Colonizing Mars – Triumph or Tragedy?

Optimism, Pessimism and the Image of Colonization in Kim Stanley Robinson's *Red Mars*

University of Tampere
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Risto Karttinen

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Tutkimuksessa analysoidaan yhdysvaltalaisen tieteiskirjailijan Kim Stanley Robinsonin romaania *Red Mars* (1992). Tavoitteena on selvittää, miten kirjassa yhdistyvät optimistiset ja pessimistiset näkemykset Marsin kolonisaatiosta. Optimismia käsitellään etupäässä teknologisen optimismin ja pessimismiä etupäässä ihmisiin liittyvän pessimismin kannalta, koska kirjassa näyttävät limittyvän toisaalta optimistinen suhtautuminen tieteen edistymiseen ja teknologian luotettavuuteen ja toisaalta pessimistisempi suhtautuminen ihmiskunnan kykyyn toimia tehokkaasti yhdessä Marsin asuttamisen kaltaisessa suuren luokan projektissa.

Taustamateriaalina käsitellään tieteiskirjallisuuden (science fictionin) optimistisuutta ja pessimistisyyttä kahdesta näkökulmasta. Ensinnäkin tutkiskellaan ns. kovan tieteen traditiota ja sille tyypillistä teknologiaoptimismia sekä sen vastavoimaksi ilmaantunutta ns. uutta aaltoa, jossa korostui mm. psykologisen ja yhteiskuntakriittisen aineksen osuus ja joka näytti jossain määrin pessimistiseltä. Toiseksi tutkiskellaan utopian ja dystopian käsitteitä, joiden voidaan myös ajatella edustavan tyypillistä tieteiskirjallisuuden optimismia ja pessimismiä, ja esitellään ns. kriittisen utopian käsite, jossa näyttää toteutuvan aidosti optimistinen pyrkimys. Näiden taustavaikutteiden ilmeneminen analysoitavassa kirjassa pyritään tuomaan esiin.

Teknologinen optimismi näkyy kirjassa mm. avaruuslentojen ja Marsissa tarvittavan rakennustekniikan kuvauksessa. Teknologian luotettavuus mahdollistaa myös henkisen hyvinvoinnin, kuten myönteisen uudisraivaaja-asenteen, tutkimusretkistä nauttimisen ja Marsissa asumisen utooppisen suunnittelun. Marsissa keksitään jopa keino ihmisiän pidentämiseen. Ihmisiin liittyvä pessimismi sen sijaan näkyy ihmisten välisenä eripuraisuutena. Riitaa syntyy mm. siitä, kannattaako Marsin pinnalla vallitsevia olosuhteita, kuten lämpötilaa, ilmanpainetta ja ilmakehän koostumusta, yrittää muuttaa maankaltaisemmiksi, jotta ihmisten toiminta planeetalla helpottuisi, vai pitäisikö tyytyä tutkimaan planeettaa ja suojella sitä muutoksilta. Toinen kiistakysymys koskee sitä, annetaanko Maasta lähtöisin olevien yhtiöiden harjoittaa Marsissa kaivostoimintaa ja siihen liittyvää vallankäyttöä, vai pitäisikö Marsissa asuville ihmisille taata oikeus päättää itse omista asioistaan. Konfliktit ovat sekä poliittisia että henkilökohtaisia; tämä tulee hyvin esiin, kun kahden johtohahmon henkilökohtainen kilpailutilanne kärjistyy ja johtaa siihen, että toinen heistä murhataan. Selvimmin teknologisen optimismin ja ihmisiin liittyvän pessimismin yhteisvaikutusta kirjassa näyttäisi edustavan ns. avaruushissi: verraton teknologinen taidonnäyte, joka kuitenkin romahtaa pian valmistumisensa jälkeen ihmisten välisten konfliktien seurauksena.

Avainsanoja: MARS, KOLONISAATIO, OPTIMISMI, PESSIMISMI, UTOPIA, TEKNOLOGIA, TIETEISKIRJALLISUUS (SCIENCE FICTION).

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1. Introduction

What will the colonization of Mars be like if it is to happen sometime in the not-too-distant future? Will it be a triumph of science and technology, showing the tenacity and resourcefulness of the human species? Or will the social and psychological complications involved turn it into something of a tragedy instead? This is one possible formulation of the central questions posed by Kim Stanley Robinson's *Red Mars*, a science-fiction novel that offers its readers a vividly imagined scenario of how things might go if humanity did land on Mars one day with colonizing intentions. It is also these questions that I intend to explore in this thesis. I will explain the topic of the thesis in more detail towards the end of this introduction after introducing the author and the novel and some underlying assumptions about science fiction first.

1.1. Kim Stanley Robinson and His Mars Books

Kim Stanley Robinson, born in 1952, is an American science-fiction writer, whose reputation is based on his Mars books. It was *Red Mars* (1992), followed by *Green Mars* (1993) and *Blue Mars* (1995), that established Robinson's reputation as a Mars specialist.[1] These books imagine a process of planetary engineering, known in science fiction and popular science as *terraforming*, whereby Mars is given an earthlike biosphere. It is the terraforming that is the clue to the titles: first the planet is red, or rusty, as today, then it becomes green, as of vegetation, and finally blue, as the Earth, because of ocean water. The three books are commonly viewed together as a trilogy, and as a whole

[1] Kim Stanley Robinson, Website, "Biography", 13 Sept. 2004, <www.kimstanleyrobinson.net>.

they portray the terraforming of Mars and the creation of a new, Martian kind of society and lifestyle.

Before the Mars books, K.S. Robinson wrote another trilogy, comprising *The Wild Shore* (1984), *The Gold Coast* (1988) and *Pacific Edge* (1990), which revealed his interest in utopian writing and ecological issues.[2] Through these books Robinson came to be seen as a counterweight to cyberpunk, i.e. writers inspired by William Gibson's *Neuromancer* (1984). Robinson was, according to John Clute, "the most conspicuously *non*-Cyberpunk writer to come out of the period [i.e. the mid-1980s]".[3] Clute explains:

> In a somewhat contrived attempt to contrast him to Cyberpunk writers, KSR [= Kim Stanley Robinson] has been described as a Humanist; he has himself disparaged as foolishly reductive this use of Humanism as a label. What in fact most characterizes the growing reach and power of his work is its cogent analysis and its disposal of such category thinking. He is at heart an explorer.[4]

From the start, then, Robinson seems to have been following his own creative path as an individual thinker, rather than adhering to fashionable themes, such as the virtual realities of cyberpunk, or, indeed, to any constricting "isms", such as humanism.

Red Mars received the Nebula Award in 1993 and was dubbed by Arthur C. Clarke "the best novel on the colonization of Mars that has ever been written".[5] Depicting the establishing of the first settlements on Mars and the start

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[2] John Clute, "Science Fiction from 1980 to the Present", *The Cambridge Companion to Science Fiction*, eds. Edward James and Farah Mendlesohn (Cambridge: Cambridge University Press, 2003) 73.
[3] Clute, "Science Fiction from 1980 to the Present" 73.
[4] John Clute, "Robinson, Kim Stanley", *The Encyclopedia of Science Fiction*, eds. John Clute and Peter Nicholls (London: Orbit, 1993) 1016.
[5] Kim Stanley Robinson, Website, "Archives" -> "Critics' Comments", 13 Sept. 2004, <www.kimstanleyrobinson.net>.

of the terraforming project, it explores the psychological and social dilemmas engendered by the scope and complexity of this unprecedented project.

The book opens with an intriguing Part One, titled “Festival Night”,[6] in which we get to see the opening festivities of a new tented city on Mars without knowing much about how the situation has come about. We see three characters of leadership status, named Frank Chalmers, John Boone and Maya Toitovna, give speeches to an audience in the open air, as it were, under the transparent, flexible dome, or “tent”, of the city, and we are let to know that Frank, from whose point of view the sequence is told, has become so resentful of John, his former friend, that he is actually planning to get rid of John by means of assassination.

With Part Two (*RM* 25-91), titled “The Voyage Out”, the book takes its readers back in time to show how it all started. The crew of the first hundred, for historical, political and economic reasons, consists of Americans and Russians and other nationalities invited by these two. The journey from Earth to Mars is viewed through the personal experiences of Maya, the leader of the Russian team. Worried about emerging disunitedness within the crew, she is further confused by being involved in something of a love triangle between Frank (the leader of the American team), herself and John (“the first man on Mars” i.e. the only person on board the *Ares* to have been on Mars before).

Part Three (*RM* 93-202), “The Crucible”, narrated from the point of view of Nadia Cherneshevsky, an amiable, hard-working construction engineer, is about the pleasures and hardships of building the first permanent habitat, with

[6] Kim Stanley Robinson, *Red Mars* (New York: Bantam Books, 1993) 1-23. Further references to this book will be given in the body of the text, indicated by the letters *RM*, followed by the relevant page number(s).

the appertaining infrastructure, such as a nuclear power plant and a greenhouse, and making the first expeditions on the surface of the planet.

Part Four (*RM* 203-230), “Homesick”, is an astute description of loneliness and mental problems as they might appear among the first settlers, showing us Michel Duval, the crew psychiatrist, who runs the risk of going insane himself.

From Part Five onwards, things on Mars get increasingly complicated. New settlers arrive, new cities are built all over the planet. New means of transportation come into being: apart from rovers and dirigibles, people can now use a railway line, connecting several cities, or the space elevator, which connects the surface of the planet to a station in orbit. New people means new interests: unlike many of the first hundred, who would like to have Mars reserved for scientific purposes, some of the newcomers only seem intent to use the planet for commercial purposes. Opinions differ about the pace and means of the terraforming project: a character named Ann Clayborne calls for maximum restraint and deliberation, while another, named Sax Russell, who has more power to make the decisions, is for maximum speed and effect. Power relations are about to change: UNOMA (a coined extension of the United Nations) seems to be losing power to transnational corporations. A group of intellectual individuals, led by a character named Hiroko Ai, decide to flee the frustrations of the situation altogether by establishing a hidden colony where they can pursue a life of their own on more rewarding terms. Part Five (*RM* 231-382), titled “Falling into History” as if to convey a sense of “making the same old mistakes”, is seen through the eyes and thoughts of John, before he is killed. Still enjoying a nominal leadership status, John tries to go on planning the future

of Mars even though he sees that it is getting impossible under the prevailing conditions.

Part Six (*RM* 383-470), “Guns under the Table”, shows us the efforts of Frank, after John’s death, to cope with the increasing difficulties of keeping what happens on the planet under some kind of control. Frank fails, and a series of violent events begins, conceptualized in the novel in terms of a revolution, though from the transnational point of view it is little more than a rebellion which needs to be quelled by violent means.

The book culminates in a disaster sequence, in which the messy confrontation of the revolutionaries and the transnationals is seen to destroy a major part of all that had been built on Mars. The space elevator is dropped, many cities are destroyed, and a gigantic flood is caused by a bomb which releases natural underground water reserves onto the surface. A sense of loss and futility is in the air: for example, in Part Seven (*RM* 471-534) – titled “Senzeni Na” after the name of a Japanese city, meaning “what have we done” (*RM* 240) – we see Nadia again, this time walking in one of the punctured cities and finding the corpse of Arkady Bogdanov, the leader of the revolution, with whom she had been romantically involved in earlier, more peaceful circumstances.

Part Eight (*RM* 535-572), being the final part of the book and titled “Shikata Ga Nai”, which is said to be Japanese for “there is no other choice” (*RM* 109), depicts the dangerous escape, barely ahead of the flood, of a bunch of central characters towards the hidden colony where they expect to find shelter. Tragically, the ruining of the landscape by the flood is witnessed

through the viewpoint of Ann, the character who was the most dedicated to keeping the planet's surface intact.

1.2. Science Fiction and Realism – a Starting-Point

There are two things about *Red Mars* that I take for granted in this thesis: firstly, that the novel is science fiction, and secondly, that it is written in a realistic idiom. In order to be able to rely on these conceptions later on, I wish to provide a brief explanation of them at this point.

The question that interests me here is not really whether *Red Mars* is science fiction or not. It is clear that the book has been published as science fiction. This is evident, for instance, from the illustrations on the front cover (picturing a futuristic spaceship approaching Mars from space, as well as helmeted, spacesuited figures at work around their habitats on Mars) and the back-cover blurbs. Even without the covers, we would be inclined to read the story as science fiction on the basis of even as little as the fact that it is set in the future and on another planet.

The interesting question is whether reading a work as science fiction entails reading it with another kind of conceptual framework than if it were a text of general literature. It would hardly be possible to appreciate the merits of a work *as* science fiction if we did not have at least some kind of idea of what it is that separates science fiction from general literature, or from other kinds of imaginative fiction, such as fantasy.

A relatively lucid and up-to-date account of what science fiction "is" can be found in Adam Roberts's book on the subject. Being "a fiction of the imagination rather than observed reality", science fiction gives its authors

permission to "invent things not found in our world".[7] This sets it apart from realist fiction, which can be said to aim at "a literary verisimilitude that reproduces the experience of living in the world we recognize as ours".[8] Science fiction can thus be seen as "a literature of ideas predicated on some substantive difference or differences between the world described and the world in which readers actually live".[9]

Roberts uses the term *point of difference* to refer to those features of a science-fiction text that make the world depicted substantially different from the empirical world. Identifying the point of difference is part of our recognition of a text as science fiction. In the case of *Red Mars* we can say that the point of difference is that the novel presents a world in which humanity has set foot on Mars with colonizing intentions. As this is something that has never yet happened in the real world, we are intrigued by the sense of difference that such fiction conveys.

Another term that is often used for the same purpose is Darko Suvin's *novum*. Suvin argues that science fiction "is distinguished by the narrative dominance or hegemony of a fictional 'novum' (novelty, innovation) validated by cognitive logic".[10] Roberts cites Suvin, who is one of the theoreticians on whose views his own view is based, and mentions that Suvin defines science fiction in terms of *estrangement* and *cognition*. Estrangement, as a term used in this context, means that science fiction seeks to depict items "that we recognize as different […] from the familiar and everyday".[11] Recognizing the role of

[7] Adam Roberts, *Science Fiction* (London: Routledge, 2000) 1, 2.
[8] Roberts 2.
[9] Roberts 3.
[10] Darko Suvin, *Metamorphoses of Science Fiction: On the Poetics and History of a Literary Genre* (London: Yale University Press, 1979) 63.
[11] Roberts 8.

cognition, on the other hand, is a way of pointing to the fact that science fiction not only portrays things as different and strange, but "prompts us to try and understand" the things depicted despite their strangeness.[12]

Thus, the motivation behind adopting the science-fictional way of writing (e.g. depicting the colonization of Mars instead of some more down-to-earth subject) is not only that it is delightful for a change to do something differently (e.g. to portray life on Mars instead of life on Earth), but also that depicting something different offers fresh insights into the familiar. We can argue, for instance, that imagining how people would live on Mars enables us to visualize more clearly what it is that constitutes our humanness, since our vision in such a case is usefully distanced from the usual necessities of life on Earth.

