

Footprints on the Sands of Mars: Science Fiction Writers Explore the Red Planet
by John C. Tibbetts

“The beauty of Mars exists in the human mind,” says one of the astronauts in Kim Stanley Robinson’s *Red Mars*. “It’s we who understand it, and we who give it meaning.”

Mars’ distinct red color and odd surface markings have always attracted the attention of astronomers, thinkers, and dreamers, long before the realities of space travel. Presuming Mars to be a likely abode of life, explorers of the imagination like Athanasius Kircher and Emanuel Swedenborg voyaged there in the 17th and 18th centuries and mined it for utopian, philosophic, and theological ideas (the sort of thing C.S. Lewis continued later in his own trilogy about Mars, *Out of the Silent Planet*, 1938, *Perelandra*, 1943, and *That Hideous Strength*, 1945). Late in the 19th century when astronomers Giovanni Schiaparelli and Percival Lowell claimed they detected artificial canals on its surface, writers like Percy Gregg (*Across the Zodiac*, 1890) and Garrett P. Serviss (*Edison’s Conquest of Mars*, 1898) hopped on rocketships and journeyed there to battle intelligent and hostile aliens. Meanwhile, the Martian astronomers were watching us, and in his classic *War of the Worlds* (1898) H.G. Wells imagined fearsome Martians leaving their dying planet to conquer Earth.

In the pulp magazines of the first half of this century the Red Planet became a vital geography, a crossroads for interplanetary adventurers and bizarre alien creatures. The most fondly remembered (and still read) of these swashbuckling sagas was the twelve-volume “John Carter” series by Edgar Rice Burroughs, which began in *All-Story*

Magazine in 1912. Carter, an ex-Confederate Army Captain, is transported from the Arizona desert to Mars by means of astral projection. His description of the journey is among the most memorable passages in the literature:

My attention was quickly riveted by a large red star closeto the distant horizon. As I gazed upon it I felt a spell of overpowering fascination—it was Mars, the god of war, and forme, the fighting man, it had always held the power of irresistible enchantment. As I gazed at it on that far-gone night it seemed to call across the unthinkable void, to lure me to it, to draw me as the lodestone attracts a particle of iron. . . . I closed my eyes, stretched out my arms toward the god of my vocation and felt myself drawn with the suddenness of thought through the trackless immensity of space. There was an instant of extreme cold and utter darkness. I opened my eyes upon a strange and weird landscape. I knew that I was on Mars; not once did I question either my sanity or my wakefulness.

Historian Sam Moskowitz has paid tribute to these fanciful tales, which have influenced every science fiction writer in this century: “Burroughs’ science fiction is a direct descendant of the travel tale typified by the *Odyssey*. It is the traditional romance brought up to date with the addition of a few modern scientific trimmings.”

The reality of space travel in the 1950s stimulated a host of Mars stories that were more concerned with hard science and sociology than with space opera and bug-eyed monsters. Ray Bradbury’s famed *The Martian Chronicles*, a collection of short stories

published in 1950, were cautionary tales about man's ruthless exploitation of the planet. Arthur C. Clarke's *The Sands of Mars* (1951) and Fred Pohl's *Man Plus* (1976) applied hard science to fascinating, almost documentary-like speculations about how man might adapt to the hostile terrain.

Now, with the data available from the Viking probes in 1976 and from more recent scientific findings, science fiction writers have a wealth of information about Mars never before available. Pointing the way toward what science fiction critic Terry Bisson has described as "a new kind of literature, more inclusive, more intelligent, more sophisticated, more visionary" are five Martian novels that have appeared in the last three years—Greg Bear's *Moving Mars*, Ben Bova's *Mars*, and Kim Stanley Robinson's *Red Mars* and *Green Mars* (the first two volumes of a projected trilogy). Common to them all is the broad theme of man's colonization of Mars, described with an unprecedented scope and detail. Robinson's project, particularly, has aroused enormous critical and popular response. Adjectives usually reserved for Hollywood movies have been flung about with reckless abandon. In *The Magazine of Fantasy and Science Fiction* John Kessel flatly declares *Red Mars* "the best novel I've ever read about the colonization of space." And *Science Fiction Age* concludes that "*Red Mars* is the *War and Peace* of science fiction."

