

A Martian Ricorso

a short story by Greg Bear

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2000

Martian night. The cold and the dark and the stars are so intense they make music, like a faint tinkle of ice xylophones. Maybe it's my air tank hose scraping; maybe it's my imagination. Maybe it's real.

Standing on the edge of Swift Plateau, I'm afraid to move or breathe deeply, as I whisper into the helmet recorder, lest I disturb something holy: God's sharp scrutiny of Edom Crater. I've gone outside, away from the lander and my crewmates, to order my thoughts about what has happened.

The Martians came just twelve hours ago, like a tide of five-foot-high laboratory rats running and leaping on their hind legs. To us, it seemed as if they were storming the lander, intent on knocking it over. But it seems now we were merely in their way.

We didn't just sit here and let them swamp us. We

didn't hurt or kill any of them--Cobb beat at them with a roll of foil and I used the parasol of the damaged directenna to shoo them off. First contact, and we must have looked like clowns in an old silent comedy. The glider wings came perilously close to being severely damaged. We foiled and doped what few tears had been made before nightfall. They should suffice, if the polymer sylar adhesive is as good as advertised.

But our luck this expedition held true to form. The stretching frame's pliers broke during the repairs. We can't afford another swarm, even if they're just curious.

Cobb and Link have had bitter arguments about self-defense. I've managed to stay out of them so far, but my sympathies at the moment lie with Cobb. Still, my instinctual desire to stay alive won't stop me from feeling horribly guilty if we do have to kill a few Martians.

We've had quite a series of revelation the last few days. Schiaparelli was right. And Percival Lowell, the eccentric genius of my own home state. He was not as errant an observer as we've all thought this

past century.

I have an hour before I have to return to the lander
and join my mates in sleep. I can last here in the cold
that long. Loneliness may weigh on me sooner,
however. I don't know why I came out here; perhaps
just to clear my head, we've all been in such a
constrained, tightly controlled, oh-so-disguised
panic. I need to know what I think of the whole
situation, without benefit of comrades.

The plateau wall and the floor of Edom are so
barren. With the exception, all around me, of the
prints of thousands of feet... Empty and lifeless.

Tomorrow morning we'll brace the crumpled
starboard sled pads and rig an emergency automatic
release for the RATO units on the glider. Her wings
are already partially spread for a fabric inspection --
accomplished just before the Winter Troops
attacked--and we've finished transferring fuel from
the lander to the orbit booster. When the glider gets
us up above the third jet stream, by careful tacking
we hope to be in just the right position to launch our
little capsule up and out. A few minutes burn and we

can dock with the orbiter if Willy is willing to pick us up.

If we don't make it, these records will be all there is to explain, on some future date, why we never made it back. I'll feed the helmet memory into the lander telterm, stacked with flight telemetry and other data in computer-annotated garble, and instruct the computer to store it all on hard-copy glass disks.

The dust storm that sand-scrubbed our directenna and forced me to this expedient subsided two days ago. We have not reported our most recent discovery to mission control; we are still organizing our thoughts. After all, it's a momentous occasion. We don't want to make any slips and upset the folks back on Earth.

Here's the situation on communications. We can no longer communicate directly with Earth. We are left with the capsule radio, which Willy can pick up and boost for re-broadcast whenever the conditions are good enough. At the moment, conditions are terrible. The solar storm that dogged our Icarus heels on the way out, forcing us deep inside Willy's capacious hull, is still active. The effect on the Martian atmosphere has been most surprising.

There's a communicator on the glider body as well,
but that's strictly short-range and good for little more
than telemetry. So we have very garbled
transmissions going out, reasonably clear coming
back, and about twenty minutes of complete blackout
when Willy is out of line of sight, behind or below
Mars.

We may be able to hit Willy with the surveyor's
laser, adapted for signal transmission. For the
moment we're going to save that for the truly
important communications, like time of launch and
approximate altitude, calculated from the fuel we
have left after the transfer piping exploded.... was it
three days ago? When the night got colder than the
engineers thought possible and exceeded the specs
on the insulation.