According to Suvin, science fiction is both estranged and cognitive. Fantasy, on the other hand, is also estranged, but non-cognitive.[13] This means that the novum of science fiction is – or at least should be, in an ideal case – validated by cognitive (rational, as-if-scientific) logic, while the worlds of fantasy texts can only be explained in non-cognitive (magical, supernatural) ways. Brian Stableford formulates a useful rule of thumb by saying that the stories of fantasy "are set in imaginary worlds which resemble periods of our own past save for the fact that magic works".[14] Stableford mentions (as many others have done) *The Lord of the Rings* (1955) by J.R.R. Tolkien as a classic example of fantasy.

Roberts illustrates the distinctiveness of science fiction from other kinds of imaginative fiction by contrasting Franz Kafka's *Metamorphosis* (1915) to Ian Watson's *The Jonah Kit* (1975). In Kafka's text, the transformation of a man into a bug is "literally inexplicable, a physical impossibility"; Watson's text, however,

[12] Roberts 8.
[13] Suvin 20.
[14] Brian Stableford, *The Way to Write Science Fiction* (London: Elm Tree Books, 1989) 5.

"involves a new technology that maps the brainwave patterns of a human onto the mind of a whale" so that the "metamorphosis of man into whale [...] is placed in a context of scientific research and is given a particular rationalisation, an explanation for how it has come about".[15] It seems that "the premise of an SF novel requires material, physical rationalisation, rather than a supernatural or arbitrary one"[16] – i.e. supernatural as in fantasy, or arbitrary as in Kafka's *Metamorphosis*. Therefore, even without any knowledge of the two texts' different social and historical contexts, Watson's text would typically be read as science fiction, while Kafka's would not.

Roberts quite importantly mentions that while the typical materialism of science fiction is often "rooted in a 'scientific' outlook", just as often it is "not, strictly speaking, scientific".[17] *Pseudo-science* is a useful term for this phenomenon, meaning "some device outside the boundaries of science that is none the less rationalised in the *style* of scientific discourse".[18] Thus, "the point about the science in SF is not 'truth' but the entry into a particular, material and often rational discourse".[19]

We could thus perhaps locate the charm of science fiction in the *sense of meaningful difference* (my term) that it conveys: a science-fictional world is a world that is not there yet (and perhaps never will be) but *could* be (because it is made to seem plausible by the fiction). Thus, for instance, when *Red Mars* declares, "And so we came here" (*RM* 3, 4), Robinson lets his readers understand that he is going to take it for granted that human beings have

[15] Roberts 4.
[16] Roberts 5. *SF*, either in capital or small letters, is the most commonly used and the most widely accepted abbreviation of *science fiction*.
[17] Roberts 5.
[18] Roberts 8.
[19] Roberts 9.

already arrived on Mars, and that he intends to show us what might happen if it were true.

Red Mars has been widely acclaimed for its realism. Chris Galtenberg, for instance, calls it "challenging, intelligent fiction, wholly realistic and profoundly humane".[20] There are at least three ways in which the word *realistic* can be used to describe the novel. Firstly, the novel takes as its starting-point Mars as it is known by current science, i.e. dry, cold and lifeless. This reveals the novel's affiliations with the so-called hard science tradition. Secondly, *Red Mars* is realistic in the sense that it has convincing characterization and psychological insight. Depicting the events from the point of view of six different viewpoint characters (cf. 1.1), the book allows us intimate access to the experiences of each. Arguably, this enhances the book's literary quality. Thirdly, the style of the description is often detailed and unpretentious, as if designed to convey a sense of first-hand experience.

Since the idea of science fiction as a realistic kind of writing might be somewhat counterintuitive, I find it necessary to offer a brief explanation here. The easiest way to explain this is to say that even though the events depicted in science fiction are always to some extent imaginative and set apart from the realities of the world, the *style* of the writing can still be realistic. Many critics have paid attention to this. Anthony Easthope, for instance, points out that it is a common textual stratagem of science fiction *not* to emphasize, verbally, the strangeness of the events depicted: often, instead, "the unfamiliar outlines of another world are experienced as practical, everyday knowledge".[21] He

[20] Chris Galtenberg, Review, 1 Sept. 2002, <www.gosh.ex.ac.uk/~cs99jdc/reviewredmars.html>.
[21] Anthony Easthope, "The Personal and the Political in Utopian Science Fiction", *Science Fiction, Social Conflict and War*, ed. Philip John Davies (Manchester: Manchester University Press, 1990) 61.

highlights this by saying that “once the premiss about a setting in the future is granted, much of the rest follows as it would in George Eliot” – i.e. in the conventional narrative style of socially realistic prose fiction.[22]

Adam Roberts offers an interesting explanation for this phenomenon. Roberts suggests that science fiction could usefully be viewed as a particular kind of symbolism. He points to the fact that many of the points of difference used in science fiction are not in fact new inventions but “stock themes and situations”, or “tropes”; various kinds of spaceships, aliens and robots are among the most typical examples.[23] He contends that these are in fact “a supple and wide-referencing body of material *symbols*”.[24] What is specific about science fiction’s symbolism is that “the symbol is drained of transcendental or metaphysical aura and relocated back in the material world”.[25] This is where the realism sets in: “Science fiction is symbolic, but it usually adopts the *realist* mode of an accumulation of detail, rather than the poetic and lyrical method of a writer like [Virginia] Woolf”.[26] As a result, science fiction can be viewed as a genre that “reconfigures symbolism for our materialist age”.[27]

So, if we want to accept Roberts’s explanation, we can acknowledge the role of realism in science fiction by saying that realistic description is widely used as a stylistic device in science fiction because it enables the genre’s symbolist and materialist aspirations to be united. In fact, the first two pages of *Red Mars* could be read as a literary evocation of the same idea. “It had been a power; now it became a place” (*RM* 3); in other words, when people start to

[22] Easthope 55.
[23] Roberts 14-15.
[24] Roberts 17.
[25] Roberts 17.
[26] Roberts 18.
[27] Roberts 18.

walk around on Mars (as happens in science fiction), the planet will cease to be merely a symbol – the name of an ancient god, a reddish dot in the sky – and it will become something concrete and material instead: a place to walk in.

1.3. Optimism, Pessimism and the Image of Colonization

A search of the MLA database reveals that Robinson's Mars trilogy has most often been treated in criticism as an example of utopian writing, and that *Red Mars* has normally only been viewed in the context of the trilogy as a whole.[28] My decision to deal with *Red Mars* specifically, instead of the whole trilogy, is motivated, among other things, by a desire to show that there is plenty to study in *Red Mars* in its own right.

My interest in the novel is grounded on the way it combines optimistic and pessimistic attitudes in portraying the colonization of Mars. It seems to me that the novel is strongly optimistic about the advance of science and the reliability of technology, while it is also intriguingly pessimistic about humanity's chances to cooperate, without falling into dispute, in such a large-scale project as the colonization of Mars. It is as though the book wanted us to believe that the technological feat of colonizing Mars will be relatively easy, while the psychological and social problems involved will not be as easily dismissed.

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[28] In the database I found the following titles: William **Dynes**, "Multiple Perspectives in Kim Stanley Robinson's Mars Series", *Extrapolation*, 42.2 (2001): 150-164; Fredric **Jameson**, "'If I Find One Good City I Will Spare the Man': Realism and Utopia in Kim Stanley Robinson's Mars Trilogy", *Learning from Other Worlds: Estrangement, Cognition, and the Politics of Science Fiction and Utopia*, ed. Patrick Parrinder (Liverpool: Liverpool University Press, 2001) 208-232; Robert **Markley**, "Falling into Theory: Simulation, Terraformation, and Eco-Economics in Kim Stanley Robinson's Martian Trilogy", *Modern Fiction Studies*, 43.3 (1997): 773-799; Carol **Franko**, "The Density of Utopian Destiny in Robinson's *Red Mars*", *Extrapolation*, 38.1 (1997): 57-65. Of these, only Markley's text was available to me in this study. Another critical article that discusses the Mars trilogy and *has* been available to me is Walter Benn **Michaels**, "Political Science Fictions", *New Literary History*, 31.4 (2000): 649-664.

My research question is: how do the technological optimism and the human-related pessimism interact in the book, and what kind of image does this interaction of optimistic and pessimistic tendencies create of the colonization of Mars?

My motivation for using the optimism/pessimism approach lies in the conviction that this way one can get to the essential tension of the novel and hopefully rediscover some of its original interest that may have been forgotten by the kind of criticism focusing on the novel's part-of-trilogy status. Though the terms optimism and pessimism may be somewhat naive and imprecise as such, this should not be a problem since I only use these words as umbrella terms for several related issues which can be defined in more precise terms. Provisionally, we can define optimism as a belief, or hope, that good things will happen; pessimism, as a belief, or fear, that bad things will happen.

My analysis of the optimistic and pessimistic tendencies of *Red Mars* and their interaction will be presented in section 3. As background to my analysis I will explore the question of optimism and pessimism in science fiction (section 2). Section 2.1 is about the hard science tradition and the new wave, which have been seen by many as typical representatives of science-fictional optimism and pessimism, respectively. Section 2.2 is about utopia and dystopia, a pair of concepts that immediately seems relevant. *Utopia* might be initially defined as a depiction of a future world which is better than our present world in some significant ways; *dystopia*, as a depiction of a future world which is worse than ours. It thus seems that to write utopia, i.e. to imagine a better future, is to assume an optimistic attitude to humanity's prospects, while dystopias reveal a

more pessimistic attitude. Of course, the situation is not really as clear-cut as such a brief outline might suggest, and I will try to take that into account.

I have chosen a genre-related background (science fiction and its attitudes) over a more explicitly thematic one (such as the discussion of colonialism in postcolonial studies) mainly because it seems to me that science fiction should be read, first and foremost, *as* science fiction, i.e. with tools applicable to the specifics of the genre, rather than using theoretical positions which have been formed within general literary criticism, and which generally pay no attention to science fiction whatsoever. Consequently, it seems to me that the theme of interplanetary colonization (of which the colonization of Mars is an important subtheme) should be viewed as a special case of colonization that is not quite reducible to the examples of terrestrial colonialism although it is certainly connected with them. In other words, we might think of interplanetary colonization as an imaginary notion that expands the horizons of colonization beyond its terrestrial-historical examples. Writers may find such a widened perspective inspiring: according to Brian Stableford, imagining the colonization of other worlds has inspired science-fiction writers to produce "stories of genocide, slavery and exploitation" that "are the harshest critiques of human behaviour found in US sf".[29]

How are we, then, to understand the concept of colonization in the context of Mars? First of all, the word *colony*, in its primary meanings, can be understood as

> (1) 'a body of people who settle in a country distant from their homeland but maintain ties with it'
> (2) 'the community formed by such settlers'

[29] Brian Stableford, "Colonization of Other Worlds", *The Encyclopedia of Science Fiction*, eds. John Clute and Peter Nicholls (London: Orbit, 1993) 244.

> (3) 'a subject territory occupied by a settlement from the ruling state'.[30]

Consequently, the people establishing and inhabiting a colony can be called *colonists*, and to *colonize* means

> (1) 'to send colonists to or establish a colony in (an area)'
> (2) 'to settle in (an area) as colonists'
> (3) 'to transform (a community, etc.) into a colony'.[31]

We can see that definitions (1) and (2) of *colonize* are related to definitions (1) and (2) of *colony*, respectively: these definitions refer to the acquisition of new territory and to the establishing of settlements in the acquired territory. Definition (3) of each word, on the other hand, acknowledges that the acquisition of territory entails the subordination of the people who used to live there before. *Colonization* is, according to Ania Loomba, "the take over of territory, appropriation of material resources, exploitation of labour and interference with political and cultural structures of another territory or nation"[32] – this description illustrates the complexity of colonial situations. *Colonialism* can be thought of as the complex of methods and attitudes that enables colonization to take place: it is "the policy and practice of a power in extending control over weaker peoples and areas",[33] centring around "the conquest and control of other people's land and goods".[34]

The colonization of Mars, then, can be understood, at its simplest, as a process whereby people are sent to Mars to establish colonies (settlements) on the planet and to live in them on a permanent basis while also keeping in touch with the people and institutions on the Earth that sent them there. In *Red Mars*,

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[30] "Colony", def. 1-3, *Collins Concise Dictionary*, 4th ed., 1999.
[31] "Colonize", def. 1-3, *Collins Concise Dictionary*, 4th ed., 1999.
[32] Ania Loomba, *Colonialism/Postcolonialism* (London: Routledge, 1998) 6.
[33] "Colonialism", *Collins Concise Dictionary*, 4th ed., 1999.
[34] Loomba 2.

because of the realistic commitments of the fiction, there are no native Martians to resist colonization. Therefore, the colonization of Mars as it takes place in *Red Mars* is initially only a conquest of empty terrain – exemplifying senses (1) and (2) of *colonize* as stated above. This sets it somewhat apart from terrestrial colonialism (and of the main bulk of interplanetary colonization, depicting imaginary inhabited planets), in which a subordination of indigenous peoples and wildlife has nearly always been part of the picture – as is implicit in sense (3) of *colonize* and explicit in the above-mentioned definitions of *colonization* and *colonialism*. Walter Benn Michaels makes a similar point when he writes: "The colonization of Mars (unlike the colonization of the Americas, or of Australia or of Africa) really is the colonization of an empty space".[35]

The lack of indigenous life on Mars does not necessarily mean that colonizing Mars would be easy: because of the spaceflights and life-support systems involved, such a project presents a high degree of technical difficulty. According to Stableford, science-fictional portrayals of colonization are often "celebrations of the heroism of colonists fighting tremendous odds to tame hostile environments".[36] Also, when the project proceeds, Earth/Mars relationships are sure to complicate the picture: the Martian colonists, being further away from homeland than any of their earthly colleagues, must decide how much allegiance to Earth, or freedom from it, their position can afford. This is a situation in which historical analogies can play a significant role: in American science fiction, for instance, "the War of Independence has frequently been refought".[37]

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[35] Michaels 659.
[36] Stableford, "Colonization of Other Worlds" 245.
[37] Stableford, "Colonization of Other Worlds" 244.

