground on the door side. Then Cohen closed the door. The chamber gave a shiver and disappeared with a whoosh on its way back to the twenty-first century, to fetch Black and his crew and the asses. This took three more trips.

The first day, the Raja and I took Redmond and Ligonier on the usual hunt for fresh meat. Voth wasn't interested in hunting. He preferred to stay in camp and check out the Cayuse, to make sure every nut was tight and no tubes leaked.

I tossed a coin to see who should get the first shot, and Ligonier won. When we came upon a pair of man-sized thescelosaurus eating leaves, I whispered to Ligonier:

"There you are, Rex. Have a go!"

Ligonier raised his rifle and squinted. He held it steady enough -- I had checked him out on the target range and found him competent -- but he didn't fire.

After a while he lowered the rifle, took a few deep breaths, and tried again. Again he didn't fire.

At last he lowered the gun and turned a pale, strained face to me. "I'm sorry, Reggie. I just can't."

"Huh? What's the matter, sport?"

"I just can't make myself shoot anything alive. If I had to kill all my own meat, I'd be a vegetarian."

"You poor guy!" murmured Redmond. "Want me to shoot it for you, Rex?"

"I'd consider it a favor," croaked Ligonier in a strangled voice. "Go ahead!"

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All this cross-talk had aroused the thescelosaurus, which started to trot away. Redmond coolly brought up his rifle and cut loose with a bang. One thescelosaurus dropped instantly, kicking and writhing as reptiles will even if you cut off their heads. The other ran. Redmond, we found, had made an excellent shot, drilling the thescelosaurus through the small brain in its skull, even though the animal was moving, with its head jerking back and forth like a chook's.

"Good-oh!" I said. "Anyone want to butcher it?"

"Let me," said the Raja, and went to work on the twitching carcass with that bloody great knife he carries. In record time he had the guts out and the remains ready to lash its legs to the carrying pole.

While he was doing this, I kept an eye on Ligonier, in case he should faint. He didn't pass out, but his skin got paler and more greenish, and his eyes got bigger. At last he muttered "Excuse me!" and bolted off to some nearby bushes. There I could hear him chundering his guts out.

By the time he came back, we had the pole and the carcass hanging from it ready to hoist to our shoulders. Ligonier insisted on taking one end of the pole, as if to make up for his downfall as a hunter. As he plodded on, with Redmond taking his turn on the other end of the pole, I asked Ligonier:

"Do you usually have this sort of trouble?"

"Y-yes; 'fraid I do," he said.

"Not that I've ever done enough hunting to matter. Can't stand the sight of blood."

"Then why in Aljira's name did you come on this safari, if you knew you weren't fitted for it?"

He gave a helpless sort of wave with his free hand.

"My wife insisted...."

"Think you're up to trying again?"

"I'm determined to do so, Reggie! I won't have people thinking I'm -- that I'm not...." He let it trail off.

Then the Raja took the front end of the pole, and Redmond came aft. I must say that Charles Redmond was decent about the whole thing. Some men would have made nasty digs at Ligonier, casting doubts on his courage or his manhood. But not Charles Redmond; his approach was:

"Sure, Rex, you just had a bad day. Next time it'll be different. Get in there and fight! When you drive the Cayuse, it'll give you the feeling of power you need!" (Trust Redmond to work in a sales plug for his vehicle!)

When we got back to the first camp, there was Joe Voth going over the Cayuse with a rag, shining up its brightwork. He looked up and said:

"Mr. Redmond! I think it's ready to go; but I gotta tell you about something."

"Eh?" said Redmond.

"While I was working on the machine, one of them big dinosaurs come out of the trees and kind of wanders over this way."

"What kind?" I asked.

"Jeez, Mr. Rivers, I wouldn't know about them things. All I know is, it scared the shit out of me, and me without no gun --"

"I can tell you," said Beauregard Black. "Joe called to us, and I done told him it was a harmless plant-eater. It was one with that long spike sticking out the back of its head: a *Para -- Para --*"

"*Parasaurolophus*," I prompted him.

"Maybe it was harmless," said Voth; "but who wants an animal big enough to squash you if it steps on you hangin' around? And that's what it did, just hang around, all the time rolling its eyes at me and the Cayuse."

"What finally happened?" asked Redmond.

"Oh, after a couple of hours it wandered off. I ain't seen it since."

The *Parasaurolophus*, Mr. Ahmadi? That's one of the bigger hadrosaurids or duckbills. They're all plant-eating bipeds, and several of the family have peculiar crests in the form of spines or fans. The *Parasaurolophus* has a single tube, over a meter long,

sticking backward out of its skull like the horns of an oryx. Only it isn't a horn, since it ends in a bulbous tip. They once thought it was a kind of snorkel, for breathing under water; but that proved wrong when a better skull showed that the tube was closed at the end, so it couldn't be breathed through.

Now they argue as to whether it's a kind of resonator, to give the animal a carrying bellow; or to provide extra lining to the breathing system to make their sense of smell keener. Maybe it's both. Duckbills need keen senses of sight, sound, and smell, to warn them of things like a tyrannosaur. They don't have armor like an ankylosaur, or horns like a ceratopsian, nor can they run so fast as one of the so-called ostrich dinosaurs. The duckbills' defense is their early-warning system, to enable them to perceive a camosaur before the camosaur perceives them and to get the hell away.

Anyway, since both Redmond and Ligonier were

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pretty bushed by their first day's hike, we decided to let them take it easy the following day and make our first camp move the day after. Redmond had an excellent pair of binoculars. He and Ligonier spent that day taking turns looking through these glasses at distant dinosaurs and identifying them, like a couple of bird watchers bubbling over at the sight of a yellow-bellied sap-sucker.

During the afternoon, a *Parasaurolophus* loomed up out of the greenery and came to the edge of the camp. We all piled out with our guns; but the big hadrosaurid ignored us, staring at the Cayuse, which was parked in the open space between the tents and the site of the transition chamber.

"All right, Rex," I told Ligonier, "there's your head if you can make yourself shoot it."

"Okay," said Ligonier, and took aim. But the same thing happened as the day before. He aimed and aimed but couldn't bring himself to pull the trigger.

Then he lowered his gun, saying: "It's no use, Reggie. Besides, it doesn't seem sporting to shoot it while it's just standing there gawking, a few meters away. It would be like those guys who pay huge sums to walk up to a white rhino, raised on a game farm and as tame as a cow, and shoot it."