Red Mars begins in the year 2026 when a multi-national crew (the "First Hundred") departs Earth for a nine-month voyage to Mars. Each crew member is an expert in the fields of medicine, computer skills, robotics, systems design, architecture, geology, biosphere design, genetic engineering, biology, etc. The

project's official mandate, as espoused by the two leaders of the American and Russian teams, Frank Chalmers and Maya Toitovna, is frankly opportunist—to establish a colony on Mars that imitates Earthly models. Within the ranks, however, are dissidents with other goals. Led by the Russian scientist, Arkady, a sort of closet revolutionary, they see in Mars an opportunity for a utopian break from Earth. "We have been sent here by our governments," Arkady declares, "and all of our governments are flawed, most of them disastrously. It's why history is such a bloody mess. Now we are on our own, and I for have no intention of repeating all of earth's mistakes just because of conventional thinking. We are the first Martian colonists! We are scientists! It's our job to think things new, to make them new!"

These growing divisions are temporarily forgotten in the excitement of setting up basecamp, dubbed "Underhill." There's an unforgettable moment when everyone pauses for a breathless first look at the planet. For them, Mars is like a "blank red slate":

Anything was possible, anything could happen—in that sensethey were, in just these last few days, perfectly free. Free of the past, free of the future, weightless in their own warm air, floating like spirits about to invest a material world . . . They might never be so happy again.

Mars is smaller than Earth and the horizon seems closer. It's a freeze-dried landscape with barren deserts, spectacular shield volcanoes, and crested dunes, and a very arid atmosphere. The gravity is lesser than Earth's, and a human weighs only thirty kilos. Because temperatures go down to minus-90 degrees Centigrade, and because there is no ozone layer and no magnetic field to speak of, exposure

outside a space suit is quickly fatal. The Martian year is 668.6 local days long and seasons last twice as long as Earth's. Because every day is forty minutes longer, clocks pause at 12:00:00 and unmarked time passes for thirty-nine minutes before the clocks snap on again at 12:00:01.

As the First Hundred quickly establish camp, fashioned from the materiel that had been previously sent by robot rockets, team members sort out their duties: Arkady is in charge of operations on Phobos, Hiroko Ai, an expert in biosphere design, establishes an experimental colony, and Sax Russell, a systems expert, supervises the terraforming of the surface (an ecological issue that is, as far as I can determine, unique to Red Mars). Sax argues that by pumping more oxygen and nitrogen into the Martian atmosphere the radiation will be radically decreased and the environment more liveable. But how? Options include bringing ice down from Phobos, planting tens of thousands of windmills across the surface, and engineering new microorganisms that can survive on the surface. Fundamentally opposed to this is Ann Claybourne, the team's geologist, whose long trips across the surface reinforce her respect for the integrity of the planet. She's dismayed at alterations in the planet already evident:

This road we made, it hurts me to see it! And base camp is like an open pit mine, in the middle of a desert never touched since time began. . . . Roads, cities. New sky, new soil. Until it's all some kind of Siberia or Northwest Territories and Mars will be gone and we'll be here, and we'll wonder why we feel so empty. Why when we look at the land we can never see anything but our own faces.

This argument over terraforming, one

of the central concerns of Robinson's trilogy, is related to the broader issue of how to best chart Mars' future. "We are the consciousness of the universe," reasons Sax, "and our job is to spread that around, to go look at things, to live everywhere we can. . . . We can transform Mars and build it like you would build a cathedral, as a monument to humanity and the universe both." To this Ann retorts: "We are not lords of the universe. We're one small part of it. We may be its consciousness, but being the consciousness of the universe does not mean turning it all into a mirror image of us. It means rather fitting into it as it is, and worshiping it with our attention."

More than three decades pass. It is 2061 and both Mars and Earth are in trouble. Mars has been transformed from a hostile land into commercially valuable real estate. Robinson leaves no aspect of the colonization untouched, detailing with relentless detail issues involving religion, physics, ecology, technology, city planning, and psychology. But terraforming, exploitation of mineral resources, and waves of immigration representing all ethnic groups, have split Mars into a welter of special interests and ideological subcolonies. The First Hundred, who have discovered a means of prolonging their life spans, have also fallen into ideological squabbles and dangerous confrontations. Earth, meanwhile, is mired down in global warfare, ecological disaster, population explosion, and multi-cultural chaos. Desperate hopes are pinned on Mars as the future of the human race, and the planet becomes involved in what can best be described as a colossal land grab.

Led by factions of the First Hundred, a planet-wide revolution breaks out on Mars. Acts of Greenpeace-style ecological terrorism, fomented by Arkady

and his followers, destroy Martian cities and their populations. The cataclysm culminates in a spectacular scene when the moon Phobos is destroyed by subversives in a remote-controlled blast. Frank Chalmers alone is Mars' last hope. Only he can forge a balance between the transnational opportunists from Earth and the utopian terrorists on Mars.