In reading the colonization of Mars, then, we can pay attention either to the *specificity* of the Martian context or to its *analogical* potential. In other words, we can either view the colonization of Mars as a celebration of science fiction's capability of presenting conceptual novelty, i.e. of depicting something inherently new and different, something *unforeseen*, or we can argue that even the depictions of radical newness are only meaningful insofar as they can be measured against the social and historical circumstances of their writers and readers. This dialectic relationship comes down, in fact, to the same thing as the relationship of estrangement and cognition in science fiction (cf. 1.2). To emphasize the unforeseen qualities of Martian colonization is to pay attention to the estranging potential of science fiction. To emphasize the links of this science-fictional theme to terrestrial-historical analogies, on the other hand, is to pay attention to the necessity of cognitive validation inherent in the genre. In my analysis of *Red Mars* I will attempt to acknowledge both aspects insofar as they appear in the book in the context of its optimistic and pessimistic tendencies.

2. Two Approaches to the Question of Optimism and Pessimism in Science Fiction

2.1. The Hard Science Tradition and the Influence of the New Wave

The hard science tradition can be initially defined as the kind of science fiction that takes its inspiration from the hard sciences, e.g. physics and astronomy. Ideally, this kind of writing aspires to speculate on the new possibilities opened up by scientific discoveries. The most successful writers to have specialized in this kind of writing include Robert Heinlein, Isaac Asimov and Arthur C. Clarke. The new wave, on the other hand, is a phenomenon of the 1960s that challenged the conventional kind of science fiction and injected previously neglected subjects into the genre. Writers such as Brian Aldiss, J.G. Ballard and Harlan Ellison were among its most prominent representatives. The aim of this section is not to offer a comprehensive coverage of these two types of writing as such; rather, this section aims to illustrate how these two phenomena have come to represent typical poles of science-fictional optimism and pessimism.

2.1.1. Bainbridge's Dimensions

William Bainbridge has studied the subgenres within science fiction from the point of view of expert readers' intuitive understanding. He presented a large number of fans at a convention with a questionnaire, asking them to grade science-fiction authors, themes, story types, etc., according to how much they liked them.[38] Convinced that when enough readers happened to like similar groups of authors, that would show the distinctions between types of science

[38] William Bainbridge, *Dimensions of Science Fiction* (Cambridge, Massachusetts: Harvard University Press, 1986) 21. The convention was the Iguanacon World Science Fiction Convention held in Phoenix, Arizona, USA, in 1978, and there were 595 respondents.

fiction in the readers' minds, Bainbridge proceeded to put together an interesting analysis – a "quantitative analysis of the ideological structure of science fiction", as he calls it.[39]

It should be pointed out that there is no reason to doubt the soundness of such an analysis; in fact, it lies on a sound theoretical basis. Tommi Nieminen, for instance, acknowledges the value of Bainbridge's efforts to show what science fiction is typically like.[40] Nieminen's conception of genre is based on the idea that genre is a semiotic concept that manifests itself as a social institution.[41] This means that a genre is a flexible system that functions to serve real-life communication among the people involved – readers, writers, publishers, booksellers, filmmakers, advertizers, critics, etc. – and therefore, while every genre does have certain prototypical texts that a majority of the people involved can agree on, it does not have any rigid boundaries that could be established by logical deduction alone. Readerly intuition may therefore be at least as valuable a source of information on genres as scholarly analysis.

The results of Bainbridge's study, as he interprets them, reveal "three ideological dimensions", or "factions", each of which "represents one kind of intensification or unfolding of a shared overarching SF ideology".[42] He summarizes the aspirations of the three dimensions as follows:

> Reduced to their essential critiques of modern society, the three ideologies point in three different directions. Hard science urges the creation of a galactic utopia through progress in technology and the physical sciences. The new wave cautions against such optimism and demands the transformation of the contemporary dystopia through revolutions in psychological sensibility and social awareness. The fantasy cluster despairs of changing our world for

[39] Bainbridge 219.
[40] Tommi Nieminen, *Kohti lukijan genrejä: Johdatusta semioottiseen lajiteoriaan* (Tampere: Tampereen yliopiston julkaisuja, 1996) 45.
[41] Nieminen 35.
[42] Bainbridge 219.

> the better and retreats into dreams about worlds which never can be achieved.[43]

This summary has interesting implications for reading *Red Mars*. The book can certainly be thought of as hard science fiction – it epitomizes and revitalizes some of the best tropes of the hard science tradition ("progress in technology and the physical sciences" clearly being responsible for much of the plot) – but it also integrates some of the new-wave concerns (definitely making the case for "psychological sensibility and social awareness") and even offers glimpses of an essentially fantastic, dream-driven way of looking at things (e.g. the mysticism of Hiroko's group, as experienced by depressed Michel who finds relief in joining it; *RM* 227-230).

Bainbridge believes in the power of science fiction as *enlightenment* – fiction engaging us in deep thought experiments concerning the future of our own species:

> The questions posed by science fiction and the answers it suggests are of crucial importance for contemporary society. Shall we develop technology and the physical sciences aggressively? Shall we gain more profound aesthetic, psychological, and sociological understanding of the human condition? Shall we supplement an inevitably drab reality with whimsy, thrills, chills, and romance?[44]

While acknowledging the charm of the three dimensions as individual alternatives, he stresses the importance of their interrelation:

> Stated in this way, the ideological premises of hard science, new wave, and fantasy are compatible. We can answer 'Yes!' to each question, without contradiction. [...] The starships of the future will need crews and colonists thoroughly trained in the physical sciences. Yet they also will need deep human understanding based on artistic insight as much as on social science to create a way of life worth spreading across the cosmos. And, since the real world will always fall short of the ideal, humans need wild dreams

[43] Bainbridge 219-220.
[44] Bainbridge 220.

> and fantastic imagination. Together the three ideologies of science fiction point toward a utopian, cosmopolitan future.[45]

On a more philosophical level, Bainbridge seems to be of the opinion that the main attraction of science fiction – its most important merit, its *raison d'être* – lies in its capacity for *transcendence*: "The three main ideologies of science fiction are really three general dimensions of transcendence. Each tells the reader how to rise above the mundane problems of material existence."[46] This enables him to review the specific merits of each type somewhat more profoundly. Thus the driving force behind the hard science tradition, as Bainbridge sees it, seems to be the joy of mastering the physical environment:

> The hard science dimension reaches toward perfect rationality, control, understanding of existence in terms of mechanisms and predictable forces. It is oriented toward the external world, toward mastery of the physical environment. Critics may see the hard science approach as heartless, soulless, and reductionist, yet its proponents write with great optimism and spirit. They find hope and transcendence [i.e. the ability "to rise above the mundane problems of material existence"] in the human capacity to think clearly and to create by shaping material things.[47]

The significant merits of the new wave, on the other hand, can be identified in the psychological exploration and social criticism it offers:

> The new wave represents a dimension of inner space, psychological and literary sensitivity, communication with the hidden self, and interaction between personalities. In one direction, this is a dimension of extreme intimacy. But many authors have explored the opposite direction of estrangement, alienation, opposition, and radical political contradiction.[48]

Finally, the fantasy cluster also has its *raison d'être*:

> A cluster of various impossible worlds, fantasy is also the dimension of aesthetics and free imagination. Although its fictional worlds cannot be attained and its characters cannot be emulated, it is not wholly escapist. The magic by which fantasy lives is, after

[45] Bainbridge 220.
[46] Bainbridge 220.
[47] Bainbridge 221.
[48] Bainbridge 221.

> all, magic created by the author. [...] Like religion, which also rests upon supernatural assumptions, fantasy is born in the human capacity to postulate ideal worlds, gods, and demigods. In spinning beautiful tales for each other, we decorate our cultural habitat and embellish lives that otherwise would be excruciatingly dull.[49]

2.1.2. The Hard Science Tradition and Its Technological Optimism

It is not entirely clear what should count as the "hard" kind of science fiction. As Kathryn Cramer has pointed out, there is disagreement among authors who claim to be writing hard science fiction as to what it is or should be.[50] As a result, identifying the type can be a matter of "knowing it when we see it" – if we accept that there is no need to specify the boundaries of the type in any great detail – or it can become a matter of heated debate, "a contentious conversation in constant flux".[51] It seems to me that the matter is not, however, as complicated as that. The problem, if there is one, comes down to the fact that there seem to be two competing ways to define the type.

On the one hand, hard science fiction is said to be the kind of science fiction that is the most committed to presenting its innovations in a scientifically plausible way. According to this view, it is simply "the most science-oriented sf", as Cramer puts it; in other words, "a work of sf is hard sf if a relationship to and knowledge of science and technology is central to the work".[52] Similarly, Peter Nicholls cites the following suggestion by Allen Steele from 1992: "Hard sf is the

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[49] Bainbridge 221.
[50] Kathryn Cramer, "Hard Science Fiction", *The Cambridge Companion to Science Fiction*, eds. Edward James and Farah Mendlesohn (Cambridge: Cambridge University Press, 2003) 187.
[51] Cramer 186, 187.
[52] Cramer 186, 187.

form of imaginative literature that uses either established or carefully extrapolated science as its backbone."[53]

The problem with this view is that, arguably, a commitment to some kind of science – at least, to a spirit of scientific enquiry – is characteristic of *all* good science fiction, and not only the "hard" type. Another fact that must be acknowledged is that hard science fiction is known to include a lot of pseudo-science as well; superman stories, for instance, hardly revolve around "either established or carefully extrapolated science", yet they are thought to belong to the type, as pointed out by Nicholls.[54]

On the other hand, hard science fiction can be seen as the kind of science fiction that takes it inspiration from the so-called hard sciences – astronomy, physics, geology, biology, chemistry, medicine. It is thus notionally opposite to the kind of science fiction that takes its inspiration from the so-called soft sciences – psychology, sociology, anthropology, etc. It seems to me that this must be viewed as the distinguishing characteristic of the type. This seems to be Nicholls's recommendation as well, as he writes: "The commonly used distinction between hard and soft sciences runs parallel to that between hard and soft sf."[55] It is best, perhaps, to view the seriousness of the science merely as an additional criterion to determine how well a particular text corresponds to the ideal of the type. Thus, while the more serious kind of hard science fiction has its merits in the truthfulness of the science, the more pseudo-scientific kind of text relies merely on the convincingness of its rationalizing discourse instead.

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[53] Peter Nicholls, "Hard Sf", *The Encyclopedia of Science Fiction*, eds. John Clute and Peter Nicholls (London: Orbit, 1993) 542. "Extrapolated science" can be understood as an attempt to predict scientific developments on the basis of currently accepted facts.
[54] Nicholls, "Hard Sf" 542.
[55] Nicholls, "Hard Sf" 542.

Accepted impossibilities are thus an important factor contributing to the tradition. Nicholls writes: “Hard sf should not […] wilfully ignore or break down scientific principles, yet stories classified as ‘hard sf’ often contain, for example, ESP [= extra-sensory perception, e.g. telepathy], superman, faster-than-light and time-travel themes”.[56] Bainbridge explains:

> In stories about time travel and about interstellar travel, hard science transcends its own self-imposed limitations. While holding fast to the value of rationality and demanding that even the wildest events have reasonable explanations, it breaks through the bonds of the ordinary. These stories revolve around rational consideration of radical physical possibilities.[57]

As one might expect, using the hard-science approach is a challenging task for the writer. Not only is the subgenre full of conventional wisdom that a writer should take into account, but it may also be increasingly difficult for a writer to find any truly original new ideas. Bainbridge explains:

> The hard science ideology suffers from a basic contradiction. On the one hand, it tries to adhere to current scientific knowledge to make the stories plausible. On the other hand, it wishes to accomplish feats far beyond the capacity of current technology to maximize the characters’ scope for action. Thus it is both rational and optimistic, but often these two values conflict.[58]

What, then, is the motivation, or justification, behind adopting the hard-science approach? Bainbridge seems to locate it in the hopes and dreams that this kind of writing offers:

> In human terms, the universe charted by astronomers seems cold and empty. It is hard in this demythologized age for people to see the promise of future civilizations or personal destinies in the skies, let alone the traditional heaven. Yet hard science SF fills the universe with hope and excitement, imagining possibilities that go far beyond the data of scientists and the limited assumptions of mundane citizens. Though loyal to fact and logic, this variety of science fiction dares to dream great dreams.[59]

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[56] Nicholls, “Hard Sf” 542.
[57] Bainbridge 83.
[58] Bainbridge 78.
[59] Bainbridge 83.

Seen in this way, the typical optimism of the hard science tradition is based on the idea that the advance of science and technology has the capacity to make life happier for human beings. This is, one might say, a somewhat naive idea, and while it can be regarded as the typical ideal of the hard science tradition, individual writers can, of course, decide to go against the grain. In difficult times, a happy optimism is easily disdained, as happened in American science fiction after World War II: "After the advent of the Bomb […] it was no longer possible to see the applications of science as an unmixed blessing".[60]

Even Isaac Asimov, a well-known hard-science advocate, who defines science fiction as "that branch of literature that deals with human responses to changes in the level of science and technology" and thinks that the worlds of science fiction "could, conceivably, be derived from our own by appropriate changes in the level of science and technology", acknowledges that these changes may be retrogressions as well as advances.[61] Further, he writes:

> Consequently, while some looked forward to the advance of science and technology as the means by which a Utopia might be produced on the Earth, others feared the consequences of change and foresaw nightmare. From the beginning, then, science fiction has swung between the two poles of optimism and pessimism.[62]

As Cramer points out, the hard science tradition started undistinguished from science fiction as a whole.[63] Its idealized attitudes therefore go back to the 1940s and 50s, when writers tended to pay close attention to the science they depicted (many of them worked under the influence of magazine editor John W. Campbell Jr., who, according to Nicholls,

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[60] Peter Nicholls, "Optimism and Pessimism", *The Encyclopedia of Science Fiction*, eds. John Clute and Peter Nicholls (London: Orbit, 1993) 891.
[61] Isaac Asimov, *Asimov on Science Fiction* (New York: Granada, 1983) 18, 22.
[62] Asimov 105.
[63] Cramer 186.

"normally required a constructive attitude towards science from his contributors"), and even to the so-called pulp magazines of the 1920s and 30s, which, according to Nicholls, generally encouraged an optimistic attitude to the depiction of future technologies.[64] Both Cramer and Bainbridge refer to Hal Clement's *Mission of Gravity* (1953) as a classic hard-science novel: it depicts a planet on which the force of gravity is much greater in polar than equatorial regions and shows how life on that planet must have adapted to these circumstances.[65]

Despite some doubts, the hard science tradition has not died out. Cramer writes that "in 2003, hard sf is in wonderful shape".[66] Among the fashionable themes that serve well to provide writers with new material she counts communication technologies, information sciences, biological sciences and astronomy. Renewed interest in astronomy is due to the fact that "hard sf has digested the more disheartening findings of planetary exploration, and has begun to appreciate the planets as they actually are".[67] Apart from Kim Stanley Robinson's books, Cramer mentions that Mars exploration books were being written round the same time by others as well – Greg Bear, Ben Bova, Geoffrey A. Landis – and concludes: "New tales of planetary exploration are characteristic of the revival of hard sf in North America in the 1990s."[68]

[64] Nicholls, "Optimism and Pessimism" 891.
[65] Cramer 188, Bainbridge 64-66.
[66] Cramer 191.
[67] Cramer 191.
[68] Cramer 192.