I'm going back in now. It's too much out here. Too
dark. No moons visible.

Now at the telterm keyboard. Down to meaningful

monologue.

Mission Commander Linker, First Pilot Cobb, and myself, Mission Specialist Mercer, have finished ninety percent of the local survey work and compared it with Willy's detailed mapping. What we've found is fascinating.

At one time there were lines on Mars, stripes like canals. Until a century ago, any good telescope on Earth, on a good night, could have revealed them for a sharp-eyed observer. As the decades went by, it was not the increased skill of astronomers and the quality of instruments that erased these lines, but the end of the final century of the Anno Fecundis. Is my Latin proper? I have no dictionary to consult.

With the end of the Fertile Year, a thousand centuries long, came the first bleak sandy winds and the lowering of the Martian jet streams. They picked up sand and scoured.

The structures must have been like fairy palaces before they were swept down. I once saw a marketplace full of empty vinegar jugs in the Philippines, made from melted Coca Cola bottles.

They used glass so thin you could break them with a thumbnail tap in the right place--but they easily held twenty or thirty gallons of liquid. These colonies must have looked like grape-clusters of thousands of thin glass vinegar bottles, dark as emeralds, mounted on spider-web stilts and fed with water pumped through veins as big as Roman aqueducts. We surveyed one field and found the fragments buried in red sand across a strip thirty miles wide. From a mile or so up, the edge of the structure can still be seen, if you know where to look.

Neither of the two previous expeditions found them.

They're ours.

Linker believes these ribbons once stretched clear around the planet. Before the sand storm, Willy's infrared mapping proved him correct. We could trace belts of ruins in almost all the places Lowell had mapped--even the civic centers some of his followers said he saw. Aqueducts laced the planet like the ribs on a basketball, meeting at ocean-sized black pools covered with glassy membranes. The pools were filled by a thin purple liquid, a kind of

resin, warming in the sun, undergoing photosynthesis.

The resin was pumped at high pressure through tissue and glass tubes, nourishing the plantlike colonies inhabiting the bottles. They probably lacked any sort of intelligence. But their architectural feats put all of ours to shame, nonetheless.

Sandstorms and the rapidly drying weather of the last century are still bringing down the delicate structures. Ninety-five percent or more have fallen already, and the rest are too rickety to safely investigate. They are still magnificent. Standing on the edge of a plain of broken bottles and shattered pylons stretching to the horizon, we can't help but feel very young and very small.

A week ago, we discovered they've left spores buried deep in the red-orange sand, tougher than coconuts and about the size of medicine balls.

Six days ago, we learned that Mars provides children for all his seasons. Digging for ice lenses that Willy had located, we came across a cache of leathery eggshells in a cavern shored up with a translucent organic cement. We didn't have time to investigate thoroughly. We managed to take a few

samples of the cement--scrupulously avoiding disturbing the eggs--and vacated before our tanks ran out. While cutting out the samples, we noticed that the walls had been patterned with hexagonal carvings, whether as a structural aid or decoration we couldn't tell.

Yesterday, that is, about twenty-six hours ago, we saw what we believe must be the hatchlings: the Winter Troops, five or six of them, walking along the edge of the plateau, not much more than white specks from where we sat in the lander.

We took the sand sled five kilometers from the landing to investigate the cache again, and to see what Willy's mapping revealed as the last standing fragments of an aqueduct bridge in our vicinity. We didn't locate our original cache. Collapsed caverns filled with leathery egg skins pocked the landscape. More than sandstorms had been at the ruins. The bridges rested on the seeds of their own destruction--packs of kangaroo-rat Winter Troops crawled over the structure like ants on a carcass, breaking off bits, eating or just cavorting like sand fleas.

Linker named them. He snapped pictures enthusiastically. As a trained exobiologist, he was in a heat of excitement and speculation. His current theory is that the Winter Troops are on a binge of destruction, programmed into their genes and irrevocable. We retreated on the sled, unsure whether we might be swamped as well.