Red Mars ends on a note of desperation. The failure of the revolution of 2061 plunges the planet into a dark chaos. Some leaders among the Four Hundred are treacherously killed. Finally, a few survivors reach the southern polar cap where they find a strange underground city, a religious colony that has been secretly established by the biosphere specialist, Hiroko. "This is home," says Hiroko. "This is where we start again."

Green Mars, the second installment in the trilogy, has just been published this spring. It begins in 2090 in Hiroko's south-polar matriarchal sanctuary, two generations after the end of the first book. Although Survivors of the First Hundred like Sax Russell and Ann Claybourne continue to figure prominently in the action, it is clear that Robinson's real concerns lie now with the new generations, those who have been born on the planet, the real Martians. Since the failed revolution, Mars has again come under the control of Earth's neo-feudal metanational corporations. The ruined cities have been rebuilt, the terraforming resumed, and the plundering of Martian resources begun. Ann Claybourne, who again is the chief voice of protest against these activities, travels across the landscape and trembles with fury: "The planet was melting under her feet. Disintegrating. Reduced to mush in some Terran cartel's mining venture."

Ironically, her opponent, Sax Russell, who was responsible for much of the terraforming, watches in astonishment at the unexpected results of engineered and mutated plant life. Mars, in spite of human efforts, is somehow reasserting itself as Mars. This is a major theme underlying all the action of the book. As author Robinson comments in the Prologue,

Of course all the genetic templates for our new biota are Terran; the minds designing them are Terran; but the terrain is Martian. And terrain is a powerful genetic engineer, determining what flourishes and what doesn't, pushing along progressive differentiation, and thus the evolution of a new species. . . . This process, no matter how much we intervene in it, is essentially out of our control."

Sax himself becomes a metaphor for this kind of change. He will undergo a startling transformation in his own ideas and attitudes, even in his identity. . . .

Throughout Green Mars, events lead inexorably to a second revolution and a renewed confrontation with Earth itself. That story will be concluded in the third volume, Blue Mars, which will be published next year.

Robinson's project, two-thirds completed now, is a brilliant achievement. It is like nothing else I've read in the Martian literature; and I'll have to admit that it makes extraordinary, even sometimes daunting demands upon the reader. The two books can be extremely talky, driven more by character than by action, and are frequently preoccupied with descriptive passages expounding on subjects ranging from botany to geology to Jungian psychology to planetary motions. Diving into these narratives is no mere relaxation, or diversion, it's a

genuine experience, challenging, troubling, expanding. It establishes the kind of communion between reader and author that recalls an earlier age. Indeed, Robinson himself describes his trilogy as resembling a Victorian three-decker novel.

“Someone wrote a review and said it is a cross between *Lawrence of Arabia*, 2001, and *My Dinner with Andre*,” laughs the forty-four year old writer ruefully.

Robinson (“Stan” to his friends) first encountered the real Mars when he saw the photos from the Viking expeditions in 1977 and 1978. He was then a graduate student at the University of California, San Diego, where he was teaching freshman composition. After earning a Masters Degree from Boston University and a Doctorate from UC-San Diego, he began writing the novels and stories—*The Wild Shore*, *Pacific Edge*, *The Memory of Whiteness*, *Escape from Kathmandu*—that in the past decade have won him most of the prestigious awards in the field, the Nebula, Asimov, John W. Campbell, Locus, and World Fantasy Awards. Now he lives in Davis, California, with his wife, Lisa, an environmental chemist, and his five-year old son. Committed to the world around him—he’s a member of the Sierra Club and an ACLU supporter—he keeps his inner eye on the horizon of imagination. He is the very embodiment of the definition of science fiction writer offered by his friend and colleague, James Gunn: “Although science fiction writers may toy with time, putter about in the past, or transport themselves to alternate worlds, their real home is the future.”

Stan’s home is a kind of Martian outpost. It’s cluttered with Martian materials, ranging from a prized bookshelf of classics of science fiction (including his favorites, two of Burrough’s Mars

adventures, Bradbury’s *The Martian Chronicles*, Philip K. Dick’s *Martian Time-Slip*, and Frederik Pohl’s *Man Plus*), to NASA’s *Atlas of Mars*, stacks of *Science News* pamphlets, and a Martian globe. He regularly travels to Boulder, Colorado to attend a series of annual conferences collectively called “The Case for Mars.

