

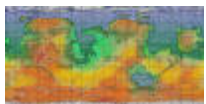
Extract from: Red Mars (1993) by Kim Stanley Robinson – reference: carbon

When you expect to live another two hundred years, you behave differently than when you expect to live only twenty.

This they proved almost immediately. John spent the winter there at Acheron, on the edge of the CO₂ fog cap that still descended over the north pole every winter, studying areobotany with Marina Tokareva and her lab group. He did this on Sax's instruction, and because he felt in no hurry to leave. Sax seemed to have forgotten about the search to find out who the saboteurs were, which made John a little suspicious; in his spare time he still made efforts through Pauline, concentrating on the areas he had been working on before Acheron; travel records mostly, and then employment records of all the people that had traveled to the areas where the sabotages had taken place. Presumably there were a lot of people involved, so individual travel records might not tell him much. But everyone on Mars had been sent there by an organization, and by checking which organizations had sent people to the relevant places, he hoped to get some indications. It was a messy business, and he had to rely on Pauline not only for statistics but advice, which was worrying.

The rest of the time he studied a branch of areobotany in which all the payoffs were at least decades away. Why not? He had the time, and might very well see the fruits of the work. So he watched Marina's group design a new tree, studying with them and doing their lab work, washing glassware and the like. The tree was designed to serve as the canopy of a multi-layered forest which they hoped to grow on the dunes of Vastitas Borealis. It was based on a sequoia genome, but they wanted trees even bigger than sequoias, perhaps two hundred meters tall, with a trunk fifty in diameter at the base. Their bark would stay frozen most of the time, and their broad leaves, which would probably look as if they had tobacco leaf disease, were going to be able to absorb the baseline dose of UV radiation without damage to their purplish undersides. At first John thought the trees' size was excessive, but Marina pointed out that they would be capable of taking in great quantities of **carbon** dioxide, fixing the **carbon** and transpiring the oxygen back into the air. And they were going to be quite a sight, or so they supposed; the actual shoots of the competing test prototypes were only ten meters tall, and it would be twenty years before the winners of the competition reached their mature heights. And right now all the prototypes still died in Mars jars; atmospheric conditions would have to change considerably before they would survive outdoors. Marina's lab was getting ahead of the game.

Annotations:



Trilogy map: www.xs4all.nl/~fwb/rgbmars.html **3** Acheron: location of Vlad's first genetic research center **5/6** Sax & John: see list of characters **9** sabotages (at moholes: holes bored through the earth's crust [Mohorovicic discontinuity] for geological research; in terraforming these holes are used to artificially heat the Martian atmosphere **14** areobotany: (Ares) Martian (botany) plant biology **17** Vastitas Borealis:

widespread lowlands on Mars (image at: www.marsunearthed.com/SelectedImages/139/139.htm)

List of characters:

- John Boone, an astronaut from Minnesota and the first man on Mars. Has natural leadership skills, which allows him to have an informal leadership role.
- Frank Chalmers, friend and contrast in character to John. Uses more diplomatic channels of gaining power. Head of the US group.
- Maya Toitovna, an emotional woman who is at the centre of a love triangle between Boone and Chalmers. Head of the Russians.
- Nadia Cherneshevsky, another Russian. A very good engineer.
- Arkady Bogdanov, Russian with red hair. A social architect, with anarchist leanings.
- Sax Russell, American physicist, who wants Mars terraformed as quickly as possible.
- Ann Clayborne, American geologist, wants Mars preserved in its current state.
- Hiroko Ai, Japanese expert on biological systems.
- Michel Duval, French psychologist.
- Desmond "the Coyote", the stowaway.

Review from Publishers Weekly

The first installment in Robinson's new trilogy is an action-packed and thoughtful tale of the exploration and settlement of Mars--riven by both personal and ideological conflicts--in the early 21st century. The official leaders of the "first hundred" (initial party of settlers) are American Frank Chalmers and Russian Maya Katarina Toitova, but subgroups break out under the informal guidance of popular favorites like the ebullient Arkady Nikoloyevich Bogdanov, who sets up a base on one of Mars's moons, and the enigmatic Hiroko, who establishes the planet's farm. As the group struggles to secure a foothold on the frigid, barren landscape, friction develops both on Mars and on Earth between those who advocate terraforming, or immediately altering Mars's natural environment to make it more habitable, and those who favor more study of the planet before changes are introduced. The success of the pioneers' venture brings additional settlers to Mars. All too soon, the first hundred find themselves outnumbered by newcomers and caught up in political problems as complex as any found on Earth.

Kim Stanley Robinson was born in 1952. A native Californian, Robinson traveled and worked in different parts of the world (including Washington, DC and some time in Switzerland with his wife, Lisa, an environmental chemist). He has settled in California.