Linker babbled--pardon me, expounded--all the way back to the lander. "It's like Giambattista Vico resurrected from the historian's boneyard!" We barely listened; Linker was way over our heads. "Out with the old, in with the new! Vico's historical ricorso exemplified."

Cobb and I were much less enthusiastic. "Indiscriminate buggers," he grumbled. "How long before they find us?"

I had no immediate reaction. As in every situation in my life, I decided to sit on my emotions and wait things out.

Cobb was prescient. Unluckily for us, our lander and glider rise above the ground like a stray shard of an aqueduct-bridge. At that stage of their young lives,

the Winter Troops couldn't help but swarm over everything. An hour ago, I braved the hash and our own confusion and sent out descriptions of our find. So far, we've received no reply to our requests for First Contact instructions. The likelihood was so small nobody planned for it. The message was probably garbled.

But enough pessimism. Where does this leave us, so far, in our speculations?

Gentlemen, we sit on the cusp between cycles. We witness the end of the green and russet Mars of Earth's youth, ribbed with fairy bridges and restrained seas, and come upon a grimmer, more practical world, buttoning down for the long winter.

We haven't studied the white Martians in any detail, so there's no way of knowing whether or not they're intelligent. They may be the new masters of Mars. How do we meet them--passively, as Linker seems to think we should, or as Cobb believes: defending ourselves against creatures who may or may not belong to our fraternal order of Thinkers?

What can we expect if we don't defend ourselves?

Let your theologians and exobiologists speculate on that. Are we to be the first to commit the sin of an interplanetary Cain? Or are the Martians?

It will take us nine or ten hours tomorrow to brace the lander pads. Our glider sits with sylar wings half-flexed, crinkling and snapping in the rising wind, silver against the low sienna hills of the Swift Plateau.

Sunlight strikes the top of the plateau. Pink sky to the East; fairy bridges, fairy landscape! Pink and dreamlike. Ice-crystal clouds obscure a faded curtain of aurora. The sky overhead is black as obsidian. Between the pink sunrise and the obsidian is a band of hematite, a dark rainbow like carnival glass, possibly caused by crystalline powder from the aqueduct bridges elevated into the jetstreams. From our vantage on the plateau, we can see dust devils crossing Edom's eastern rim and the tortured mounds and chasms of the Moab-Marduk range, rising like the pillars of some ancient temple. Boaz and Jachin, perhaps.

Since writing the above, I've napped for an hour or so. Willy relayed a new chart. He's found construction near the western rim of Edom Crater--recent construction, not there a few days ago when the area was last surveyed. Hexagonal formations--walls and what could be roads. From his altitude, they must rival the Great Wall of China. How could such monumental works be erected in just days? Were they missed on the previous passes? Not likely.

So there we have it. The colonies that erected the aqueduct-bridges were not the only architects on Mars. The Winter Troops are demonstrating their skills. But are they intelligent, or just following some instinctual imperative? Or both?

Both men are sleeping again now. They've been working hard, as have I, and their sleep is sound. The telterm clicking doesn't wake them. I can't sleep much--no more than a hour at a stretch before I awake in a sweat. My body is running on supercharge and I'm not ready to resort to tranquilizers. So here I sit, endlessly observing. Linker is the largest of us. Though I worked with him

for three years before this mission, and we have spent over eight months in close quarters, I hardly know the man. He's not a quiet man, and he's always willing to express his opinions, but he still surprises me. He has a way of raising his eyebrows when he listens, opening his dark eyes wide and wrinkling his forehead, that reminds me of a dog cocking its ears. But it would have to be a devilishly bright dog. Perhaps I haven't plumbed Linker's depths because I'd go in over my head if I tried. He's certainly more dedicated than either Cobb or I. He's been in the USN for twenty-one years, fifteen of them in space, specializing in planetary geology and half a dozen other disciplines.