2.1.3. The New Wave and Its Human-Centred, Socially Critical Attitudes

Historical Circumstances

It was a magazine called *New Worlds* that became the starting-point of the original British new wave when Michael Moorcock took over the editorship in 1964, intending "to publish a more ambitious and flexible kind of science fiction which would no longer subscribe to the narrative conventions established in American 'pulp' magazines".[69] The magazine included fiction by Brian W. Aldiss, J.G. Ballard and Michael Moorcock, and also others such as D.M. Thomas and the Americans Thomas M. Disch and Norman Spinrad, and the movement was "called 'New Wave science fiction' by friends and enemies alike".[70]

Colin Greenland identifies three social-historical factors that influenced the phenomenon: (1) the generation gap, counter-culture and youth revolution, (2) mind-altering drugs, and (3) the rise and fall of the hippie movement.[71]

According to Greenland, the American new wave came into being after the British one so that the Americans "quickly identified a 'New Wave' formula" and "took *NW* [the British magazine] as a model to be emulated".[72] Thus the Americans came to be concerned about the new wave as a product, a type of story, instead of a process, as seen by Moorcock, of trying to find an individual approach to writing science fiction.[73] Harlan Ellison, for instance, "took the line

[69] Colin Greenland, *The Entropy Exhibition: Michael Moorcock and the British 'New Wave' in Science Fiction* (London: Routledge & Kegan Paul, 1983) ix.
[70] Greenland ix.
[71] Greenland 3, 6, 9.
[72] Greenland 166, 167.
[73] Greenland 167.

that subversion was all-important and invited only stories whose subjects offended against 'taboos'".[74]

It is important to notice that Bainbridge's use of the term *new wave* is much more general than Greenland's. Bainbridge uses the term to refer to an ideological dimension, rather than a movement tied to a specific time and place. This allows him to regard as new-wave authors even authors who would not have called themselves thus, because of similarities in their styles and values. Also, he refers to earlier writers whose texts showed similar characteristics, such as Aldous Huxley, George Orwell, Theodore Sturgeon and Ray Bradbury, as precursors to the new wave.[75] In this study, I wish to acknowledge the value of both approaches, i.e. the importance of seeing the real connections between authors as well as the usefulness of identifying similarities between authors even when they may not have been directly connected to each other.

"Pessimistic"?

The new wave has sometimes been accused of being unnecessarily pessimistic. Asimov, for instance, writes:

> The 1960s saw the rise of new writers who lacked knowledge of science and even sympathy for science. […] The overall result was the New Wave, as some call it, in which the most pronounced characteristic is that of stylistic experimentation, a heavy infusion of sex and violence, and, most of all, a mood of deep pessimism.[76]

Is it fair to say the new wave was pessimistic? Nicholls thinks it unfair:

> The writers of the New Wave, even though their attitudes sometimes appeared anarchic, were seldom *passively* acceptant of a dark view; the dominant New-Wave metaphor may have been of entropy, of things running down, but the fierce commitment of,

[74] Greenland 167.
[75] Bainbridge 90.
[76] Asimov 110.

> say, Harlan Ellison or Brian W. Aldiss could not be airily dismissed as "pessimism" by any but the crudest of critics.[77]

Isn't it so, after all, that even the reading of tragic, disconcerting stories may have a positive effect? Bainbridge explains:

> Critics find the new wave pessimistic and pathological. But even in its darkest stories, the new wave exalts the human spirit, because the author becomes a hunter in the forests of the night, bagging the biggest wild game of all, the monsters of the id and of cultural repression. If the new wave protagonist often goes down in defeat, it is in sacrifice to the reader, who, though sharing the protagonist's annihilation, lives on, the wiser for the experience.[78]

Opposition, radicalism, social criticism

How can we define new-wave "pessimism" more accurately? On the basis of the sources available to me in this study, I would suggest paraphrasing the pessimism with (1) attitudes of opposition, (2) radical attitudes, and (3) socially critical attitudes.

By attitudes of opposition I mean that new-wave writers may have gone blatantly pessimistic simply because they wanted to stand against conventional science fiction and its hollow optimism. Thus, the new wave could perhaps most fruitfully be seen as a phenomenon whose primary motivation was to challenge the conventional way of things: new-wave writers wanted to be "sharply distinct from and hostile to what they saw as the old order".[79] The stylistic experimentation is perhaps linked to this: it arose from the desire "to express an individual vision instead of a conventional one".[80] Bainbridge mentions that "the new wave has often been described in terms of its literary ambitions, its concern for style and expression" and says that his study confirms this view: "There are

[77] Nicholls, "Optimism and Pessimism" 892.
[78] Bainbridge 221.
[79] Greenland 14.
[80] Greenland 166.

strong correlations between new wave writers and avant-garde literature that experiments with new styles".[81]

By radical attitudes I mean that the new wave may have been radical in the sense of "calling for change"; the idea behind this line of thinking is that showing the imperfections of today in an outrageous manner (which might appear to some people as pessimism) would actually urge people to act for the better. According to Bainbridge, "the new wave questions our entire system", i.e. it says that we should "radically reexamine ordinary modes of thought and critically analyze societal institutions".[82] This might explain the new wave's overemphasized interest in psychology and sexuality: these areas simply happened to have a great potential for scandal and success. They were "of much popular interest and excitement in the 1960s", and they had previously been somewhat neglected in science fiction, which mainly had, according to this critique, "chaste and cardboard characters".[83]

By socially critical attitudes I mean that the new wave was critical of our society, its distortions (e.g. that spending money on spaceflights when people are starving on Earth is morally wrong) and its reticences (e.g. that the white young American middle-class heterosexual male hegemony ignores the existence of other kinds of people with other kinds of needs). Thus, writing about things that are wrong – which, again, might be seen by some as pessimism – is needed to make people see how things stand and think how things could be done differently.

One of the ways in which the social criticism of the new wave manifested itself was an anti-technology attitude. According to Bainbridge, "the

[81] Bainbridge 91.
[82] Bainbridge 99.
[83] Greenland 22.

harmful effects of scientific and technological development constitute an important theme for the new wave".[84] Greenland explains this as follows, referring to the writers of *New Worlds*: "Though [...] they pressed for images and a fiction of the future, they seemed to fear the technology that is shaping the future. They mistrust the machine and suspect that mechanisation is a corruption of the human".[85] Thinking about the relevance of this to *Red Mars*, we can see how this novel from the 1990s attempts to reinstate the balance between human beings and technology. People in the novel use machines to produce all they need, but they still lead a fully human life. Human beings are shown to be the masters over the machines, and not the other way round.

Inside the anti-technology attitude we find, even more specifically, an anti-space attitude. Greenland mentions that J.G. Ballard, for instance, proclaimed the end of the space age in "elegiac stories of wrecked spacecraft and [...] dead astronauts". The motivation for this kind of writing might be explained as follows:

> Humanitarians were querying whether expenditure in space was justifiable while people starved below; Ballard posed an analogous question of literary economy. Should writers send so much imagination spiralling upwards into vacuum, leaving the new dimensions of daily life on Earth unexplored?[86]

Consequently, more attention was paid to "inner space", i.e. the human mind and its conceptions of reality. According to Greenland, inner space can be thought of as "a psychological metaphor, denoting the landscapes of dream and memory; and, by extension, of the subjective world: that is, the external world as transformed and encoded by the individual consciousness".[87] In *Red Mars*,

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[84] Bainbridge 106.
[85] Greenland 37.
[86] Greenland 44.
[87] Greenland 51.

again, the depiction of subjective experience and individual consciousness, which is made successful by the narrative technique despite the planetary scope of the events, seems to reconcile hard science and humanist values in a significant way.

Entropy

On the most abstract level, some of the ways in which the alleged new-wave pessimism manifested itself can be summarized under the concept of *entropy*. Summing up "the distinctive themes of *NW* writers", Greenland concludes that "the concept of entropy [...] is the centre of this imaginative cluster".[88] Instead of going into what it was in the case of *New Worlds* that characterized the concept of entropy, I am interested in how the concept can be understood in a general way so as to be useful for the analysis of *Red Mars*.

Scientifically, the term refers to the so-called second law of thermodynamics. Metaphorically, it denotes the amount of degeneration or disorganization in a system. Various paraphrases have been suggested. Patrick Parrinder, for instance, describes entropy as "nightmare", as "the disintegration of the scientific vision", as "the running-down universe in which everything is falling into disuse and decay".[89]

Greenland cites Rudolf Arnheim's *Entropy and Art: An Essay on Disorder and Order* (1971). According to Arnheim, there are two entropic tendencies: (1) tension reduction, or a striving toward simplicity, which is an orderly tendency, "resulting in uniformity and equal distribution of energy", e.g. the erosion of land, the flow of water, the tendency of forces and temperatures

[88] Greenland 201.
[89] Patrick Parrinder, *Science Fiction: Its Criticism and Teaching* (New York: Methuen, 1980) 121.

to achieve equilibrium; (2) fortuitous destruction (or, in Arnheim's words, "the fortuitous destruction of patterns that are unlikely to be rebuilt by mere chance"), e.g. explosions.[90]

In *Red Mars*, both tendencies are seen in the disaster sequences – for instance, in the fall of the space elevator. Detaching the cable of the elevator from its socket in the orbital station is a form of man-made entropy, or fortuitous destruction. The fall of the cable after it has been detached, though, follows the laws of Newtonian physics, so that the damage it does when it hits the ground is a form of natural entropy, or tension reduction. More about this will be said in the analysis section.

2.1.4. Comments on the Validity of the Distinction

In presenting the hard science tradition and the new wave, Bainbridge does not view them in binary opposition; instead, he views them as two notionally separate domains of science fiction, apart from which there exists a third one, the fantasy cluster, as he calls it.[91] My decision to contrast the hard science tradition and the new wave in this study as if they were opposites was prompted by the need to contrast a typical science-fictional optimism with a typical science-fictional pessimism.

Bainbridge's study arises from a very particular situation: "The questionnaire for this study, administered on two days in late 1978, thus is a snapshot of an important stage in the evolution of SF"; yet he believes in the universality of his findings: "The three ideologies are permanent dimensions that

[90] Greenland 199.
[91] In fact, Bainbridge's correlational analysis allows him to view the three dimensions as a continuum on which the fantasy cluster is located *between* the hard science tradition and the new wave (p. 44).

will always serve well in analyzing new fiction, even if authors of the future combine them in novel ways".[92] This claim may have been somewhat undermined by the later development of the genre. While the hard science tradition, transformed, lives on, the new wave as a type of writing seems to have died out as early as by 1980. According to John Clute, many of the writers who emerged in the 1970s turned out to produce less than was generally expected of them.[93] It thus seems that the vitality and flexibility of the hard science tradition proved greater than the new-wave critique of it. Equally, though, it seems that some of the new-wave elements were subsumed by the hard science tradition once the critique had been accepted. Several critics seem to support this idea.[94] Nicholls, for one, concludes: "New-Wave excesses – including its sometimes miasmic gloom – have largely dropped away in subsequent sf, while the New Wave's grasp of the complexities of the world has remained."[95]

Thus, it might be most useful and truthful to view the hard science tradition as a continuing subgenre of science fiction and the new wave as a relatively short historical phenomenon which nevertheless influenced the genre's development by introducing previously neglected elements and issues into the genre. Despite Bainbridge's decision to use the term in a more general sense, it is perhaps most accurate to use the term *new wave* only about the original British new wave (associated with *New Worlds*, Aldiss, Ballard, Moorcock) and its immediate successors in the United States, e.g. Harlan Ellison. Otherwise, as with new kinds of writers from the 1970s, it may be better

[92] Bainbridge 222.
[93] Clute, "Science Fiction from 1980 to the Present" 67.
[94] Bainbridge 114, Greenland 206, Asimov 110.
[95] Peter Nicholls, "New Wave", *The Encyclopedia of Science Fiction*, eds. John Clute and Peter Nicholls (London: Orbit, 1993) 867.

to talk about writers *inspired* by the new wave, rather than belonging to it, or about the *influence* of the new wave on science-fiction imagery. Damien Broderick, for instance, discusses Ursula K. LeGuin and Samuel R. Delany (writers who in Bainbridge's tripartite vision are within the new-wave dimension) under the heading "Blending of new and old", i.e. as "generic hybrids of Old Wave and New" that "rose to broad popularity among sf readers" in the 1970s.[96]

2.2. Utopia and Dystopia

2.2.1. Some Typical Features

There are many ways in which the term *utopia* can be used and has been used. First of all, it is important to note that utopian writing and science fiction are overlapping categories. This means that utopian texts have been produced not only within science fiction but both before the beginning and outside the traditions of science fiction as a genre. Typically, the kind of utopian writing that would nowadays most readily be recognized as science fiction would include depiction of a future society that is scientifically more advanced than the society in which the author lives at the time of writing.[97] Raymond Williams also pays attention to the importance of "willed transformation", i.e. the fact that in science fiction the utopian societies are brought about by the conscious efforts of human beings, rather than, say, natural development or divine intervention.[98]

It is also important to note that genuine utopias are rare in science fiction, while dystopias are abundant. To some extent this is due to the fact that

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[96] Damien Broderick, "New Wave and Backwash: 1960-1980", *The Cambridge Companion to Science Fiction*, eds. Edward James and Farah Mendlesohn (Cambridge: Cambridge University Press, 2003) 59.
[97] Brian Stableford, "Utopias", *The Encyclopedia of Science Fiction*, eds. John Clute and Peter Nicholls (London: Orbit, 1993) 1260.
[98] Raymond Williams, "Utopia and Science Fiction", *Science Fiction: A Critical Guide*, ed. Patrick Parrinder (London: Longman, 1979) 52-55.

"workable plots require conflict",[99] i.e. the idea that mere happiness would be too dull to depict, but there are also subtler reasons, some of which will be considered below.