"Depends on what you're after," I said. "Do you want me to shoot it for you, as Charles did with the thescelosaur?"

"No, sir! I'm determined to do my own shooting!"

He aimed some more but never did fire. After a while, the hadrosaurid, who had ignored us, opened its mouth and gave a bellow or moo. It certainly was a carrying sound; like a foghorn, or somebody playing a chord on the organ at maximum volume. The vibration went right through you.

Rex Ligonier hoisted his rifle up again, but again without shooting. The hadrosaurid gave another toot. Beauregard Black said:

"You know, Mr. Rivers, if I didn't think it was a crazy idea, I'd swear he was tryin' to make time with that there tractor thing, even though it don't look much like a female hadrosaurid."

"Perhaps," said the Raja, "the diesel fumes act as a pheromone."

"Hey, Charles!" said Ligonier. "Here's your chance to breed a cross between a dinosaur and your Cayuse!"

"We didn't design it for that," said Redmond. "If you got a lech for a lobster, what could you do about it?"

"Ouch!" said Ligonier. "It gives me the willies just to think about it!"

The dinosaur gave one last, mournful toot and walked off.

The Raja and I had decided to make our first shift of camp in a south-southwest direction, to get near the sauropod swamp. We would not go directly to the borders of the swamp, as we had done on other safaris. For one thing, the lowlands around the swamp are heavily grown with cycads and willows, so you have to worm and hack your way through them. The ground is muddy underfoot, so you gain half a centimeter in stature with every step, from the mud that sticks to the soles of your boots.

While the Raja and I are well hardened to this sort of thing, we find that for most of our clients it's just too bloody exhausting. The last thing we want is to have a client drop dead of a heart attack; bad for business. Having poor young Holtzinger eaten by a tyrannosaur almost put us into bankruptcy.

There is, however, a stream of modest size, which feeds into the swamp to the east. The Raja has named it the Narbada; says he's waiting to come upon a really big river before he calls it the Ganges or the Brahmaputra. The ground is more negotiable and the vegetation less crowded than nearer the swamp.

Besides, we had the OTV of Redmond's with us. I didn't see how we could ever get it through that great thicket bordering the swamp. When we

got it there, if we weren't careful where we parked it, it would sink out of sight in the ooze and never be seen again.

We routed our sahibs out early, so Black and his boys could strike the camp. They'd become bloody efficient at it; in less than an hour after the tents were vacated, they had the whole thing bundled up and loaded on the jacks.

There were no special incidents on the way to our new camp on the Narbada. We saw a few dinosaurs and other animals, including a big ankylosaur, the squatty armored kind. This bloke just hunkered down and waved that big tail with a bone club on the end, to warn us not to get close enough to bother him.

Redmond said he had better ride the Cayuse, since he was used to it. And he did, maneuvering it around obstacles with the confidence of an old-timer. The rest of us hiked.

By early afternoon we had arrived, and in another two hours the boys had the new camp set up. Then

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the Raja asked Redmond if he could have a tryout with the Cayuse. He was full of boyish enthusiasm, although in fact he's a mature family man just as I am. Redmond said certainly, and showed him how to work the controls.

Where the Narbada River makes a bend, there's a wide, sandy beach on the inner side of the curve. We were camped on the grassy flat above the beach. Away went Chandra Aiyar, waving his hat and yelling:

"Yippee! Git along, little dogie!" and other American stockman expressions.

He ran it up and down the beach, going faster and faster. Then, at one end of his travel, he whipped it into another tight turn, only this time he made the turn where the dirt beneath his wheels was wet. The Cayuse skidded, spun around wildly, and went into the Narbada with a tremendous splash, taking the Raja with it.

The Cayuse fell over on its side in somewhat less than a meter of water, pinning the Raja's leg beneath it. By bending and stretching, he could just barely get his face out of water. He shouted:

"Help! Blub-blub!"

Everybody yelled and began to run around lake a bunch of headless chooks. I roared for Black and the boys to fetch a rope.

"Gonna tie it to him and pull him out?" asked Redmond.

"Don't be a fool!" yelled Ligonier. "He's pinned, can't you see? First we've got to haul the machine off him. Can I take it out there, Reggie?"

"That's really my job," I said. "The swamp has some big crocs that make those of our time look like lizards. If one of them comes up the river...."

"Hell with that!" said Ligonier. "Gimme!"

He snatched the end of the rope and splashed out. When he got to the Cayuse, hip-deep, he crouched down and tied a loop, under water, around the steering post. Then he waved to the rest of us to pull. He had proved that there was nothing wrong with his courage, and I suspect that the same thought occurred to him.

We pulled, and the vehicle came up. When it got into ankle-deep water, Joe Voth waded out, heaved it upright, and wheeled it ashore by pushing. I don't think any of the rest of us could have done that alone; Joe was a bloody strong bloke.

After him came Rex Ligonier and Chandra Aiyar, with one of the Raja's arms around Ligonier's neck to help him to walk. Luckily his leg wasn't broken, although he had a bruise the size of your hand and

limped the rest of this safari.

While the rest of us clustered round the Raja, asking how he felt and was anything broken, Joe Voth just looked up from the machine with a reproachful expression. He said:

"You hadn't oughta done that, Mr. Raja. Ain't no way to treat a good piece of machinery."

We agreed that there had been enough excitement for one day. Voth spent the rest of the afternoon and half the night meticulously taking the Cayuse apart, cleaning and drying each part and lubricating it where that was called for.

The next day we started out just looking at things: a couple of sauropods downstream, around the mouth of the Narbada, where it loses itself in the swamp. The prevailing genus of sauropod at this time and place is the *Alamosaurus*. It's only medium-sized as sauropods go, most adults being under twenty meters;

though we occasionally find one up to thirty, which is bloody big. While they like the swamp margins because of the unlimited supplies of greenery, it's not true that they are confined to watery places. They walk perfectly well on dry land and often do, when their never-ending hunt for fodder takes them away from rivers and swamps.

We didn't see any theropods for Redmond's trophy, nor anything to furnish Ligonier with his conversation piece. There was one of those super-crocodiles, *Phobosuchus*, lying on a sand bar with its mouth open so little birds

could pick its teeth, and a few small pterosaurs circling round after insects. And speaking of which, the insects harassed and bit our sahibs, despite the repellent they had smeared on themselves, until they were glad to call off the nature watch.