Cobb, on the other hand, can be read like a book. He tends toward bulk, more in appearance than mass; he weighs only a little more than I do. He's shorter and works with a frown; it seems to take twice his normal concentration to finish some tasks. I do him no injustice by saying that; he gets the work done, and well, but it costs him more than it would Linker. The extra effort sometimes takes the edge off his nonessential reasoning. He's not light on his mental feet, particularly in a situation like this. Doggedness and quick reflexes brought him to his prominence in

the Mars lander program; I respect him none the less for that, but.... He tends to the technical, loving machines more than men, I've often thought, and from my more liberal arts background, I've resented that.

Linker and I once had him close to tears on the outward voyage. We conversed on five or six subjects at once, switching topics every three or four minutes. It was a cruel game and neither of us are proud of it, but I for one can peg part of the blame on the mission designers. Three is too small a community for a three year mission in space. Hell. Space has been billed as making children out of us all, eh? A two-edged sword.

I have (as certain passages above might indicate) been thinking about the Bible lately. My old childhood background has been stimulated by the danger and moral dilemmas--hair of the dog that bit me. The maps of Mars, with their Biblical names, have contributed to my thoughts. We're not far from Eden as gliders go. We sit in fabled Moab, above the Moab-Marduk range, Marduk being one of the chief "baals" in the Old Testament. Edom Crater--Edom means red, an appropriate name for a Martian crater.

I have red hair. Call me Esau!

Mesogaea--Middle Earth. Other hair, other dogs.

Back on the recorder again. Time weighs heavily on me. I've retreated to the equipment bay to weather a bit of grumpiness between Linker and Cobb.

Actually, it was an out and out argument. Linker, still the pacifist, expressed his horror of committing murder against another species. His scruples are oddly selective--he fought in Eritrea in the nineties. Neither has been restrained by rank; this could lead to really ugly confrontations, unless danger straightens us all out and makes brothers of us.

Three comrades, good and true, tolerant of different opinions.

Oh, God, here they come again! I'm looking out the equipment bay port, looking East. They must number five or six thousand, lining a distant hill like Indians.

That many attacking.... Cobb can have his way, and it won't matter, we'll still have had the course. If they rip a section of wing sylvan larger than we can stretch

by hand, we're stuck.

That was close. Cobb fired bursts of the surveyor's laser over their heads. Enough dust had been raised by their movement and by the wind to make a fine display. They moved back slowly and then vanished behind the hill. The laser is powerful enough to burn them should the necessity arise.

Linker has as much as said he'd rather die than extend the sin of Cain. I'm less worried about that sin than I am about lifting off. We have yet to brace the sled pad. Linker's out below the starboard hatch now, rigging the sling that will keep one section of the glider body level when the RATOs fire.

More dust to the East now. Night is coming slowly. After the sun sets, it'll be too cold to work outside for long. If the Winter Troops are water-based, how do they survive the night? Anti-freeze in their blood, like Arctic fish? Can they keep up their activity in temperatures between fifty and one hundred below? Or will we be out of danger until sunrise, with the

Martians warm in their blankets, and we in our
trundle-bed, nightmaring?

I've helped Linker rig the sling. We've all worked on
the sled pad. Cobb has mounted the laser on a
television tripod--clever warrior. Linker advised
him to beware the fraying power cable. Cobb looked
at him with a sad sort of resentment and went about
his work. Other than the few bickerings and
personality games of the trip out, we managed to
keep respect for one another until the last few days.
Now we're slipping. At one time, I had the fantasy
we'd all finish the mission lifetime friends, visiting
each other years after, comparing pictures of our
grandchildren and complaining about the quality of
young officers after our retirement. What a dream.

Steam rises from the hoarfrost accumulated during
the night. It vanishes like a tramp after dinner.

Should we wish to send a message to Willy now, we
shall have to unship the laser and remount it. The
hash has increased and Willy says his pickup is
deteriorating.

More ice falls during the night. Linker kept track of them. My insomnia has communicated itself to him--ideal for standing long watches. Ice falls are more frequent here than on Earth--the leavings of comets and the asteroids come through this thin atmosphere more easily. A small chunk came to within a sixty meters of our site, leaving an impressive crater.