Classic utopias, in the tradition of Thomas More's *Utopia* (1516), typically include a traveller who comes to "a remote island or undiscovered continent" and meets "the locals, who are usually eager to show off their society to him".[100] They tend to picture the ideal society along the lines of "common good", "reason and good will", "peace and harmony" and "happiness and contentment".[101] They are often "varieties of socialism", which have "eliminated money and private property" in the belief that human beings are "not inherently wicked" but "naturally good" and only distorted by the effects of capitalism.[102]

Traditionally, the alternative society is the focal point of utopian texts: "the social structure, and what it represents and encourages, is traditionally seen as the main protagonist".[103] Consequently, a certain "manifesto of otherness" in depicting the alternative society "is the commonly accepted *raison d'être* of the utopian narrative".[104] Plot and character are of minor importance; indeed, the plot might consist of a visit to the utopian society, and the main human character might be a person visiting and observing that society.[105] Thus, in the traditional plot formula of utopian writing, the visitor departs from his own

[99] Stableford, "Utopias" 1262.
[100] Edward James, "Utopias and Anti-Utopias", *The Cambridge Companion to Science Fiction*, eds. Edward James and Farah Mendlesohn (Cambridge: Cambridge University Press, 2003) 219, 220.
[101] James 220.
[102] James 220.
[103] Tom Moylan, *Demand the Impossible: Science Fiction and the Utopian Imagination* (New York: Methuen, 1986) 37.
[104] Moylan 37.
[105] Moylan 36, 37.

land, similar to the author's, arrives at the land of the utopia, makes guided tours, sees the benefits, and returns to report to his own people.[106]

Here we begin to see the difference between traditional utopias and Robinson's Mars trilogy, which is rather something like a utopia-in-the-making, experienced by the people living in the society depicted, not ready and perfect as if to be inspected and admired by an outsider.

Edward James mentions that the typical twentieth-century attack on classic utopian visions came in the form of dystopias, i.e. depictions of "oppressive societies" in which tyranny destroys happiness.[107] Apparently, one of the basic conclusions that can be made from the dystopias is that "capitalism, for all its flaws, offers more freedom than totalitarianism".[108]

Tom Moylan, pursuing a Marxist stance, offers a more complex interpretation of the role of dystopias. To begin with, Moylan is of the opinion that future utopia arises from present desire; utopias are "rooted in the unfulfilled needs and wants of specific classes, groups, and individuals in their unique historical contexts".[109] Desire, in turn, arises from dissatisfaction. Moylan points to "the immense power of the late capitalist formation to absorb negativity and to congeal unfulfilled desire into commodified objects" so that the system uses "the stimulus of constant dissatisfaction for its mechanisms of reification, exploitation, profit, and growth".[110] Moylan mentions "the corporate United States" alongside Stalinist Russia and Nazi Germany as a "totalizing system" which uses utopia to maintain the system: "Stimulated but unfulfilled desires are effaced and channeled into the service of the state [as in the USSR] or the

[106] Moylan 44.
[107] James 220.
[108] James 220-221.
[109] Moylan 1.
[110] Moylan 19, 20.

consumer paradise [as in the US]. In western industrial societies, utopian longing can be discovered as the underlying stimulus to the machinery of advertising" or pleasure centres such as Disneyland.[111]

Defining dystopia as "narrative that images a society worse than the existing one", Moylan contends that it emerged as a form of "radical critique" when utopia had been hijacked by the discourses of state socialism and consumer capitalism; dystopia can thus be seen as "an attack on present social systems which claim to be already existing utopias".[112]

Three of the most famous dystopias are Evgeni Zamyatin's *We* (1924), Aldous Huxley's *Brave New World* (1932) and George Orwell's *1984* (1949). Among typical images we find, in Moylan's terms: "massification", "identity by number", "bureaucratic and technocratic control of behavior and desire" and "portrayal of daily life in a lustreless collectivity or in endless consumption".[113]

2.2.2. Critical Utopian Thinking

"Critical Utopias"

The utopian impulse was revived in the 1970s by science-fiction writers. According to Moylan, "the genre of literary utopia as it has traditionally existed [...] was revived, destroyed, and transformed in the critical utopias" so that "it can give new life to the utopian impulse without falling into compromised abuse [as in advertizing] or negated disuse [as in dystopias]".[114] Moylan discusses four representative novels: Ursula K. LeGuin's *The Dispossessed* (1974), Joanna Russ's *The Female Man* (1975), Marge Piercy's *Woman on the Edge of Time*

[111] Moylan 8.
[112] Moylan 9.
[113] Moylan 9.
[114] Moylan 30, 31.

(1976) and Samuel R. Delany's *Triton* (1976). Critical utopias, such as these four, are "critical both of utopian writing itself and of the prevailing social formation"; their utopianism is more complex, discontinuous and self-aware than used to be the case in earlier utopias.[115] Rather than go in any detail into what it was that these particular novels dealt with, I would like to extract some of the more general points from Moylan's discussion. The idea is that the Moylanian notion of critical utopian thinking might prove useful in identifying the utopianism of *Red Mars*.

In the introduction to his book, Moylan outlines the crucial features of critical utopias along three principles. Critical utopias (1) "reject utopia as blueprint while preserving it as dream"; (2) "dwell on the conflict between the originary world and the utopian society opposed to it so that the process of social change is more directly articulated"; (3) "focus on the continuing presence of difference and imperfection within utopian society itself and thus render [i.e. provide] more recognizable and dynamic alternatives".[116] Among typical concerns we find a "rejection of hierarchy and domination" and a "celebration of emancipatory ways of being".[117]

Later in the book, Moylan identifies "two major changes that occur in the critical utopia that mark a break with the general pattern of the traditional utopia". Most importantly, the critical utopia "breaks with previous utopias by presenting in much greater, almost balanced, detail both the utopian society and the original society against which the utopia is pitted as a revolutionary alternative"; this means "presenting the utopian society in a more critical light", so that "the society is shown with its faults, inconsistencies, problems, and even

[115] Moylan 42, 43.
[116] Moylan 10-11.
[117] Moylan 12.

denials of the utopian impulse in the form of the persistence of exploitation and domination in the better place".[118] This is, in fact, an expanded explanation of features (2) and (3) above. In addition, Moylan points to the enhanced literary value of the critical utopias: "In the new utopia, the primacy of societal alternative over character and plot is reversed, and the alternative society and indeed the original society fall back as settings for the foregrounded political quest of the protagonist".[119]

Opposition and Emancipation

Apart from the mostly textual features mentioned above, there are other, larger ideas that the critical utopian spirit springs from. It seems to me that these could most fruitfully be summarized in terms of opposition, emancipation and, above all, dynamism.

According to Moylan, utopia "opposes the affirmative culture maintained by dominant ideology"; in other words, utopia "negates the contradictions in a social system by forging visions of what is not yet realized".[120] However, "we must see the utopian impulse as operating *within* the ideological, both helping it along and pulling against it".[121] Thus, "the literary utopia has functioned within the dominant ideology that has shaped the capitalist dream and within the oppositional ideologies that have pushed beyond the limits of that dream".[122] Therefore, "if utopia is to do its subversive and emancipatory work again, it must break out of its commodified chains and seize

[118] Moylan 44.
[119] Moylan 45.
[120] Moylan 1.
[121] Moylan 19.
[122] Moylan 2.

the freedom to tear down the walls of profit and power and help lead the way to a radically new future".[123]

The various emancipatory movements of the 1960s and 70s can be seen as the social background for the rebirth of the utopian spirit. James explains:

> The revival of sf utopias in the 1970s was largely a result of the re-emergence of feminism in the later 1960s, although the contribution of the Civil Rights movement, the New Left, the ecological movement, the anti-war protests of the early 1970s and the emerging gay and lesbian movements were all significant as well.[124]

Moylan offers a somewhat more abstract, philosophical explanation. He sees "the emerging oppositional culture of the late 1960s and the 1970s" as a newly-awakened "subversive utopianism", a "revived longing for the not yet realized potential of the human community", "a continuing activism that marked a return to the human agenda of [...] cooperation, equality, mutual aid, liberation, ecological wisdom, and peaceful and creative living".[125] More specifically, Moylan locates the central concerns of political opposition since the 1960s in three spheres: feminism, ecology, and self-management of work and daily life.[126] He stresses the role of critical utopian discourse in both connecting these concerns to each other and giving them their power as an anti-hegemonic bloc:

> The new movements of liberation insist on a multiplicity of voices, autonomous from each other, but commonly rooted in unfulfilled needs centering around the practice of autonomy. This shared goal of fulfillment of desire for collective humanity informs the utopian impulse at the heart of the historic bloc of opposition.[127]

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[123] Moylan 19.
[124] James 225.
[125] Moylan 10.
[126] Moylan 27.
[127] Moylan 28.

Dynamism

Science-fiction writers seem to have disliked traditional utopianism mainly because of its lack of dynamism, i.e. “the feeling that the utopian writer is aiming for a largely static society”, in which “the idea of ‘perfection’” leads to “a denial of adventure, of risk-taking”.[128] A perfect society might turn out to be “a dead end” because of “boredom” brought about by an “excess of leisure” and a “lack of goals and direction”.[129] The solution, as James suggests, would be to aim for “a better world” rather than “an ideal world”, to present “alternate possibilities” rather than to try to give a single “coherent account of a superior and desirable alternative”.[130]

It seems that for a utopia to work, it has to be dynamic, capable of constant renegotiation. Moylan explains:

> In generating preconceptual images of human fulfillment that radically break with the prevailing social system, utopian discourse articulates the possibility of other ways of living in the world. The strength of critical utopian expression lies not in the particular social structures it portrays but in the very act of portraying a utopian vision itself. The task of an oppositional utopian text is not to foreclose the agenda for the future in terms of a homogeneous revolutionary plan but rather to hold open the act of negating the present and to imagine any of several possible modes of adaptation to society and nature based generally upon principles of autonomy, mutual aid, and equality.[131]

The reason is that “a specific, homogeneous utopian vision would be a betrayal of radical utopian discourse and would only end up serving the instrumentalization of desire carried on by the present structures of power”.[132]

If a utopia is dynamic enough, it seems that it also has the capacity to encourage a genuinely optimistic attitude to confronting the future: utopian

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[128] James 222.
[129] James 221, 224, 225.
[130] James 219, 222.
[131] Moylan 26-27.
[132] Moylan 28.

fiction “serves to stimulate in its readers a desire for a better life and to motivate that desire toward action by conveying a sense that the world is not fixed once and for all”.[133]

Consequently, James offers his encouragements as to what utopias should be like: dynamism should manifest itself in the recognition of all the expansion potentials of the human species.[134] Examples include space exploration, i.e. the “standard sf device to break free from what is regarded as the stasis of utopia: pushing the frontiers out into the solar system and beyond”; politics, environmental issues, gender relations; advances in technology, education and the understanding of human psychology; perhaps even physiology: “What could be achieved if medical and biological science made improvements to the human body: eliminating disease, or creating something approaching immortality?”[135]

James gives credit to Robinson, “the best-known sf writer consciously to contribute to the [utopian] genre”, and the Mars trilogy, “possibly the greatest achievement of American sf in the 1990s”, for keeping “the utopian possibilities of planetary colonization in mind”. In his view, the crucial question of the trilogy is, “how to create a new society on Mars which will avoid the failures of Earth societies”. This project culminates in *Blue Mars* with “the creation of a utopian constitution for the newly terraformed planet”.[136] James discusses Robinson straight after the books of the 1970s that Moylan called critical utopias; it seems to me that this strongly suggests that James is in fact encouraging us to regard Robinson’s books as a contemporary manifestation of the critical utopian spirit.

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[133] Moylan 35.
[134] James 226.
[135] James 225-228.
[136] James 226.

3. Analysis of *Red Mars*

3.1. Optimism

3.1.1. General Observations: In What Ways is *Red Mars* an Optimistic Portrayal of the Colonization of Mars?

Initial Premise

First of all it is worth noting that the startup situation of *Red Mars* is very optimistic *per se*. The book tells us that in one way or another humanity has been able to put together a fully equipped, large-scale Mars mission. A large spacecraft has been assembled in orbit (*RM* 33-34), and a hundred multiskilled, strong-minded scientists have been selected and trained in Antarctica (*RM* 26-27). Somehow all the required capital and knowhow has been found and used. What makes this imaginary achievement really optimistic is the fact that it is all ready no later than 2026, which is the year in which the journey starts (*RM* 30).

Such a scenario makes the achievements of spaceflight in the real world look humble in comparison. So far, Mars exploration has been a matter of unmanned orbiters and landers, and – perhaps somewhat surprisingly – it is the orbiters that have been the more important of the two. Interestingly, Oliver Morton, whose *Mapping Mars* offers an illuminative account of real-life Mars exploration, seems to regard the making of maps as the greatest achievement that has taken place so far.[137] The process of mapping Mars started in 1971 when Mariner 9, the first American spacecraft to go into orbit around another planet, sent back images of the entire planet.[138] This created a thrill of Mars as real and started people's appreciation of the planet as it is (rather than as they thought or hoped it might be). The mapping culminated in 1979 when Patricia

[137] Oliver Morton, *Mapping Mars: Science, Imagination and the Birth of a World* (London: Fourth Estate, 2003) xiv-xv.
[138] Morton 31.

Bridges and Jay Inge published their beautiful, detailed maps drawn on the basis of the Mariner 9 images and covering the entire planet.[139] The images have since been digitalized, and the accuracy of the maps has been enhanced by later observations,[140] but this does not change the fact that Mars has been fully charted for 25 years. Because of the maps, the planet onto which people used to project their fantasies in earlier times is now "oddly accessible", "all of it as measurable, as real as the stones in the pavement outside your door",[141] as if only waiting for people to go there in person and use the maps for whatever it is we want to do there. Even unmanned landings have been few, however. After the two Viking probes had taken pictures and sampled the ground, proving it lifeless, back in 1976, NASA decided that Mars was "a pretty good place not to return to", in Morton's words.[142] In 1997, when another lander was eventually put on Mars, the only visible innovation was to use a rover that could move around and be controlled from Earth. The event received wide attention as it had real-time internet coverage, but as Morton points out, in a way the whole mission was more like children's play that serious science.[143] In 2004, two new rovers were at work on Mars, and they seem to have made some significant scientific discoveries, but it seems that we are still very far from mounting a manned mission.[144]

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[139] Morton 49.
[140] Morton 51.
[141] Morton xiii, xii.
[142] Morton 55.
[143] Morton 232.
[144] Frequently in this thesis I use the pronoun *we* to refer to human beings in general (as in the phrase "it seems that we are still very far from mounting a manned mission"). While I realize that this entails a great amount of generalizing, I think it is justified in the case of colonizing Mars, which is a project that can be seen, metonymically, to concern all humankind, even if it were to be carried out in practice by only a small number of humanity's representatives. Mostly, though, my use of the pronoun *we* is purely rhetorical, denoting something like 'I, the writer of this text, and you, my reader(s)', as in a phrase like "it is in this detail that we most clearly see the nature of the problem". I trust it will be possible to infer the difference from the context.