After lunch, I noticed that Redmond and the Raja had their heads together, while Redmond lectured on the fine points of the Cayuse. At last they straightened up, and Redmond said:

"Watch how I do it, Raja!"

He climbed into the front seat and started the engine; there's no mistaking that popping Diesel sound. He engaged the clutch slowly, so that the Cayuse started off as gently as a baby's kiss. He ran it along the stretch of beach that parallels the water, on much the same route that the Raja had followed earlier in his cowboy act, but more slowly and cautiously.

All went smoothly until he got to the end and started to turn around. He'd gone farther than the

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Raja had, where the beach narrowed down till he could not make the turn all at once. He had to back and fill.

While he was doing this, we all jumped as that terrific moo or hoot or honk or bellow -- whatever you want to call it -- of *Parasaurolophus* drilled through our skulls. The big hadrosaurid stepped out of the trees and bore down on Redmond and his Cayuse with two-meter strides.

Redmond took one appalled look and saw the creature looming over him, not only with its big forepaws reaching out but also its great hook-shaped male organ, as long as a man is tall, extruding and getting longer by the second.

I don't know whether Redmond thought the hadrosaurid was going to bugger him; but he did the only thing he could. He opened the throttle to full.

At that precise instant, the hadrosaurid grabbed at Redmond with one big four-fingered paw. It's not really a hand, since it has no thumb and can't move its fingers separately, as we can. But it can curl the paw into a hook, and it caught the collar of Redmond's bush jacket. As the dinosaur hoisted Redmond out of his seat, the engine roared and the Cayuse took off like a scared wallaby. It's too bad nobody had his camera ready, though I doubt if a picture of Redmond dangling from the dinosaur's paw would have sold many Cayuses.

The hadrosaurid glanced at Redmond, evidently decided that he would be no good eating, and tossed him aside.

Then it trotted after the Cayuse. The unguided vehicle plowed into the river and kept going until, a dozen meters or so from shore, it dropped out of sight. The engine gave a sputter and stopped.

The hadrosaurid waded out to where the Cayuse had disappeared. It put its head down under water, so that all we could see of it was that long spine in back. After a few seconds it raised up again and gave another long toot. It may have been my imagination, but to me the cry had a mournful note.

It stood there, alternately ducking its head and rearing up to honk, for a couple of minutes. Then it looked about in a wary sort of way. The reason soon came to light. Out from the trees appeared a theropod, a gorgosaur. This is much like the famous *Tyrannosaurus*, but is smaller, more lightly built, faster, and if anything more dangerous.

The gorgosaur was moving fast, bobbing its head with each long stride. It bore down on the hadrosaurid, standing half submerged in the river. The

hadrosaurid turned to flee, but too late. The gorgosaur's jaws snapped on one of the hadrosaurid's hind legs, bringing it down with a tremendous splash. As the victim tried to struggle back on its feet, the gorgosaur put a clawed hind foot on its body and shifted its grip to the hadrosaurid's belly.

The battle sent up so much splash that it was hard to see just what went on. Presently the gorgosaur straightened up with a rending sound and a huge mass of the other's guts in its jaws. Holding the hadrosaurid down with one hind foot, the gorgosaur reared up and spent several minutes gulping that mouthful down. Like snakes, their skulls stretch this way and that so they can engulf and astonishing mass all at once. It stood there, going *gulp*, and a few centimeters of mouthful would disappear; *gulp*, and in would go a little more, until it was all gone. We could see the throat distended until it looked ready to burst as that huge goblet went down. Rex Ligonier

excused himself and went off into the bush to be sick.

The gorgosaur started to reach down for another gulp, when Redmond's rifle banged near me. He had picked himself up, covered with sand and mud, and fetched his gun. The Raja had got his and my guns from our tent and was just handing mine to me.

Down went the gorgosaur with a great splash. Redmond said: "There are our trophy heads. When we get 'em ashore, I'll take the theropod's, and Rex can have the other."

The trouble was that, being reptiles, they took forever to die, although Redmond had

again made an expert brain shot. It was almost sundown before those two dinosaurs stopped thrashing and twitching. I waded out and saw what had happened to the Cayuse. I got a rope around the gorgosaur's leg, and we started to haul it ashore. When not even all the men -- the Raja with his crook leg and I, the sahibs, and the helpers -- could fetch it, Beauregard hitched up the asses as well. With their help we got the animal up on the beach.

Then we started to do the same with the hadrosaurid. We were coming along great when Ligonier yelled:

"Hey, we've got more company!"

So we had. One of those giant Cretaceous crocodiles, alerted by the blood washed down the river to the swamp, had swum upstream and grabbed the hadrosaurid's other leg, the one we didn't have the rope belayed to. That halted the salvage operation. We pulled on the rope, men and beasts, while the croc backed water with its tail. Neither party could gain

At that precise
instant,
the hadrosaurid
grabbed
at Redmond
with one big
four-fingered paw.



more than a centimeter on the other. I couldn't see much of the croc in that muddy, bloody water; but I should guess it was about a fifteen-meter specimen, big enough to swallow a man whole.

After several minutes of this tug-of-war, the croc tried another stunt. Since they're unable to chew their meat, they swallow it whole. This means they have to separate their prey into pieces of manageable size. This one did a fast barrel roll, turning over and over, until most of the leg came off with a rending sound. Then it swam back downstream with this limb in its jaws, which allowed us to finish hauling the remains ashore.

"All right," I said, "if you blokes want the heads, you'll have to start cutting them off, now. We're moving camp tonight."

"Good god!" said Redmond. "You crazy, Reggie?"

"Not so crook as you'd be if we stayed here. Those two carcasses will attract more theropods, and probably more crocs as well. We should find ourselves in the middle of a battle royal over the carrion, and a carnivore who gets ranked out of his share will go after the asses or us. If we tried to fight them off at night, we should probably end up shooting one another."

They grumbled a bit, but I made it plain that was how things were bloody well going to be.

"But my Cayuse!" said Redmond.

"Seems to have fallen into a pothole," I said. "It's

two or three meters down. We should need a chap with diving gear, who didn't mind the chance of being seized by a croc, to get a rope on it."

Ligonier said: "I'm a good swimmer. Bet I could dive down there for long enough to slip a noose in place."