Another break. Willy has relayed a message from Control. They managed to pick up and reconstruct our request for instructions on first contact. They must have thought we were joking. Here's part of the transmission:

"We think you're not content with finding giant vegetables on Mars. Dr. Wender advised on Martians...(hash)...some clear indications of their ability to fire large cylindrical bodies into space. Beware tripod machines. Second opinion from Frank: Not all green Martians are Tharks. He wants sample from Dejah Thoris--can you arrange for

egg?"

I put on a pressure suit and went for a walk after the disappointment of the transmission. Linker suited up after me and followed for a while. I armed myself with a piece of aluminum from the salvaged pad. He carried nothing.

Swift Plateau is about four hundred kilometers across. At its northern perimeter, an aqueduct had once hoisted itself a kilometer or so and vaulted across the flats, covering fifteen kilometers of upland before dropping over the south rim into the Moab-Marduk Range. Our landing site is a kilometer from the closest stretch of fragments. Linker followed me to the edge of the field of green and blue grass, keeping quiet, looking behind apprehensively as if he expected something to pop up between us and the lander.

I had a notebook in my satchel and paused to sketch some of the piers the Winter Troops hadn't yet brought down. None of them were over four meters tall.

"I'm afraid of them," Linker said over the suit radio. I

stopped my sketching to look at him.

"So?" I inquired with a touch of irritation. "We're all afraid of them."

"I'm not afraid because they'll hurt me. It's because of what they might bring out in me, if I give them half a chance. I don't want to hate them."

"Not even Cobb hates them," I said.

"Oh, yes he does," Linker said, nodding his head within the bulky helmet. "But he's afraid for his life. I fear for my self-respect."

I shook my helmet to show I didn't understand.

"Because I can't understand them. They're irrational. They don't seem to see us. They run around us, fulfilling some mission.... they don't care whether we live or die. Yet I have to respect them--they're alien. The first intelligent creatures we've ever met."

"If they're intelligent," I reminded him.

"Come on, Mercer, they must be. They build."

"So did these," I said, waving a gloved hand at the field of shattered green bottles.

"I'm trying to make myself clear," he said, exasperated. "When I was in Eritrea, I didn't understand the nationalists. Or the communists. Both sides were willing to kill their own people or allow them to starve if it won some small objective. It was sick. I even hated the ones we were supporting."

"The Martians aren't Africans," I said. "We can't expect to understand their motives."

"Comes back double, then, don't you see? I want to understand, to know why--"

He suddenly switched his radio off, raised his hands in frustration and turned to walk back to the lander.

Our automatic interrupts clicked on and Cobb spoke to us. "That's it, friends. We're blanketed by hash. I can't get through to Willy. We'll have to punch through with the laser."

"I'm on my way back," Linker said. "I'll help you set it up."

In a few minutes, I was alone on the field of ruins. I sat on a weather-pocked boulder and took out my sketchbook again. I mapped the directions from which we had been approached and attacked and compared them with the site of the eggs we had found. What I was looking for, with such ridiculously slim evidence, was a clear pattern of migration--say, from the hatcheries in a line with the sunrise. Nothing came of it.

Disgusted at my desperation, I was lost in a fog of something approaching misery when I glanced up... And jumped to my feet so fast I leaped a good three feet into the air, twisting my ankle as I came down. Two white Martians stared at me with their wide, blank gray eyes, eyelashes as long and expressive as a camel's. The fingers on their hands--each had three arms, but only two legs--shivered like mouse-whiskers, not nervous but seeking information. We had been too involved fending them off before to take note of their features. Now, at a loss what to do, I had all the time in the world.

Three long webbed toes, leathery and dead-looking like sticks, met an odd two-jointed ankle which even now I can't reproduce on paper. Their thighs were knotted with muscles and covered with red and white stippled fur. They could hop or run like frightened deer--that much I knew from experience. Their hips were thickly furred. They defied my few semesters of training in biology by having trilateral symmetry between hips and neck, and bilateral below the hips. Three arms met at ingenious triangular shoulders, rising to short necks and mouselike faces. Their ears were mounted atop their heads and could fan out like unfolded directennas, or hide away if rough activity threatened them.