By showing his readers that it has already happened – the first hundred have actually landed on Mars – Robinson liberates himself from explaining how it was possible to mount such a mission in the first place. This is, as we recall, the novel's point of difference: the novum it sets out to explore (cf. 1.2). Understandably, writers of science fiction do not have to go to lengths about explaining their initial premises, since the point is to show what happens *after* the initial premise is taken for granted. Thus the fiction is able to make full use of the awaiting potential right now, bridging the gap between dreams and reality.

Spaceflights

In the real world, the success percentage of Mars missions has been low, which has made the technology being used look somewhat shaky.[145] In the world of *Red Mars*, however, the technology related to spacecraft and astronautics seems to have reached a fairly reliable level. People may be nervous about spaceflights, but that seems to be due to the weaknesses of the human mind rather than to any visible unreliability of the technology that is being used. Two examples from the Earth-to-Mars transition can be used to illustrate this point.

First there is the radiation evacuation, which occurs in consequence of a solar flare. It seems that the people aboard the *Ares* are well trained and perform their tasks efficiently and manage to get themselves into safety in time (*RM* 55). The storm shelter is effective and the radiation dose stays well under harmful quantities (*RM* 57). Still, looking at the dosimeter, "it was hard not to regard the figures unhappily" (*RM* 57), and people are said to have felt helpless and shocked before a certain relief sets in (*RM* 58).

[145] Morton 31.

Then there is the aerobraking, a procedure of slowing down the spacecraft and putting it into orbit around Mars. Arkady Bogdanov's "problem runs", i.e. rehearsals consisting of simulated trouble situations, have made the people on board slightly nervous about the procedure, although the probability of such problems occurring in reality is virtually negligible according to physicist Sax Russell (*RM* 41-44). Thus, when the procedure is approaching, Maya Toitovna, the leader of the Russian team, thinks: "Hopefully none of his [i.e. Arkady's] mad problems would crop up" (*RM* 82). Maya is in the habit of waking up in the middle of her sleep sessions and wandering over to the bridge to see if everything is okay even though someone is there on guard anyway (*RM* 81) – this is a sign of nervousness. The actual procedure turns out to be relatively safe though somewhat uncomfortable: "a roaring, shuddering, breath-robbing eight minutes" (*RM* 83).

Quite in accordance with the hard science tradition, the book thus endorses an optimistic vision of future space technology.

Pioneer Spirit

The depiction in the book of the initial stages of the first habitats is optimistic. There is a strong sense of positive pioneer spirit in the air. This is beautifully reflected in the Russian construction engineer Nadia Cherneshevsky, who worked till exhaustion every day and felt extremely happy doing so. Nadia's portrait is in many ways the portrait of a successful Martian settler. Through her experiences the book draws a realistic picture of establishing a settlement on another planet and enjoying the excitement that such a project entails. It is worth having a closer look at how this is done.

To begin with, Nadia observes that the lighter gravity gives one a sense of strength, which makes one feel joyful: “She was just as strong as ever, but weighed only thirty kilos!” (*RM* 98). Nadia then welcomes the fact that some of their pre-sent equipment may have been damaged in the landing: for her it is “just another kind of opportunity, the salvage-and-repair game, one of her favourites!” (*RM* 99). Many little hardships surround the first habitat; there is so much work to do that fatigue and hunger cannot be avoided, and the trailer is crowded so that there is no privacy. Every time they go out or come in, the settlers have to complete the somewhat complicated procedure of putting on or taking off their walkers, boots and helmets, and pass through double air locks (*RM* 100-101). The fine Martian dust creeps into everything, which is annoying (*RM* 104). However, intractable problems such as the dust are brushed aside by the refrain “that’s life on Mars” (*RM* 104).

Because of her abilities and characteristics, Nadia’s help proves invaluable to everyone during the initial construction, and she likes it that way: “She became the colony’s chief troubleshooter, [...] and as she ran around every day answering questions and giving advice, she blossomed into a kind of timeless work heaven” (*RM* 108-109). Being hard-working, even workaholic, Nadia *enjoys* working hard and thinks that she does not really need much rest; it takes Ann’s persistence to persuade Nadia into breaking her routine and joining a trip away from the camp (*RM* 134).

Typically of Robinson’s prose, Nadia’s initial impressions of being on Mars are closely interwoven with her personal charateristics. Used to working in permafrost conditions with poor equipment in Siberia, she is capable of appreciating the luxury of having first-class tools (*RM* 104-105). She is modest;

for example, the “dehydrated and canned food” that they have to eat does not bother her because “she had eaten worse for most of her life and she paid little attention to food anymore” (*RM* 106). She is good at improvising: for instance, she advises brickmakers to strengthen the bricks with nylon fibres that can be retrieved from the now-useless landing parachutes (*RM* 113). Being the pragmatically and factually oriented person that she is, Nadia dislikes Maya’s talk over emotions and relationships and prefers the company of biologist Hiroko Ai, with whom she can have “real conversations, about real problems in the real world” (*RM* 115). Nadia loses a finger in an accident and feels slightly depressed after that, but all of them are said to have been inflicted by minor injuries of some kind or other, and so she consoles herself by thinking that “they were lucky no one had gotten killed yet” (*RM* 131).

The book thus describes the pioneer spirit through Nadia’s experiences and characteristics. All in all, the proper attitude seems to be that you cannot complain about trifles if you decide to go to Mars; in other words, hardships will be there to challenge our tenacity and ingenuity, but we should not let them demoralize us. There are interesting ways in which this idea is connected to what has been said elsewhere. Firstly, it clearly illustrates the hard-science notion of joy to be found in mastering the physical environment and creating meaning through the shaping of material things (cf. 2.1.1.). Secondly, it serves to provide a possible motivation for the settlers. As Brian Stableford points out, the question of how to think of reasons compelling enough to necessitate the colonization of other planets may be a problem for science-fiction writers wishing to depict this theme.[146] Some such reasons have been suggested in

[146] Stableford, ”Colonization of Other Worlds” 245.

reality by Robert Zubrin, who has repeatedly claimed in both speech and writing that humanity needs a new frontier, such as Mars, to feel happy and dynamic through the vanquishing of physical hardships and obstacles.[147] Hereby the historical analogy is the American conquest of the Wild West in the 19th century, which was claimed by Frederick Jackson Turner in 1893 to be one of the main hardships that taught the Americans the lesson of how to become a dynamic, innovative nation.[148] Interestingly, Zubrin's team also designed a system by which permanent bases for human beings could be established on Mars with minimal investments in either time or money, but their plans were not taken seriously by NASA executives.[149]

The Joy of Exploration

Damien Broderick calls *Red Mars* "a novel of spatial, psychological and sociological exploration",[150] and I think this is a good point. Seeing the novel as *exploration* enables us to appreciate some of the episodes that might otherwise seem irrelevant; for instance, psychiatrist Michel Duval's lengthy contemplation of human personalities (*RM* 215-221) can be seen as psychological exploration. Even if we only think about the spatial exploration, it is clear that this concept is crucial for the book's aesthetics: the joy and excitement that can be found in exploration is well reflected in the various expeditions made by the settlers on the Martian surface. Inspired, among other things, by the maps made by Bridges and Inge, Robinson lets his characters explore all parts of the planet's surface: they "travel Mars from pole to pole, from mountain peak to canyon

[147] Morton 258-262.
[148] Morton 258.
[149] Morton 256-258, 261.
[150] Damien Broderick, *Reading by Starlight: Postmodern Science Fiction* (London: Routledge, 1995) xv.

floor", as Morton says.[151] Moreover, Robinson's prose is clearly directed towards evoking the feel of the landscapes that are being described, which makes reading the text feel like a first-hand experience.

In this way the book seems to suggest that a certain expansiveness – discovering new things, gaining new knowledge – is a natural need of human beings. In such a pristine, joyful view of exploration, expansion simply arises out of curiosity. Ann Clayborne, for instance, insists on making a lot of geological expeditions, and her reason for this seems to be scientific curiosity, plus a personal capacity to find pleasure in observing the strangely beautiful Martian landscapes. For her, the exploration of Mars is the reason why they are there (*RM* 133). However, there is a sense in which all exploration already entails a certain amount of *exploitation* as well, and this should not be ignored.

By way of example we can look at some details from the North Pole expedition (*RM* 135-160). It is one of Ann's trips – the one, in fact, that Nadia joins after Ann's insistence. The purpose of the trip is to set up an automatic ice mining factory at the edge of the polar cap, after which robots can follow a transponder road between cap and camp, giving the settlers a regular water supply (*RM* 145-146).

On the one hand, the trip enables Nadia to see the alien beauty of Martian landscapes and thus to experience the joy of exploration. At first she can only see this ability in Ann; for example, what for Nadia is simply a handful of black sand is for Ann an item of interest and beauty: "These grains are probably volcanic silicates. Obsidian, flint, some garnet. Beautiful, isn't it?" (*RM* 141). Later, as she watches the strangely coloured Martian sunset out on the

[151] Morton 174. The fact that Robinson had Bridges and Inge's maps to assist and inspire him is confirmed by Morton, who visited his office.

dunes, Nadia realizes that Mars is not just another kind of Siberia but an entirely new experience (*RM* 141-142). Thus, she begins to understand the beauty of Mars and, consequently, the joy that can be found in simply observing the planet.

On the other hand, Nadia's impressions subtly imply an awareness of unwanted exploitation. Leaving camp, she observes: "Their wheel tracks streched behind them like the first cut of a lawnmower through grass, and the transponders gleamed bright and incongruous among the rocks" (*RM* 136). Thus, even driving through the terrain and marking the route can be seen as an act of violence that changes the landscape. Heading back south, she observes that the existence of the road "changed the feel of their travel; they were no longer exploring untouched land" (*RM* 154). Thus it seems that innocent acts of exploration almost automatically tend to turn into not-so-innocent acts of exploitation. Also, on their way north, the travellers install a permafrost water collector to see how much water there is in the ground (*RM* 138). As they come back, a lot of water has spilled out (*RM* 155). Though negligible in its effects, this little incident arises from the attitude that we can do what we want with Mars, and it is the same attitude that quickly leads to large-scale exploitation later on.

Engineering on Mars

The technology and knowhow needed in engineering on Mars is another aspect in which the novel is conspicuously optimistic. The advanced skills and equipment of the settlers seem to make any building project relatively easily realizable. Once initial difficulties have been overcome, new cities rapidly

appear. The idea seems to be to use some imagination and come up with the solutions that best serve to solve the problems related to each particular construction project. Some of the cities, for instance, are laid onto open ground and covered by a tent made of a flexible, transparent material (e.g. Nicosia, *RM* 8), while others are carved into upright cliff and built storey upon storey (e.g. Echus Overlook, *RM* 262). After the solutions have been found, it only remains to program an army of computerized robots to do the job as requested.

What makes this technological optimism seem realistic is the way how Robinson usually not only states that a certain thing is done in a certain way, but also gives his readers some details of the technologies described. It is a sign of how skilfully written *Red Mars* is that the technological descriptions almost never hamper the flow of plotting and characterization. Thus, for instance, we learn that the city wall of Nicosia is made of “piezoelectric plastic” that “generates electricity from wind” when we see Frank Chalmers punch his fist into the wall to release aggression, contemplating, to amuse himself, that “some of his anger would be captured and stored as electricity in the town’s grid” (*RM* 8).

Nascent Utopianism

While the Mars trilogy as a whole may be treated as an example of utopian writing, in *Red Mars* there are as yet only tentative suggestions that some kind of utopian attitude to the colonization of Mars is coming into being. If we accept the idea that future utopia arises out of present desire (cf. 2.2.1), then we can ask: what is the desire behind the nascent utopianism in *Red Mars*? It seems to me that the book suggests that at this early stage of colonization there are as

many different kinds of dreams and desires as there are different kinds of people. Perhaps the only common denominator is that everybody wants to grab the chance while it is there and do something with Mars that has never been done before with Earth.

This situation is well reflected in John Boone's experiences in Part Five. Representatives of the transnational mining corporations, for instance, seem to dream of getting rich by exploiting Mars as a source of metals and minerals that can be imported to Earth. Adherents of the underground revolution, on the other hand, seem to strive for a maximal liberation from Earth-bound power structures. John assumes an intermediate position between competing factions such as these; his ideas revolve around forging a consensus and building a Mars that would be good for everyone. John believes in his power to influence people (*RM* 242), and this belief may not be totally unfounded; Sax, for instance, says to John: "Everyone will talk to you. You're practically the only one left we can say that about" (*RM* 241). John has decided to work for Sax in the terraforming project (*RM* 242), but he also likes Ann (*RM* 247) and respects her geological expertise (*RM* 244); typically, John thinks that a compromise consisting of moderate terraforming and moderate conservation should be enacted (*RM* 253). Even in relation to Arkady's radicalism, John wishes "he could be a sort of bridge between this underground and the rest of the people on Mars – operating in both worlds, reconciling the two, forging them into a single force that would be more effective than either alone" (*RM* 350).

John's utopianism seems to spring from the desire to create a new kind of Martian society that would avoid most of the mistakes made on Earth. He insists on the specificity of life on Mars: "It wasn't like submarining or settling the

Wild West – it was *an entirely new experience*. [...] We were on our own; and so we became *fundamentally different beings*" (*RM* 4). He thinks old quarrels should be brushed aside in the new situation: "I mean people aren't fighting over whether they are American or Japanese or Russian or Arab, or some religion or race or sex or whatnot. They are fighting because they want one Martian reality or other" (*RM* 252). John travels a lot, meeting people, and on his travels he meets a Swiss roadbuilding team and admires their lifestyle for its practical simplicity: "They intended to spend the rest of their lives traveling around building roads" (*RM* 256-257). He then tries to formulate their motto: "Do things, and don't worry too much about theory. Whatever seemed right" (*RM* 258). John hopes that the people who come to Mars would have "a scientific mindset and worldview" and be "practical, empirical, rational" (*RM* 267). He tries to explain this by "a kind of traveling-Swiss sensibility, practical but open to new possibilities, able to form new loyalties and beliefs" (*RM* 268), but in my opinion this only makes his statement much vaguer. John's recipe of good life on Mars, as I see it, is already inscribed in those four words: scientific, practical, empirical, rational. It is interesting to think what kinds of behaviour John tries to exclude by this statement; presumably, he hopes the people who come to Mars would be scientific instead of religious, practical instead of dogmatic, empirical instead of theoretical, and rational instead of fanatic.