"I don't doubt it," I said. "So could the Raja, or so could I in a pinch. But at night, with the reptilian guests due any minute, it would be too bloody dangerous. We can't afford to lose our clients; bad for business. I'm afraid we shall just have to charge that buggy to experience."

We had a hectic time striking the camp that night and feeling our way away from the river by electric torchlight. There's not much more to tell about this safari. Loads had to be redistributed to let the Raja ride an ass, since his leg was still painful to walk on. We pitched two more camps, watched more Cretaceous fauna at work and play, and returned to the original site for Cohen to pick us up. We got our clients home safe with their trophies.

But you can see, Mr. Ahmadi, why we're not partial to motor vehicles on time safaris. It's a crook enough job, keeping the local carnivores -- carnosaurus, creodonts, or saber-tooths as the case may be -- from eating either of us, or the asses, or both. But having a dinosaur fall in love with your transport is one bloody thing too much! ■

The Layercake of History

or Time-Traveling on the Via del Corso

This isn't an exercise in What I Did On My Summer Vacation, nor is it a travel column, but I'm going to tell you about Italy. Stay with me. It gets quite science-fictional, if you keep your eyes open. Keeping your eyes open is very much the key. How can we read and write of strange futures and alien planets if we cannot first appreciate the strangeness of other parts of our own globe?

On August 20, 1990, I flew to Rome. I was on my very round-about way to the World Science Fiction Convention, Confiction, to be held in The Hague, Netherlands, a week later. Everybody I knew who was going planned to "do" Europe somehow, before or after the con. I was the only one who started in Italy. Fascination with the ancient Roman Empire drew me there, inevitably. I'm by no means a genuine historical scholar, much less a Latinist; but I knew what I wanted to see and I knew enough to understand what I was seeing. Therefore, *Roma Mater*.

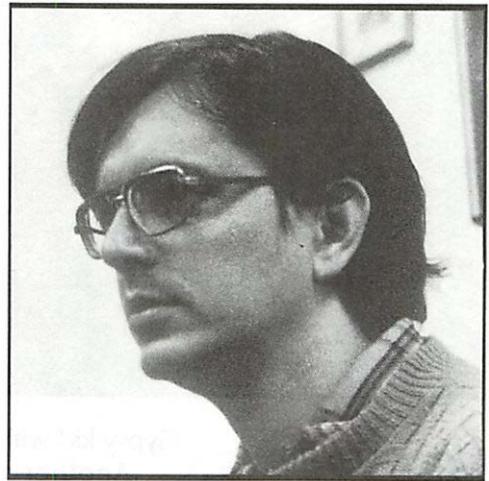
I've travelled extensively in the U.S., but I had never been overseas before. I don't speak Italian. My at-

tempts to master a few phrasebook sentences proved useless. (I could ask a few questions but never understand the answers. Fortunately tour guides speak English. Street vendors and shopkeepers speak Tourist.)

There I was, suddenly plunked down alone in an authentically foreign country. The first of many details: *That woman in front of me*, I thought while standing in line at the currency exchange, *looks like Mussolini's daughter*. She had his face, that distinct, bulldog look. Romans do not look like most Italian-Americans whose ancestors are from the South, Naples or Sicily, and tend to have oily complexions with the men being rather hairy. A Roman type, if there is such a thing, is strong-featured with heavy, prominent cheekbones and jaw, thick lips, and relatively hairless, olive skin.

But then there was Max, the tour guide who got into an animated discussion about Italian music with an American lady on the trip to the Naples and Pompeii. They were pulling out tapes, playing this and that back, when *bam!* -- surprise! The Italian had never heard of Pavarotti. Max

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was a Roman who could have been Irish, pale, slender, with curly red hair.

Advice to the traveller: never *quite* trust your impressions. (I forgot to mention that Mussolini was born in Predappio, which is closer to Ravenna than to Rome.)

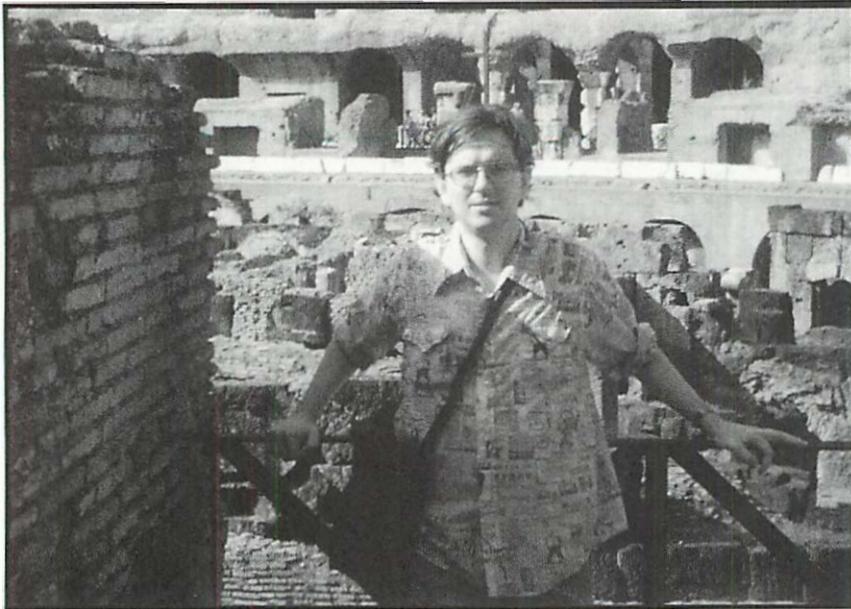
But I’m getting ahead of myself. Da Vinci Airport is out in the country. I saw only a couple of large, tile-roofed farmhouses from the air on the way in, and the bus went on through miles of gray and brown, empty land that looked rather like northern California at the same time of year. One minute, rusticity, then turn in the road and, as some writer of antiquity noted, you come upon Rome quite suddenly. It is a city almost without suburbs.

I had never been here before, but within seconds I suddenly knew where I was. I spotted the facade of the church of St. Paul Outside The Walls (desecrated by the Arabs in the 8th Century or thereabouts, partially burnt in the 19th; but the mosaics inside are 5th Century, in what was to become early Byzantine style), the pyramid of Caius Cestius (a contemporary of Caesar who got so rich by using his politi-

cal office to line his toga, that he wanted to be buried with the magnificence of a pharaoh) and the medieval fortifications incorporating it, the Flavian Amphitheater (Colosseum), the Palatine ruins, the Arch of Constantine . . . all this just glimpsed on the way to the bus depot. It was a very strange feeling, so much *familiar* . . . doubtless ancestral memories from my Gothic and Vandal forebears, who, while they did not help build Rome, certainly helped sack it.