The Martians were fast when they wanted to be, and I had no idea what else they could eat besides the ruins, so I made no false moves.

One whickered like a horse, its voice reedy and distant in the thin atmosphere. The noise must have been impressively loud to reach my small, helmeted ears. It looked behind itself, twisting its head one-eighty to look as its behind-arm scratched a tuft of hair on its right shoulder. The back fur rippled

appreciatively. Parrot-like, the head returned to calmly stare at me.

After half an hour, I sat down again on the boulder. I could still see the lander and the linear glint of the glider wings, but there was no sign of Cobb or Linker. Nobody was searching for me.

My suit was getting cold. Slowly, I checked my battery pack gauge and saw it was showing a low charge. Cautiously, in distinct stages, I stood and brushed my pressure suit. The Martian to my right jerked, fingers trembling, and I held my pose, apprehensive. With a swift motion, it pulled a green, fibrous piece of aqueduct-bridge girder from its stiff rump fur with its behind-arm and held it out to me. The piece was about thirty centimeters long, chewed all around. I straightened, extended one hand and accepted the gift.

Without further ado, the Martians twisted around and leaped across the plateau, running and leaping simultaneously.

Clutching my gift, I returned to the lander. My feet

and fingers were numb when I arrived.

The tripod lay on the ground, legs spraddled. The laser was nowhere to be seen. I had a moment's panic, thinking the lander had been attacked--but since I had kept it in sight, that didn't seem likely. I climbed into the lander's primary lock.

Inside, Linker clutched the laser in both hands, one finger resting lightly, nervously, on the unsheathed and delicate scandium-garnet rod. Cobb sat on the opposite side of the cabin, barely two meters from Linker, fuming.

"What in hell is going on?" I asked, puffing on my fingers and stamping my feet.

"Listen, Thoreau," Cobb said bitterly, "while you were out communing with nature, Mr. Gandhi here decided to make sure we can't harm any of the sweet little creatures."

I turned to Linker, focusing on his uncertain finger and the garnet. "What are you doing?"

"I'm not sure, Dan," he answered calmly, face blank.

"I have a firm conviction, that's all I know. I have to be firm. Otherwise I'll be just like you and Cobb."

"I have a conviction, too," Cobb said. "I'm convinced you're nuts."

"You're seriously thinking about breaking that garnet?" I asked.

"Damned serious."

"We can fight them off with other things if we have to," I reasoned. "The assay charges, the core sample gun--"

"Don't give Cobb any more ideas," Linker said.

"But we can't talk to Willy if you break that garnet."

"Cobb saw two of the Winter Troops. He was going to take a pot-shot at them with this." Linker lifted the laser, face still blank.

I blinked for a few seconds, feeling myself flush with anger. "Jesus. Cobb, is that true?"

"I was sighting on them, in case there were more--"

"Were you going to shoot?"

"It was convenient. They might have been a vanguard."

"That's not very rational," I observed.

"I'm not sure I'm being rational, either," Linker said, fully aware how fragmented we were now, the sadness we all felt coming to the surface. His eyes were doglike, searching my face for understanding, or at least a way to understand himself.

"I'll do anything necessary to make sure we all survive," Cobb said. "If that means killing a few Martians, then I'll do it. If it means overruling the mission commander, then I'll do that, too."

"He refused to put the laser down, even when I gave him a direct order. That's mutiny."

"This isn't getting us anywhere," Cobb said.

"I won't vouch for your sanity," I said to Linker. "Not if you break that garnet. And I won't vouch for Cobb's, either. Taking pot-shots at possibly intelligent aliens." I remembered the stick. Damn it, they were intelligent! They had to be, advancing on a stranger and giving him a gift.... "I don't know what sort of speculative first-contact training we should have had, but in spirit if not in letter, Linker has to be closer to the ideal than you."

"We should be testing the brace on the pad and leveling the field in front of the glider. When we get out of here, we can argue philosophy all the way home. And to get home, we need the laser."