“I do think that all science fiction writers eventually take on what I call the ‘other planet’ novel, specifically the Mars novel,” he says. “Until 1976 the most conscientious science science writers couldn’t really do it right, because they didn’t have the data from the Viking missions. So, now, we stand on the far side of a giant divide. On this side, we know so much about Mars—about what it looks like and its chemical constitution—that we can talk very specifically about what it would take to terraform it.

“A general scientific education is part of the job,” he continues. “This is what I find entertaining. There’s been too much shying away from this in some science fiction. Asimov was very instructive in this sense. He doesn’t fear to just dive off the edge and talk for fifty pages at a stretch about science. The novel is a very capacious form and it can handle a lot of information.

“That’s not to say that people like Burroughs were ignorant. I think even his fantastic narratives reflected the hard data people had of Mars at the time. In turn, his fantasies and others became inspirations for scientists like Von Braun. You know, there was a utopian novel by the Bolshevik, Bogdanov, called *Red Star*, that influenced the Russian rocket teams. Science fiction and planetary science have been feeding off each other for several generations.”

Readers accustomed to the bizarre

Martian aliens of the Burroughs, Stanley G. Weinbaum, and Leigh Brackett stories, are in for a shock. The First Hundred encounter no life forms at all on Mars. Nothing. Stan, who is fully aware of the disappointments this may engender among traditionalist readers, just shrugs his shoulders. “It seemed to me that finding no life at all was the obvious course to take. The scientific evidence is against it. For that matter, I don’t think we have a very good understanding of life anywhere! What dates previous Mars novels are those kinds of funky, bizarre life forms that we now know can’t live there. At best, what could live there is a fairly uninteresting early bacteria, or lichen. That in itself as a plot device won’t work. I thought it better to deal with Mars as a place where we start a new human world. If we do go there, we’ll drag along behind us our own cultural baggage. Some nations will try to produce an ideal version of their old national culture; others will try something new and radical. This will be grounds for a whole lot of conflict.”

Hard science and utopian visions jostle and spar in the first two books of the trilogy. So far, I find it difficult to pin Stan down in the pages as belonging to either camp, as either an optimist or pessimist, utopian or dystopian, idealist or pragmatist. The subject of terraforming, for example—a term coined by science fiction writer Jack Williamson in the late 1920s—finds him rather ambivalent. “Terraforming is a new idea in history,” explains Robinson. “You read the old philosophers and they don’t talk about it because the concept was outside of their experience. But since 1976 more and more scientists have actually started crunching numbers on what it would take to transform Mars into a liveable world. My characters Sax and Ann argue about

it, and I’m on the seesaw back and forth between the two. One of the things that made me take on the trilogy in the first place was that I can see validity in both arguments, depending on the mood I’m in. There’s a part of me that thinks it’s just a tremendous idea, that it’s almost a religious act, like building a cathedral; and there’s another part of me that thinks, by analogy, that if somebody wanted to change Death Valley like that, well, I’d be deeply offended. If you terraform it, you get a garden, a kind of “Disney Mars” that is artificial. You don’t have the wilderness any more, and wilderness is something I very much believe in.”

Regarding manned flights to Mars in the near future, Stan inclines to be pessimistic. “I think that NASA of late has been a very disorganized and rudderless organization. It has set the stage for its own failure by not properly defining what it wants to do with its program. I don’t think a projected Space Station is necessary for getting to Mars. If anything, it slows it down. I know there’s a lot of scientists and engineers in the aerospace industry that are frustrated by all this. A manned expedition is so far down the pipeline that it’s not even being talked about. But I have a feeling that a combination of forces might come together eventually with NASA—like the Japanese, who have already designed a Martian town, engineered down to the last detail, and the Russians, who have a tremendous amount of expertise in long-term space projects.”

Like all science fiction writers, Kim Stanley Robinson is convinced that in a very real sense, he has actually been to Mars. “Sure, all of us have been there already for centuries. It bears our names. Some names came from Schiaparelli’s first map. Some have since been drawn from the authors of science fiction books.

In my Mars trilogy I've invented place names of my own in honor of other writers about Mars, like 'Bradbury Point,' 'Burroughs,' and 'Clarke Asteroid.' I'd love it if some of these names eventually got adopted. They would be my own footprints on the sands of Mars."

Like his namesake, Robinson Crusoe, Stan has come to an alien place. But, unlike Crusoe, the footprints he discovers are his own.

At the conclusion of our interview, I throw him a fanciful question. What about the science fiction writers who someday will grow up on Mars; without Mars to write about, what will be their great subject? What will they write about?

Stan pauses just a moment. Then—"Earth, of course."

—John C. Tibbetts