The first thing I did upon arriving was buy a guidebook with a good map. I discovered that I could reach my hotel with a two-stop subway ride, which cost the equivalent of 70 cents. (A cab ride the same distance, I later learned, cost 45,000 lira, or forty-five dollars.) Next, I bought a can of soda and a bottle of mineral water, the latter reserved for such things as brushing teeth. (It turns out you *can* drink Roman water, even out of the public drinking fountains. This tip will save the traveller \$15.00 a day. The water comes from the Aqueduct of Nero, I was told.)

The next thing I did was smack a



‘I began to notice the sort of texture and detail you just cannot find in an American city. This is where we get science-fictional...’

Gypsy kid with the soda can.

Another sudden jolt: Bystanders scolded the *child*. I was in a country where at least one ethnic prejudice is completely acceptable. In detail which would result in anti-defamation suits in the United States, official guides, hotel personnel, bus-drivers, everyone, will tell you that Gypsy children (migrants, who begin in what was then Yugoslavia and work their way seasonally across southern Europe) are taught to steal as soon as they can walk -- for the same reason that American drug-pushers use children. They can't be prosecuted as long as they're minors. The Italians will point them out to you. You see unaccompanied children anywhere there is a crowd, reaching, tugging, probing. So, in Italy, everybody hates Gypsies intensely. Rumor has it the cops shoot one occasionally, and no one else much cares.

The Liberal in me wonders if all those juvenile pickpockets were in fact Gypsies, and not just poor Italians. Either way, the tourist has to be on constant guard. But frankly, an eight-year-old Gypsy is a lot easier to evade than an adult, gun-toting Philadelphian or New Yorker. The rule is simply that you must see the Gypsies first. If they approach you, hold onto your bags and say "No!" Be particularly wary of any kid carrying a sign or newspaper (He'll hold it up to distract you and work under it). If one tries to

touch you, hit him.

Rome in August is virtually empty of Romans, who are on vacation at the seashore. The climate is hot -- mid-90s in the afternoons -- but comfortably dry. In late summer the grass in the parks has turned brown. Gray dust swirls in the Forum.

I explored the city on foot, eating very little since food was fantastically expensive, drinking a lot of fluids, walking eight or nine hours a day. By the time I got to The Hague, friends said I looked thinner. "The Special Italian Weight-Loss Program," I said.

People often stopped me to ask directions, *in English*, and often I could help them. (Always English. The number of, say, Swedish-speaking Dutchmen or Italian-speaking Japanese, much less Swedish/Dutch/Japanese-speaking Italians is probably slight. But everyone has English as a second language. "Piazza Navona? Well, you go down the Via Del Corso and hang a right at the Column of Marcus Aurelius, then left down the next side-street to the Pantheon, then right again . . .")

I began to notice the sort of texture and *detail* you just cannot find in an American city. This is where we get science-fictional. The purpose of my Italian excursion was nothing less than time-travel. Rome today is as New York will be in three thousand years, genuinely ancient, so that wherever you go there are not only remnants of the past, but remnants of one past era's reflections on another.

Think of it as the layercake of history. One epoch piles onto the next and the people routinely sweep up the crumbs, mixing them further.

My hotel was on the Via Sestina. There was a Bernini fountain (early 17th Century) at the subway stop. Three blocks the other way, and the street opened out onto the Spanish Steps (18th Century), named after the then all-important Spanish embassy. (But the eras and cultures mix. At night the steps are covered with young tourists, Americans and Germans, listening to Oriental musicians perform American rock-and-roll.) At the top, a Renaissance church; not one of the

famous ones, but it does have a Raphael fresco. Go a couple blocks and turn right, pass through the ancient-cum-medieval city walls and you come to the lovely Renaissance Borghese Gardens, which widen into a magnificent park (the Pincio) built by Napoleon Bonaparte, where you can find the ancient Egyptian obelisk the Emperor Hadrian (2nd Century) erected to his boy-lover Antinous. One of the most scenic of all Roman vistas is a sunset view from the heights of the Pincio over the Piazza del Popolo, which contains yet another obelisk. (Roman sunsets are noisy. In the evening the streets fill with Italian teenagers on motorbikes.)

There are apparently more obelisks in Rome than remain in Egypt. They were the rage for centuries, looted by the various triumvirs and emperors, or perhaps handed out as political prizes, like the "Cleopatra's needle" in New York's Central Park, which the Khedive of Egypt sent in the 1880s as a token of his esteem. (What else to do with a slightly used obelisk?) Initially they decorated the Circus Maximus, then were moved anywhere and everywhere at the whim of succeeding centuries. My favorite bit of trans-temporal tackiness may be found just behind Hadrian's celebrated and perfectly-preserved Pantheon (itself facing a row of fast-food concessions): a 17th Century marble elephant (Bernini again) with a hieroglyphic-covered obelisk on its back and a papal cross on top, the whole mess now a traffic obstacle for tiny Italian automobiles.

Papal inscriptions are everywhere. The popes claim some of the old imperial titles, including "Pater Patriae" (Father of the Fatherland) and most notably "Pontifex Maximus" (chief priest), which the emperors relinquished in the 4th century and which actually dates back to the Etruscans. The current pope, by the way, uses exactly the same monumental calligraphy (with a distinctive descending flourish on the "Q") as Augustus Caesar, whose autobiography is inscribed on the side of his rather tumble-down temple. (The tomb of Augustus is in a



vacant lot adjoining. It looks very much like an enormous layer-cake, round, overgrown with weeds. The sign on the chain blocking the entrance says "S.P.Q.R." Down in the trench around this tomb was the only place I encountered the once-numerous feral cats of Rome.)

They don't call it the Eternal City for nothing. The architectural styles haven't changed much since the classical times, and may be categorized variously as Massive, Grandiose, and Overwhelming. The ancient buildings, even in ruin, are huge. You could have parked three Zeppelins side-by-side in the Basilica of Maxentius. Imagine how awesome it must have been to my barbaric, Visigothic ancestors.