John's utopianism is "critical" in the Moylanian sense because he is willing to consider alternative possibilities. Gradually, the critical utopian impulse becomes more and more explicit: "We've got the chance to create a new society out here, everything's changing on the technical level and the social level might as well follow. I'm not exactly sure what the new society should be

or should look like, that's the hard part after all, but I know that it should be done" (*RM* 257). John is thus discarding utopia as blueprint but preserving it as dream, which was one of Moylan's criteria in identifying critical utopias (cf. 2.2.2). John's own account of his motivation is that he does the travelling and the PR work "in an attempt to inspire the people on the planet to figure out a way to forget history, to build a functioning society. To create a scientific system designed for Mars, designed to their specifications, fair and just and rational and all those good things" (*RM* 283). John's eloquent, euphoric speech on Olympus Mons takes 2,5 pages (*RM* 378-380); yet Sax, "the perfect phlegmatic" in Michel's words (*RM* 220), is able to condense what John had to say in one word: "Syncretism is it? Very interesting, very well put" (*RM* 381). Thus, John's philosophy after his experiences on Mars is one of *syncretism*, i.e. of taking all the good little things and making them into one good big whole; he encourages the settlers to let themselves be driven by "the *necessity of creation*, the imperative to invent a new social order that is purely Martian" (*RM* 379).

3.1.2. A Specific Example of Technological Optimism: the Longevity Treatment

To sum up the findings presented in the previous subsection, we can say that the optimism of *Red Mars* falls into two categories: there is the technological optimism related to spaceflights and on-Mars engineering, and there is the spiritual optimism reflected in the pioneer spirit, in the joy of exploration and in the nascent utopianism. In a way it is fair to say that the spiritual optimism arises from the technological one: after all, you could not experience the pioneering on Mars, nor the exploration, not to mention the possibility of

developing a Martian identity, if you did not have the technology to take you there in the first place and to sustain you in that hostile environment. The optimism of the novel is thus based on technology and enriched by the spiritual aspects that the technology gives rise to.

The longevity treatment is yet another aspect in which the novel is optimistic about the advance and reliability of science and technology. It is, as its name suggests, a way of making people live longer, and it is presented in the novel as an invention made by a team of medical scientists at their research centre on Mars. The principle is explained by Ursula Kohl, a member of the medical team, to John, who plans to take the treatment. The idea is that cell-division errors can be repaired and prevented by strengthening a person's DNA strands. The effect of repairing and preventing cell-division errors is doublefold: it helps one's tissues to stay healthy so that one looks younger than one actually is, and it helps the immune system to stay strong so that one avoids the diseases of which one normally dies (*RM* 287). The process of strengthening the DNA strands is explained by Ursula as follows: "We would read your genome, and then build an auto-repair genomic library of small segments that will replace the broken strands" and "push this auto-repair library into the cells, where they bind to the original DNA and help keep them from breaking" (*RM* 287-288). A more detailed explanation is also said to have been given by Ursula, but John dismisses it as "biotech jargon", which he cannot completely understand. The question of exactly how long a person will live with this treatment is left open.

John decides to take the treatment, and the difficulty of the procedure is nicely downplayed, as if nothing could go wrong. First, "it would take a few days

to synthesize the collection of repair strands and clip them onto plasmids and clone millions more" (*RM* 290). Then, John receives the plasmids in an ordinary injection, which makes him feel hot; after that he is given a mild electric shock, which pushes the plasmids into the cells, and it only feels like "a disagreeable tickling everywhere in him" (*RM* 291). Afterwards, he feels cold for a couple of days and is advised to spend time in sauna, which he does. Adam Roberts calls this "a gene-resplicing bath",[152] which is a brilliant term as it combines a horribly dangerous-sounding experiment (splicing genes) with a most ordinary domestic activity (taking a bath) – much in the same way as it happens in John's experience.

Red Mars is in fact doubly optimistic at this point: the novel suggests (1) that advances in gene technology will lead to the invention of a longevity treatment, and (2) that Mars will provide an ideal, stimulating environment for making such an innovation. It is interesting to see how the novel tries to make these statements plausible.

Statement (1) might easily be regarded as improbable if it were considered in isolation. It is contrary to common sense, after all, that human beings could live, say, 150 or 200 years. If we consider the statement in its proper context, though – as part of the world of a science-fiction novel – we begin to see that in presenting the longevity treatment, *Red Mars* is doing no more than accomplishing a typical science-fictional feat, and doing it well. Ursula's explanation can be regarded as a typical pseudo-scientific explanation. It is based on an actual branch of science (gene technology), and it is presented in a language that imitates scientific discourse. It is also a way of speculating on

[152] Roberts 5.

the possibilities opened up by recent scientific discoveries (such as the fact that the human genome can be read in its entirety), and this way it comes close to the ideals of the hard science tradition. Adam Roberts, in fact, uses the longevity treatment of *Red Mars* to illustrate the concept of pseudo-science. Roberts explains:

> Kim Stanley Robinson's *Red Mars* [...] begins with a journey of exploration to another planet, [...] carefully imagined so as not to violate the constraints of current science and technology. Later in Robinson's novel a technique is discovered for hugely extending human lifespan. This is certainly *not* within the discourse of current science, and may well be impossible, but the plot development is integrated into the pseudo-scientific idiom of the book. Instead of just asserting without explaining, as a magic-realist or surrealist writer might, that his characters can now postpone growing old [...], Robinson introduces a material device, a gene-resplicing bath, to explain and make plausible this idea.[153]

Statement (2) is somewhat more problematic, as there is no obvious connection between the colonization of Mars and the invention of something like the longevity treatment. It might seem, in fact, that the writer has only introduced the treatment for melodramatic purposes: to make the characters live long enough so that they can experience the terraforming on a longer time scale and be present even in the sequels. To minimize this impression, the book does its best to portray the invention as a logical concequence of the colonization. Sax, for instance, is said to work hard to study biology because he sees it as the key to terraforming (*RM* 240). Genetic engineering has already been discussed in the context of the terraformers' attempts to create a form of algae that could survive on Mars. The longevity invention is first hinted at in a brief scene picturing scientists who have found a way to repair cell-division errors in mice and make them live fifteen years (*RM* 232-233). These factors

[153] Roberts 5.

serve to prepare the reader for the big surprise so that when it comes it does not seem so big after all. Another invention by the medical team is “omegendorph”, a feel-good drug (*RM* 239). Yet another medical innovation is presented as Ann becomes pregnant at sixty: “They took an egg frozen about fifteen years ago, fertilized it and planted it in her. We’ll see how it goes” (*RM* 254). Thus, the longevity treatment is portrayed not as an isolated stroke of genius, but as part of a larger context of biomedical research in favourable conditions.

Another way in which the longevity treatment demands to be taken seriously is the fact that its social and psychological consequences are not ignored in the novel, but explored among all the other themes. Psychologically, the treatment leads to a relaxed contentment as the ones to have taken the treatment suddenly feel they have much more time on their hands to do the things they want to do. John describes this feeling nicely in just two words: “Things glowed” (*RM* 296). Arkady quite wisely predicts that when people expect to live longer they will press harder for social improvements, saying, “Why not make this more rational? Why not make it closer to our heart’s desire? What’s stopping us?” (*RM* 340). On Mars, the longevity treatment thus lends itself as a tool for utopianism. On Earth, however, the effects of such an invention could be far from benign. The book quite plausibly suggests that because of the longevity treatment, rich nations would have to enact birth control laws, while poor nations would demand access to the treatment itself (*RM* 389). In result, people would riot, and governments would fall. Because of the inequality between countries, well-to-do countries might have to proclaim immigration illegal to protect themselves (*RM* 429). In a way, this makes the

scientists on Mars who created the treatment look like little Frankensteins who played god and unleashed a monster for which they were both unable and unwilling to take responsibility.

To sum up, we can say that the longevity treatment is typical of the novel's technological optimism in three ways: (1) it exhibits a strong belief in the advance and reliability of science and technology; (2) it has a spiritual dimension (enhancing the utopian potential of life on Mars); (3) it has negative side effects (the riots on Earth) that tend to shift the emphasis away from technology and optimism towards human beings and a certain pessimism.

3.2. Pessimism

3.2.1. General Observations: In What Ways is *Red Mars* a Pessimistic Portrayal of the Colonization of Mars?

As I mentioned in the introduction, it seems to me that the pessimism of *Red Mars* is related to the apparent inability of human beings to cooperate without falling into dispute. Repeatedly in the course of the book, the things that go wrong with the colonization project can be seen to spring from various personal and political conflicts between the parties involved.

A certain feeling of disunitedness already emerges within the crew during the Earth-Mars transition. The journey lasts nine months (*RM* 30), and after four months the passengers are said to have felt oppressed by the seclusion, "as if they were confined to the interior of a hotel with no exits" (*RM* 54). Maya Toitovna, the leader of the Russian team, is "co-mayor of this village, so to speak, responsible for group dynamics, which were bound to get complex" (*RM* 31); she recognizes that she will have to balance her supposed "diplomatic

ability" against the "disparate, fractious" nature of the Russian team (*RM* 32). The colonists are seen to disagree on how the project should proceed once they get to Mars, and all of them would naturally like to see their own ideas and interests advanced and those of others suppressed. This leads to the building of alliances between people who symphatize with each other's views, and to antagonism between the alliances. Arkady Bogdanov's radical, troubleseeking character makes him something of a nuisance to others and precipitates some of the quarrels. His predilection for radical plans is clear from the start as he announces:

> I don't think we should pay any attention to plans made for us back on Earth! [...] Everything should be redesigned from the beginning, with our own thinking expressed. [...] I don't want people in Washington or Moscow saying how I should live my life, I've had enough of that. (*RM* 58-59)

The division of landfall assignments finally tears the crew apart both factually and emotionally into like-minded, mutually opposed subgroups (*RM* 74). Maya lands on Mars feeling that she had failed:

> Their best chance for creating some kind of concord had passed, and they had not succeeded. [...] They were going their separate ways, splintered by their beliefs, and even after two separate years of enforced togetherness [first in Antarctica, then on the *Ares*] they were, like any other human group, a collection of strangers. (*RM* 91)

On the *Ares* it also turns out that all of the first hundred have lied in the tests that allowed them to join the mission (*RM* 62). They attribute this to the distorted nature of the tests and of the selection process on the whole, meaning that only those could get chosen who were clever enough to cheat and tough enough to conceal it. Arkady explains: "I lied in answer to every single question! I answered exactly *opposite* to what I really felt, and *this* is what allowed me to score as normal!" (*RM* 62). This creates an image where human vices (e.g. our

tendency to tell lies) induce anarchic behaviour (e.g. cheating in the tests). This is, of course, a sad image: if only ruthless manipulators end up on Mars, it enhances the risk of failure in the overall project because of the game of alliances, betrayals, conflicts and conspiracies played by the individuals concerned. It may be unfair, however, simply to blame the selection committee for devising the wrong kinds of tests. Michel's account of the crew selection process (*RM* 26-29) illuminates the psychological complications involved in any ambitious Mars mission and creates the impression that the demands of such a mission are so complex and contradictory that it may be impossible to find people who would not fail at some point or other. A way round the problem can only be found in joking: "Since they're going to go crazy anyway, why not just send insane people in the first place, and save them the trouble?" (*RM* 26).

The pessimism of *Red Mars* thus appears on two levels. On the social level, we see how disagreements and different interests lead to arguments and conflicts. On the psychological level, we see how the complexities of the human mind contribute to and aggravate the conflicts. It seems to me, then, that we can most usefully structure the analysis of the book's pessimism according to the conflicts it depicts. Three major conflicts can be discerned: (1) Ann versus Sax, i.e. the studying and conservation of Mars versus terraforming; (2) transnationals versus revolutionaries, i.e. the power of transnational corporations versus the idea of an independent Martian society based on scientific and communitarian ideals; (3) Frank versus John – a conflict that will be dealt with separately under 3.2.2 because of its special importance.

Conservation Versus Terraforming

Walter Benn Michaels refers to the conflict between supporters of Mars conservation (mainly, geologist Ann Clayborne) and supporters of terraforming (led by physicist Sax Russell) as "the fundamental conflict in the Mars trilogy".[154] In their first argument, Ann says the surface of Mars must be geologically studied before it is changed, while Sax contradicts her claims by saying that Mars is dead and that changing the planet can no longer be avoided since the mission has already been launched (*RM* 39-40). Ann seems to be the only person willing to take seriously the notion that Mars has rights that we must respect. She calls it unscientific and immoral to change the planet before it is studied (*RM* 170). She tries to back up this position by claiming that there might be indigenous microbial lifeforms on Mars that have not yet been discovered. For most people in the novel, though, Mars's lifelessness seems to have been sufficiently proved. Interestingly, it is the lifelessness that is used in both Robinson's fiction and elsewhere as the most convincing argument to support the idea that we (human beings) do, in fact, have a moral right to do whatever we want with Mars.

Oliver Morton, for instance, is interested in exploring the ways in which and the extent to which Mars has become, is becoming, or will become, a *world* instead of just being a planet.[155] A world, in this sophisticated line of thinking, is imbued with human consciousness. As the subtitle of his book (*Science, Imagination and the Birth of a World*) implies, science (e.g. planetary astronomy) and imagination (e.g. science fiction) have both, in their separate and sometimes overlapping ways, tried to make Mars part of the human

[154] Michaels 659.
[155] Morton xiv.

experience. The idea is that if Mars is meaningless without human consciousness, and if we (human beings) are the only ones who can it give a consciousness, then aren't we allowed to do so? John pronounces the same idea when he says that for him, colonizing Mars means the "transformation of a planet into a world and then a home" (*RM* 378).

In one of the italicized semifactual interludes that appear in *Red Mars* alongside the main narrative, Robinson delivers a concise lecture of the geological history of Mars as he sees it, drawing our attention to the strange beauty of the planet as we see it today: "Beautiful, or harsher than that: spare, austere, stripped down, silent, stoic, rocky, changeless. Sublime. The visible language of nature's mineral existence" (*RM* 96). He then stresses the fact that as a world with a mineral existence but without life Mars can only be a sign of otherness for us: "Mars rolled, proof of the otherness of the world, of its stony vitality." A realization such as this brings us directly to the idea that we (human beings) can only make Mars truly relevant and meaningful to us if we can give it some life and make it sustain that life on its own; in other words, we can only make Mars ours by terraforming.