Linker nodded. "We'll just agree not to use it for anything but communication."

I looked at Cobb, finally making my decision, and wondering whether I was crazy, too. "I think Linker's right."

"OK," Cobb said softly. "But there's going to be a hell of a row after we debrief."

"That's an understatement," I said.

This record, even if it survives, will probably be kept in the administration files for fifty or sixty years--or longer--to "protect the feelings of the families." But who can gainsay the judgment of the folks who put us here? Not I, humble Thoreau on Mars, as Cobb described me.

I did not reveal the gift to my crewmates until the laser had been remounted in the lander. I simply lay it on the table, wrapped in an airtight transparent sylvan specimen bag, while we rested and sipped hot chocolate. Linker was the first to pick it up, glancing at me, puzzled.

"We have enough of these, don't we?" he asked.

"It's been chewed on," I pointed out, reaching to run my finger along the stick's surface. I told them about the two Martians. Cobb looked decidedly uncomfortable then.

"Did they chew on it in your presence?" Linker asked.

"No."

"Maybe they were offering food," Cobb said. "A peace offering?" His expression was sad, as if all the energy and anger had been drained and nothing much was left but regret.

"It's more than food," Linker said. "It's like stick-writing.... Ogham. The Irish and Britons used something similar centuries ago. Notches on the side of a stone or stick--a kind of alphabet. But this is much more complex. Here--there's an oval--"

"Unless it's a tooth-mark," I said.

"Whether it's a tooth-mark or not, it isn't random. There are five long marks beside it, and one mark about half the length of the others. That's about equal to one Deimotic month--five and a half days." My respect for Linker increased. He raised his eyebrows, looking for confirmation, and started to hand the stick to me, then stopped and swung it around to Cobb. Mission commander, re-integrating a disgruntled crewmember. A mist of tears came to my eyes.

"I don't think they've reached a high level of technology yet," Linker said.

Cobb looked up from the gift and grinned.

"Technology?"

"They built the walls and structures Willy saw. I don't think any of us can argue that they're not intent on changing their environment. Unless we make asses out of ourselves and say their work is no more significant than a beaver dam, it's obvious they're advancing rapidly. They might use notched sticks for relaying information."

"So what's this?" I asked, pointing to the gift.

"Maybe it's a subpoena," Linker said.

While I've been recording the above, Cobb has gone outside to see how long it will take to clear the glider path. The field was chosen to be free of boulders--but anything bigger than a fist could skew us around dangerously. The sleds have been

deployed. I've finished tamping the braces on the pad.

The glider and capsule check out. In an hour we'll
lase a message to Willy and give our estimate on
launch and rendezvous.

Willy tells us that most of Mesogaea and Memnonia
are covered with walls. Meridiani Sinus, according
to his telescope observations, has been criss-crossed
with roads or trails. The white Martians are using the
sand-filled black old resin reservoirs for some
purpose unknown.

Edom Crater is as densely packed as a city. All this
in less than two days. There must be millions of
hatchlings at work.

I'll break again and supervise the glider power-up.

Linker and Cobb are dead.

Jesus, that hurts to write.

We had just tested the RATO automatic timers when
a horde of Winter Troops marched across the
plateau, about ninety deep and a good four
kilometers abreast. I'm certain they weren't out to get
us. It was one of those migrational sweeps, a
screwball mass survey of geography, and
incidentally a leveling of all the aqueduct-bridges
from the last cycle.

They gave us our chance. We didn't reply.

Linker had finished clearing the path. They caught
him a half-kilometer from the lander. I think they just
trampled him to death. They were moving much
faster than a man can run. I imagine his face,
eyebrows rising in query, maybe he even tried to
smile or greet them, lifting a hand....

I can't get that out of my head. I have to concentrate.

Cobb knew exactly what to do. I think he didn't
mount the laser solidly, leaving a few brackets loose
enough so he could unship it and bring it down, ready
for hand use at a minute's notice. He took it outside
the ship with just helmet and oxygen on--it's about

five or six degrees outside, daylight--and fired on the
Winter Troops just before they reached the glider.
There are dead and dying or blinded Martians all
along the edge of the path.