Even the decidedly 20th Century McDonald's on the Esquiline Hill near the Spanish Steps is enormous: a complex like a small shopping mall, with tiled floors, potted plants, and fake classical statuary in the corners. I dubbed it the McDonald's of the Caesars.

Not to be outdone by mere pagans, the Renaissance popes built churches you could land small planes in. And they did it tastefully. For although St. Peter's might double as a Space Shuttle hangar, it is one of the most beautiful buildings in the world. As I first entered, about seven o'clock in the evening as sunlight streamed through the dome at a forty-five de-

•Think of it as the layercake of history. One epoch piles onto the next and the people routinely sweep up the crumbs...•



‘Layer upon layer: Ancient, Medieval, Renaissance, Baroque, occasional modern, all jumbled together...’

gree angle, and stepped into a majestic vastness that seemed to swallow all echoes, my first thought was, *All those indulgences were worth it. The money was well spent.*

The saint himself resides in the basement, in a golden box about three feet by four feet, having diminished somewhat over the centuries. (Indeed, a bit of his skull has been across town these sixteen hundred years, in St. John of the Lateran.) Peter’s comparatively modest shrine, amid the tombs of the popes, is surely the very heart of the Christian world, the Catholic Kaaba. The power of the place is undeniable. I genuflected before St. Pete.

Everywhere, a mixture, stirred with a many-centuried spoon: on the way back from St. Peter’s, I explored a side street and found part of the old imperial aqueduct system with its arches filled in and medieval battlements added. Medieval buildings, as a rule, are still in use, not regarded as worth noting as monuments.

Walk from St. Peter’s to the Tiber, turn left, and before long you reach the Castel Sant’ Angelo, the tomb of the previously-mentioned 2nd-Century Hadrian, used as a fortress when Count Belisarius’s Byzantine army was besieged there in the 530s. The Byzantines broke most of Hadrian’s decorative statuary over the heads of more of my barbaric ancestors. For centuries, the place was a refuge for

beleaguered popes. Cagliostro, the L. Ron Hubbard of the 18th century, died in its dungeons. An angel appeared atop the castle in 590 in answer to Pope Gregory’s prayer for relief from a plague. The angelic statue commemorating the miracle is of a much later date.

Layer upon layer: Ancient, Medieval, Renaissance, Baroque, occasional modern, all jumbled together. One of the few 20th Century buildings I entered was a bookstore, in search of a copy of *Alle Morte Della Dea*, by that noted Italian fantasy author, Darrell Schweitzer, published by Mondadori.

It’s impossible to dig anywhere in Rome without hitting an archaeological relic, which makes subway-expansion difficult. Once I glanced down a hole at what looked like a construction site and saw an ancient archway, a storey below modern street level. It was the Porta Octavia, named either after the sister of Augustus or the unfortunate first wife of Nero. I’m not sure which.

There are limits, though. You won’t find anything from the era of the Roman kings, or the Etruscan period, outside of the (excellent) museums. Very few of the ancient buildings pre-date Julius Caesar.

Imperial-era construction is distinguished by the tiny bricks, about the size of large candy bars. These remained uniform wherever the Romans went. You can see some of them in a fragment of the Roman wall near the Tower of London.

Cross the Tiber in front of the Castel Sant’ Angelo on a bridge dating from the time of Julius Caesar, but lined with statues by students of Michaelangelo. We see Renaissance imitations of the ancient, modern imitations of Renaissance, and the inevitable plaques of Pope Sixtus V.

Sixtus must rank as the greatest graffiti artist of all time. He put his name everywhere. The Arch of Titus, erected in the 1st century A.D. to celebrate the conquest of Jerusalem has, on one side, what you’d expect: thanks from the incredibly grateful senate and people to the divine emperors Vespasian and Titus, etc. etc. But in a rare moment of modesty, the

ancients left the back *blank*. Since the 16th century, it has borne an inscription, fully as massive as the original one, saying, in effect, "HI! SIXTUS WAS HERE."

But some relics are less enthusiastically displayed. Across the street from the Forum of Augustus there is a bronze statue of the old boy, obviously once intended for a much higher pedestal since the upper body is larger than the legs. The inscription on the base reads, discreetly, "Anno XI a Fascibus Renovatus."

That would be about 1933, by my count. It was the only open reference to Fascism I saw. Guides will show you Mussolini's balcony, from which he made his speeches, but it's not marked. (Overlooking a quite small plaza near the Arch of Severus. With the right camera angle, it would be easy to make the place look as packed as a Nuremberg rally.) The real survivors of the Fascist regime are the manhole covers, which aren't marked "City Water Works," but, consistent with Il Duce's neo-imperial pretensions, "S.P.Q.R." -- *Senatus et Populus que Romanus* -- the proud slogan once borne on the standards of the legions. Never mind that Rome doesn't even have a senate anymore. That Fascism should be commemorated this way -- on the sewers -- is one of history's little jokes.

I don't see this kind of multi-centuried detail in science fiction, particularly in American science fiction, probably because most American SF writers have never really *looked* at a city as old as Rome. The movie *Bladerunner* actually caught the effect better than most novels, but the layer-cake there was only about three centuries deep.

Let's think of it this way: It's the year Four Thousand. The colony worlds are like the 20th Century United States. Their histories are only a couple hundred years old. Anything older is imported. Some of the buildings are imitations of older styles, but they are only imitations, like pseudo-medieval American churches.

Meanwhile, back on Earth, the city of New York has been continuously



inhabited for over twenty-three centuries. The inhabitants themselves may surprise you, since most off-world colonists originally came from Japan. New Yorkers are either extremely dark, or else very pale, with long noses.

The city is a fascinating hodge-podge: In the ancient district of Manhattan, we can behold the still impressive ruins of the Empire State Building, but also the even more impressive, meticulously-preserved neo-Deco Burger King Building, built around 2700, which now houses the complete JFK Airport (moved from its original site in 2743), plus the galaxy's largest collection of baseball cards. There are many picturesque legends relating to the statue of the giant ape at the top, which dates from about 2950.

The World Trade Center was mistaken for a tuning fork and destroyed during the Denebian occupation of the late 32nd century. Little remains of it but two, square, grassy fields. The Denebian slime-creatures themselves are long gone, but the ubiquitous pedestals they installed still lead to jokes about Denebian anatomy and sexual habits. Some of them were converted into fireplugs in succeeding centuries.

The tourist should not miss the quaint 19th, 20th, and 21st century structures in the outlying district of Brooklyn, which never suffered the ravages of urban renewal or extrater-

‘I don't see this kind of multi-centuried detail in science fiction, particularly in American science fiction...’

‘The one writer who captured the sense of the layering of history and time, better than any generic science fiction practitioner, was Mark Twain...’

restrial invasion. (Pre-19th century structures are extremely rare, though the collection of the many-times rebuilt Metropolitan Museum contains artifacts dating as far back as the Dutch period when the city was called New Amsterdam.) There you can also see the remains of the ancient elevated train lines (many filled in with other materials and made into the "longhouses" of the Native American Ancestral Movement of the 2050s). The most ancient buildings are made of a characteristic material known (for reasons unclear to modern scholars) as "brownstone." Other 19th and 20th century bricks are equally distinctive.

Since the institution of the Robotic Church in 2216, New York has been the residence of the Grand Robot of Earth, whose palace stands atop the rocky northern tip of Manhattan, and whose emblematic "spare parts" may be seen affixed to anything and everything, including many buildings long predating the era of Roboticism. Perhaps the most amusingly absurd is "Cleopatra's Pit Stop" in Central Park: an ancient Egyptian obelisk atop a titanium-alloy Volkswagon Bus (by Zarg O'Connor, the 33rd Century Neo-Warholist), topped with the outstretched hand of Grand Robot ZX41.38, who renovated much of New York after the departure of the Denebians.

Of course contemporary New Yorkers take all this for granted. New York evenings are continually punctuated by the *pop-pop-pop* of local teenagers teleporting from building to building in their immemorial adolescent rituals.

Beware of telekinetic pick-pockets.

The one writer who captured the sense of the layering of history and time, better than any generic science-fiction practitioner, was Mark Twain. He didn't do it in a science-fiction story either, but in a charming, little-known essay called "A Memorable Midnight Experience," written in 1872 and collected in *Europe and Elsewhere*.

Twain visited Westminster Abbey. Much of what he saw, I saw when I was there the week after the worldcon, but he paused before an inscription reading, "Wm West, toome shower, 1698." In other words, graffiti left by a 17th century tour guide (tomb shower).

Writes Twain:

This was a sort of revelation to me. I had been wandering through the Abbey, never imagining but that its shows were created only for us -- the people of the 19th century. But here was a man (become a show himself now, and a curiosity) to whom all these things were sights and wonders a hundred and seventy-five years ago. . . . Charles II's tomb was the newest and latest novelty he had; and he was doubtless present at the funeral. Three hundred years before his time some ancestor of his, perchance, used to point out the ancient marvels, in the immemorial way and say: "This, gentlemen, is the tomb of his late Majesty Edward the Third -- and I wish I could see him alive and hearty again, as I saw him twenty years

ago; yonder is the tomb of Sebert the Saxon king -- he has been lying there well on to eight hundred years they say." And three hundred years before *this* party, Westminster was still a show, and Edward the Confessor's grave was a novelty of some thirty years' standing -- but old "Sebert" was hoary and ancient still, and people who spoke of Alfred the Great as a comparatively recent man pondered over Sebert's grave and tried to take in all the tremendous meaning of it when the "toome shower" said, "This man has lain here well nigh five hundred years."

Twain looks to the future:

And some day a curiously clad company may arrive here in a balloon ship from some remote corner of the globe, and as they follow the verger among the monuments they may hear him say: "This is the tomb of Victoria the Good Queen; battered and uncouth as it looks, it was a wonder of magnificence -- but twelve hundred years work a great deal of damage to these things."

Having visited that curious, ancient New York with its Robotic palace, fragmentary Empire State Building, and 32nd Century Denebian fireplugs, the interstellar tourist returning to Earth may seek out Westminster Abbey and see the same things Twain saw, or go to Rome and see what I did -- only there will be more layers by then. The meaning and perspective of everything will have changed -- as it changes endlessly. ■



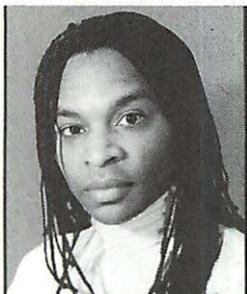
Allen Koszowski

L. Sprague de Camp first came into prominence as a science fiction writer in the late thirties. He's not only seen the classic pulp era and the so-called "Golden Age" of SF magazine publishing, his writing has been an instrumental part of making it happen. His latest book, soon to be released by BAEN, is a collection of Reginald Rivers' time-safari (or is that *safariin*?) stories called *Rivers In Time*.



Jacie Ragan

"I like to think people know who I am" posits **Darrell Schweitzer**. He edits *Weird Tales*, and with about 100 short stories published, not to mention novels and collections, including the World Fantasy Award nominated novella "To Become a Sorcerer", you'd think people would know who he is. Well, obviously they must or *Weird Tales* wouldn't have won the 1992 World Fantasy Award!



Bob E. Hobbs

Charles M. Saplak has published a few horror stories but says "my first love is SF." He received an award in L. Ron Hubbard's *Writer's of the Future* contest and has had a mainstream poem nominated for the *Pushcart Prize*. He lives in rural Virginia with his wife and daughter.

Illustrating two stories this issue, **Michael Kucharski** has had a long career in illustration. His work has appeared in a number of juried shows, including "In Dreams Awake: Art of Fantasy" (Olympia & York) and the art show of the 1991 World Fantasy Convention. Published credits include *Pandora*, *Midnight Zoo* and *Fantasy Games Unlimited*.

"I like keeping bios to a minimum." **Adam Corbin Fusco** works in the "Baltimore television and film industry." He is also editorial assistant at *Cemetery Dance*.

SC Lofton has been published previously in *Figment*, *Best of the Midwest's SF/F*, *Vision*, and *Aberations*.

"The company I worked for was a victim of the recent recession..." So **Allen Koszowski** is now a full-time artist. His credits include appearances in *Asimov's*, *Weird Tales*, *F&SF*,

and *Midnight Graffiti* among others. He's also a recent winner in L. Ron Hubbard's *Illustrators of the Future*.

Jacie Ragan writes full-time from the Missouri backwoods. She says "through the window behind my word processor I've seen deer, wild turkey, coyotes, and an occasional bald eagle." Apparently her window looks out on a few good stories as well.