They paid their casualties no heed. They did not
bother with us, just pushed around and through,
touching nothing, staying away from the area he was
sweeping--the edge of the path.

They can climb like monkeys. They dropped over the
rim of the plateau.

They didn't touch Cobb. The frayed cord on the laser
killed him when he stepped on it coming back in.

Where was I? Inside the glider, monitoring the
power-up. I couldn't hear a thing. It was all over by
the time I got outside.

The laser is gone, but we've already sent our data to
Willy. I have the return message. That's all I need for
the moment. The glider and capsule are powered and
ready.

I'll launch it by myself. I can do that.

When Willy's position is right. The timer is going.

Everything will be automatic.

I'll make it to orbit.

Two hours. Less. I can't bring them in. I could, but what use? There are no facilities for dead astronauts aboard the orbiter. What hurts is I'll have a better margin with them gone, more fuel. I did not want it that way, I never thought of that, I swear to God.

The glider wings are crackling in the wind. The wind is coming at a perfect angle, thin but fast, about two hundred kilometers an hour. Enough to feel if I were outside.

I trust in an awful lot now that Linker and Cobb are gone. Maybe it'll be over soon and I can stop this writing and stop feeling this pain.

Waiting. Just the right instant for launch. Timers, everything on auto. I sit helpless and wait. My last

instructions: three buttons and an instruction to the remotes to expand the wings to take-off width and increase tension. Like a square-rigger. They check okay, flat now, waiting for the best gust and RATO fire. Then they'll drop into the proper configuration, dragonfly wings, for high atmosphere.

I spent some time learning Martian anatomy as I cleared the path of the few Cobb had let through. There are still a couple out there. I don't think I'll hit them.

I killed one. It was in the Martian equivalent of pain. Pain/Cain. I hit it over the head with a rock pick. It died just like we do.

Linker died innocent.

I think I'm going to be sick.

Here it comes. RATOs on.

I'm in the first jet-stream. Second wing mode--fore

and aft foils have been jettisoned. I'm riding directly into the black wind. I can see stars, can see Mars red and brown and gray below.

Third wing mode. All wings jettisoned. Falling, my stomach says. Main engines on capsule are firing and I'm through the glider framework. I can see the glare and feel the punch and the wings are far down to port, twirling like a child's toy.

In low, uncertain orbit.

Willy's coming.

Last orbit before going home. Willy looked awfully good. I climbed inside of him through the transfer tunnel and requested a long drink of miserable orbiter water. "Hey, Willy Ley," I said, "you're the most beautiful thing I've ever seen." Of course, all he did was take care of me. No accusations.

He's the only friend I have now.

I spoke to mission control. That was not easy. An

hour ago. I'm sitting by the telescope, having pushed Willy's sensors out of the way, doing my own surveying and surmising.

So far, the Winter Troops--I assume they're responsible--have zoned and partially built up Mare Tyrennum, Hesperia, and Mare Cimmerium. They've done something I can't decipher or really describe in Aethiopia. By now I'm sure they've got to the old expedition landers in Syrtis Major and Minor. I don't know what they'll do with them. Maybe add them to the road-building material.

Maybe understand them.

I have no idea what they're like, no idea at all. I can't. We can't. They move too fast, grow along instinctive lines, perhaps. Instinct for culture and technology. They may not be intelligent in the way we define intelligence, not as individuals, anyway. But they do move.

Perhaps they're just resurrecting what their ancestors left them fifty, a hundred thousand years ago, before the long, warm, wet Spring of Mars drove them

underground and brought up the sprouts of
aqueduct-bridges.

At any rate, I've been in orbit for a week and a half.
They've gone from cradle to sky in that time.

I've seen their balloons.

And I've seen the distant fires of their rockets, icy
blue and sharp like hydroxy torches. They seem to be
testing. In a few days, they'll have it.

Beware, Control. These brave lads will go far.