The recession has hit hard, and like Allen Koszowski, **Don D'Amassa** recently turned to his art (full-time) thanks to the bankruptcy of his employer. He writes a review column for *Science Fiction Chronicle* and has published a horror novel titled *Blood Beast*. His short stories have been seen in such places as *Analog*, *Pulphouse*, and *Tomorrow...*

Bob E. Hobbs began his fantasy art career in 1990 when he participated in a group exhibit in New York City held by the Association of Science Fiction and Fantasy Artists. His work has appeared in *Amazing*, *Tomorrow* among others. He is a winner of L. Ron Hubbard's *Illustrators of the Future* and will soon release his first graphic novel (published by Earth Prime Productions).

As the DJ for a progressive rock station, **Rebecca Dahms Lioi** had the opportunity to "be there" as Cosmic Music happened. She's also a long-time SF fan and a dedicated *Who*-vian.

Amazing, *Full Spectrum 4*, *Analog* and *Back Brain Recluse* are just some of the places **Mark Rich** has begun to appear in. With Roger Dutcher, he co-edits the *Magazine of Speculative Poetry*.

"Although my art so far has focused mainly on horror, I would like to expand into other areas of the SF/F/H field." **Cathy Miller Burgoyne's** illustrations have appeared in *Fusion*, *Midnight Graffiti*, and *The Silver Web*.

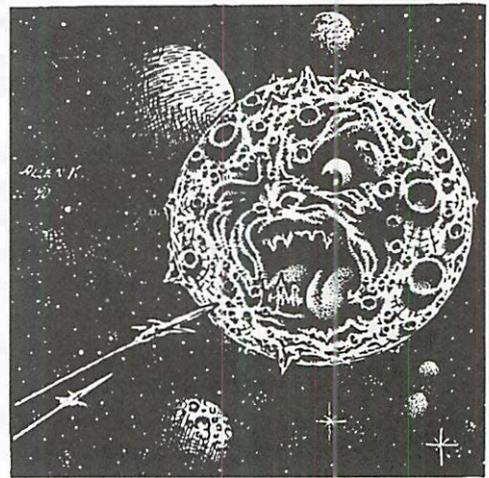
Alfred R. Klosterman is a familiar name in small press illustration, with works appearing in *Science Fiction Review*, *Eldritch Tales*, *Midnight Zoo*, *Space and Time* and others.

The next time you leave orbit, be sure to suit up with our new t-shirt!

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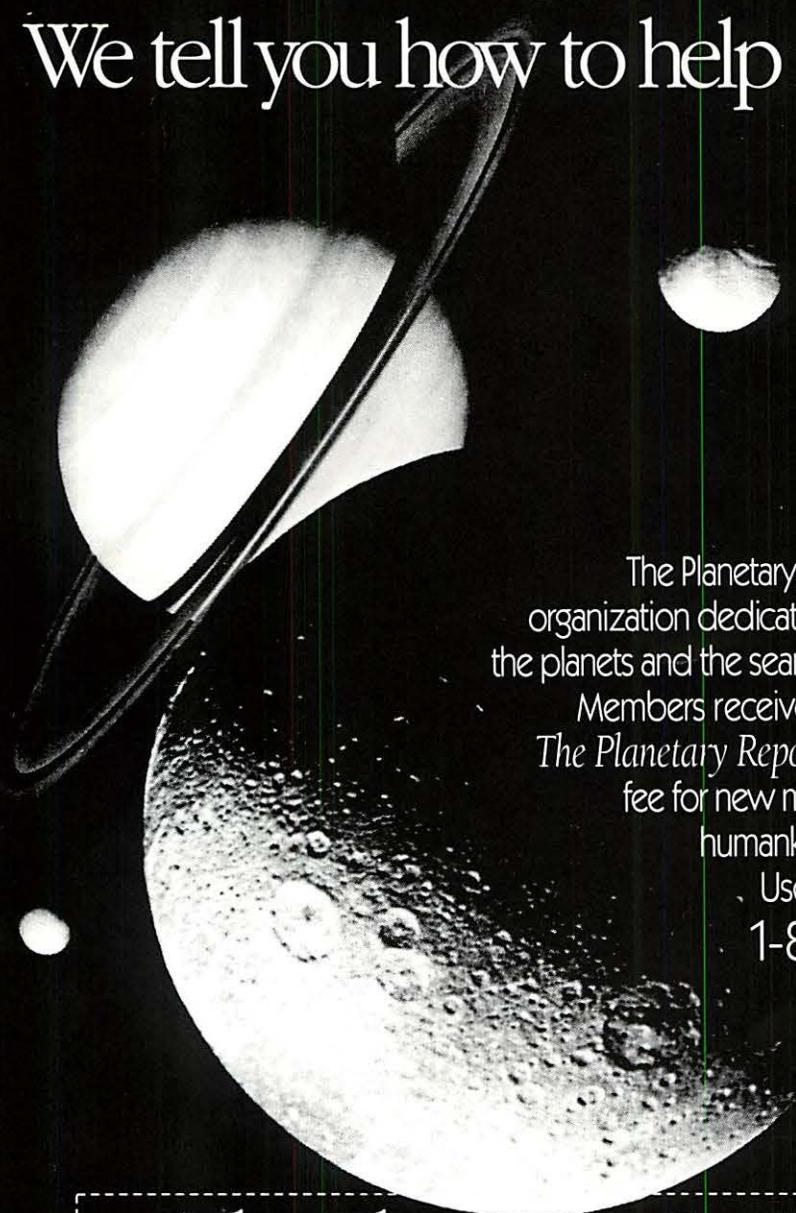
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MICHAEL DAVID WARD

THE COVER ART on this issue of EXPANSE is "Night Fire" by Michael David Ward. Depicting the beautiful, iridescent haze from an exploded star and a fantasy conjunction of planets, Mr. Ward's painting is as unique as his technique.

Whereas most artists use canvas or board, "Night Fire" was painted on glass using a little-known method called reverse-glass painting. Like the glass mattes seen in many special effects movies, the image was built up on the reverse side of a glass pane. Painting backwards, first the details, then the background colors, the final image could only be seen when finished from the opposite side. However difficult this method may be, the results are a luminous masterpiece that would be impossible to achieve on any other support.

"Night Fire" is copyrighted (1990) by Michael David Ward/Hasson Publishing, Newport Beach, CA, and is used by permission. Limited edition prints, posters and original artwork by Mr. Ward are available through Hasson Publishing.

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