Once the colonists have settled on Mars, terraforming becomes "an ongoing process, a topic that kept coming up" (*RM* 168). The case is between "Sax's plans to terraform the planet by all means possible, as fast as they could" and "Ann's hands-off attitude" (*RM* 169). As a result, terraforming quickly gains the upper hand ("it was becoming clear that most people on Earth and on Mars were assuming that terraforming would take place", *RM* 169), while Ann's position remains "a theory, an aesthetic judgment" (*RM* 170). This is how Sax defends his stance to his fellow colonists: "The beauty of Mars exists in the

human mind. [...] Without the human presence it is just a collection of atoms, no different than any other random speck of matter in the universe. It's we who understand it, and we who give it meaning" (*RM* 177). His speech echoes the ideals of the hard science tradition:

> Science is part of a larger human enterprise, and that enterprise includes going to the stars, adapting to other planets, adapting them to us. Science is creation. The lack of life here [on Mars], and the lack of any finding in fifty years of the SETI [= search for extraterrestrial intelligence] program, indicates that life is rare, and intelligent life even rarer. And yet the whole meaning of the universe, its beauty, is contained in the consciousness of intelligent life. We are the consciousness of the universe, and our job is to spread that around, to go look at things, to live everywhere we can. (*RM* 178)

Various methods of starting the terraforming are then introduced on the pages of the novel. As Mars is both extremely dry and extremely cold, the basic idea in all the methods is to make it wetter and warmer. Black dust could be spread on the polar caps to melt the ice (*RM* 148). Ice asteroids could be grazed through the atmosphere (*RM* 184). Mirrors are installed in orbit to reflect more sunlight onto the surface (*RM* 193). Deep holes are dug into the ground to release areothermal heat into the atmosphere (*RM* 237). Research on genetically engineered microorganisms leads to the creation of Mars-resistant algae (*RM* 173); the idea is that if plants could be made to grow on the surface they would start to produce oxygen. Progress is slow, however, as there is simply too much carbon dioxide in the atmosphere (*RM* 265). Terraforming efforts are also sabotaged (*RM* 248).

There is an interesting other side to the coin: we terraform Mars, but Mars *areoforms* us. In other words, we (human beings) can try to make Mars more earthlike, but a prolonged stay on Mars will also change our way of thinking and make us more sympathetic to and appreciative of the Martian

environment. This is similar to what Mark Rose says in his book *Alien Encounters*. According to Rose, science fiction typically describes the encounter of the human with the non-human, and does this so that both concepts are not only re-enacted but also renegotiated.[156] Interpreting his stance, we can say that Mars is a grossly non-human entity onto which the settlers have to project their humanness. In such a situation, if we cannot understand or appreciate the non-human as it is, we try to humanize it, but in the process it may partially non-humanize us. Thus, the settlers terraform Mars, but Mars also areoforms them.

The word is first used by John when he tries to console Ann: "Who knows what our kids will think is beautiful? It's sure to be based on what they know, and this place will be the only place they know. So we terraform the planet; but the planet areoforms us" (*RM* 253). He manages to get a smile from Ann, but this does not change the fact that Ann is mostly a very tragic character. She seems to be too withdrawn to get enough allies to launch a successful hands-off-Mars campaign. Ann's problem is not so much that her ideas are wrong or impracticable. Rather, the problem is that nobody wants to listen to her. For example, when she suggests that instead of building the space elevator and tearing the surface of the planet apart, the colonists could enclose one of the canyons to provide a single great shelter for all the people on Mars so that the rest of the planet could be preserved, Sax immediately plays down her suggestion as nonsense (*RM* 123).

Perhaps the preservation of Mars would have been too great a task for anyone in the world of the book, as Earth's exploitation mania forces its way through. It is the fact that we are made to see Ann's personal suffering that

[156] Mark Rose, *Alien Encounters: Anatomy of Science Fiction* (Cambridge, Massachusetts: Harvard University Press, 1981) 32, 49.

makes the terraforming seem to us like mindless exploitation. As Morton points out, her case is portrayed with sympathy.[157] Soon after landing on Mars, Ann is seen by Nadia as “strangely tense”, “hard to read” and “moody” (*RM* 107); presumably, Ann is already worried about the fate of Mars and angry at herself for not being able to stop it. At the end of the polar expedition, Ann explains to Nadia in an emotional outburst that she loves the land and hates to change or destroy any of it (*RM* 157). At the start of the final escape, Ann defines her case: “Some mistakes you can never make good. [...] Her mistake had been in coming to Mars in the first place, and then falling in love with it. Falling in love with a place everyone else wanted to destroy” (*RM* 540). For Ann, then, colonizing Mars was not a scientific triumph, but a personal tragedy.

Transnationals Versus Revolutionaries

To put it simply, this conflict concerns the question of who owns Mars. Should Mars stay under the power of the Earth, or should it be declared independent? In the first case, life on Mars might be dictated by Earth-bound, exploitative-capitalist corporations. In the second case, it might be easier to start building a new kind of communitarian, ecologically sound Martianness.

This conflict allows the novel’s political content to come to the fore. The familiar dichotomy of capitalist and socialist ideologies is at least to some extent a relevant analogy. In this line of thinking, the transnationals, led by Phyllis Boyle, represent capitalism, while the revolutionaries, led by Arkady Bogdanov, represent socialism. Mostly, however, the novel discusses the politics in an estranged manner, pushing earthly analogies to the background and insisting

[157] Morton 303.

on the specificity of the Martian context. In such a context, even the merits of socialism, which is thought by many to have been proved disfunctional by the collapse of the Soviet Union in 1991, can be readdressed. Capitalism, on the other hand, is represented in some of its worst aspects, as if to warn us against making Mars another site of colonial exploitation.

Already on the *Ares*, Arkady reveals his dislike of private ownership (*RM* 87), and Phyllis criticizes him of wanting "some kind of communal utopia" (*RM* 88) and of "fomenting a crisis situation" (*RM* 89). Arkady's revolutionary spirit can be identified in proclamations such as this:

> We have been sent here by our governments, 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 one 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! (*RM* 61)

The attempt to overcome history and to create something new on Mars is what makes Arkady's thinking similar to John's. Their methods, however, are very different. While John tries to create consensus, Arkady claims that nothing short of radical action will help (*RM* 344). Also, while John's utopianism is "critical" because he is willing to consider alternative possibilities, Arkady's utopianism is closer to "traditional" utopias because he has a rather strictly defined idea of the utopian society. This idea, or "blueprint", is to make the Martian lifestyle like that of scientific research stations: scientific, communitarian and ecologically sound. Arkady explains that the people who get to experience the research-station lifestyle grow powerfully attached to it because it resembles a prehistoric (i.e. secluded and simplified) way of life, which our brains still recognize as the way things should be (*RM* 342). Consequently, Arkady thinks

that Mars should be prevented from coming under the laws of money economy (*RM* 341). Irresponsible exploitation could then be avoided by an improved economics, which Arkady's followers call "eco-economics" (*RM* 297-299) and which basically means that "what you take from the system has to be balanced by what you give in to it, balanced or exceeded" (*RM* 378).

The downside of the scientific-research-station model, in my opinion, is that it is an *elitist* affair, designed for a relatively small number of privileged individuals, and ignoring the needs of the rest of humanity. The concept of eco-economics is interesting, though, as it enables Robinson to make use of his earlier preoccupation with ecological issues (cf. 1.1) in the context of the Mars books. Robert Markley, for instance, acknowledges the importance of Robinson's eco-economics by referring to it as a "challenge to the conventional notion that economics means the exploitation, degradation, and exhaustion of natural resources" and by arguing that one of the central concerns of the trilogy is "to imagine the conditions under which capitalism will evolve – haltingly, violently, uncertainly – toward an eco-economic [i.e. ecologically sounder] future".[158]

Heavyweight exploitation begins in *Red Mars* when Helmut Bronski, a powerful UNOMA official, grants a transnational consortium permission to start mining metals, ignoring the existing Mars treaty, which bans commercial exploitation (*RM* 271).[159] John visits the first mine, where the employees are from UNOMA but trained by the transnationals, and is appalled by the tearing up of the land and its reasons: "wreaking such havoc just to strip away metals, destined for Earth's insatiable demand" (*RM* 277). The alliance of UNOMA and

[158] Markley 775, 776.
[159] UNOMA stands for United Nations Office for Martian Affairs (*RM* 168).

the transnationals, represented by Helmut and Phyllis, leads to the evaporation of UNOMA's individual power; according to John, "it had the U.N.'s usual toothlessness before national armies and transnational money" (*RM* 273). The power of the transnationals then concentrates in Phyllis's hands, and her regime quickly becomes dystopian: it is based on the ruthless exploitation of both the Martian resources and of the people employed to work those resources. As John remarks, the transnationals soon have "their own security people established everywhere" (*RM* 371). Even John is repeatedly harassed by the transnational security agents, disguised as UNOMA officials, who try to stop him from influencing people with his ideas (*RM* 333, 356, 371). As in classic dystopias, tyranny threatens to destroy happiness.

The revolution begins when people are seen to leave their cities, taking equipment with them and disappearing, presumably to join Arkady's forces (*RM* 425). Arkady declares Nicosia a free city, i.e. free of transnational power; Frank accuses him of foolishness (*RM* 468). Sixty towns and stations then declare independence as Arkady's troops come out of cover (*RM* 474). Arkady and Phyllis have a talk, but there is no negotiation; it is only an exchange of threats. Phyllis says: "It's simple now, Arkady. Surrender or die." Arkady says: "Listen, you tell your masters this – if they try to subdue the free cities here, we will destroy everything on Mars" (*RM* 475). Immediately after this, the tent of Nicosia is punctured (*RM* 470), and Arkady, who was out in the city, dies (*RM* 476).

Destruction then prevails. "It was not hard to destroy Martian towns. No harder than breaking a window, or popping a balloon" (*RM* 477). No matter how advanced the cities were otherwise, they had no protection against deliberate

destruction; as a consequence, many cities are soon down. This creates an image where humanity has the means, but not the wisdom, to use the advanced technology for its own good. The warlike nature of the situation means that it is not only about laming the opponent's infrastructure but about killing the people as well (*RM* 478). Earth news, obviously through Phyllis's influence, portrays the confrontation as a fight against "isolated groups of insane, destructive terrorists" (*RM* 485). Contact to Earth then dies as satellites cease to function, "shut down or sabotaged, it was impossible to say" (*RM* 495).

By contrasting Phyllis's capitalist dystopia to Arkady's socialist utopia, the novel thus exemplifies the frightful predilection of human beings to end up in destructive conflicts. Human vices, such as greed and revenge, clearly abound in this conflict. Phyllis becomes greedy as she tastes power; she wants not only to get rich, but also to govern the whole planet as the leader of the space elevator consortium. Revenge becomes the norm as the corporate power punishes the misdeeds of the revolutionaries: revolutionaries drop the elevator, transnationals puncture the cities. Not much is left except anarchy and self-preservation. This is a very sad picture of humanity as it claims that uncontrollable gusts of malice and irrationality lurk right beneath the veneer of reason and good will – even in the most highly educated and highly intelligent, scientifically trained elite.

3.2.2. A Specific Example of Human-Related Pessimism: the Murder of the Mars Leader

Unlike the two other conflicts, in which the confrontation is only laid out in *Red Mars* and will be continued in the sequels, the conflict between Frank Chalmers

and John Boone is covered completely within the narrative scope of *Red Mars*, as both get killed in the course of the book. It is thus the conflict that most significantly characterizes *Red Mars* in its own right. In my reading experience, this personal conflict between two major characters gives the book much of its pessimistic flavour.

The novel begins on the night of John's assassination, and the viewpoint is Frank's. Frank thinks John is plotting against him behind his back; he sees John and Maya and a group of other people converse about something and drop the subject as soon as he comes close enough to hear (*RM* 7). He confronts John and is further convinced that John is lying to him (*RM* 15-16). Frank encourages the Arabs to believe that John opposed their coming to Mars though he knows that this was not exactly the case (*RM* 10). He has a talk with a local Arab leader about why John must be killed and how it can be done; then he surreptitiously contaminates the man with pesticides that will kill him within six hours, presumably to cut the link between himself and John's death (*RM* 17-18).

Frank is a cynical character. We see this repeatedly in his thoughts. "Lies were what people wanted; that was politics" (*RM* 7). "Talk means everything. We are nothing but information exchange, talk is all we have!" (*RM* 18). "It wasn't originality he was after; it was something that would work" (*RM* 392). He is disillusioned about personal friendships: "In reality they were all actors, [...] and there was no chance of contact with the true selves inside others" (*RM* 398-399). In his work, he is a manipulator, playing parties against each other to achieve the result he wants. For example, at one point he manages to get "emigration [from Earth] and investment, the two main threats to the status quo

(if there was such a thing on Mars) mostly blocked, and (this was the clever part) *blocked by each other*", calling it "a good piece of work" (*RM* 401). This makes him opportunistic; Maya notices it and says to him, disapprovingly: "You yourself have no opinion. Whatever is easiest to manage. Whatever leaves you in control at the end" (*RM* 400).

There is also something demonic about Frank (something unpleasant and unexplained). He likes the Arabs on Mars because of their unpleasant characteristics (*RM* 9). Maya sees him as "talkative enough, and incredibly energetic, but hard to read" (*RM* 33). He is presented as "bulky and dark" (*RM* 6), "a tall, big, swarthy man" (*RM* 33) – in contrast to John, who is blond and good-looking (*RM* 6) and "a typical American: simple, open, straightforward, relaxed" (according to Maya). Frank is full of intensity: in the mornings, for instance, he is "crammed with energy ready to be unleashed, wanting to get to work" (*RM* 388). He seems to be obsessed with the idea that he could put Mars right with his personal efforts, and this makes him arrogant towards other people; to Ann, for instance, he says: "Go out and play with your rocks and leave the politics to people who can think" (*RM* 396).

Immediately after John's death, Frank feels bad: "He felt hollow; and suddenly it seemed to him that everything good had gone away" (*RM* 23). He immediately tries to turn this feeling into a renewed frenzy of putting things right: "Now we'll see what I can do with this planet" (*RM* 23). Later, dreams about the past, and John, start to plague him (*RM* 413-415). Reluctantly, Frank has to admit that he misses John's support: "John's absence suddenly seemed huge and gaping, a crater on whose rim they huddled glumly, trying to warm their hands" (*RM* 430). At a crucial moment, when he would have to convince other

people, Frank finds himself resorting to the same kind of encouragement John had used and realizes that he cannot do it so well (*RM* 461). Guilt starts to weigh on Frank; he would like to confess to Maya, but cannot, and tries to tell himself he needn't: "Everyone has to assume their past somehow" (*RM* 463).

Why did Frank kill John? Both personal and political reasons seem to be involved. Maya describes the two men's uneasy relationship: Frank was "the Americans' official leader" but looked like "an overactive executive officer", while John "had more natural authority" and "*seemed* the real American leader" (*RM* 39). Maya says to Nadia she thinks Frank is jealous of John: "John got to Mars first, and then he got permission to come back again, and Frank doesn't think it was fair. Frank did a lot of the work in Washington to get the colony funded, and he thinks John has always taken advantage of his work" (*RM* 125). What John thinks about Frank is well reflected in one of their encounters on Mars. John feels Frank is a good old friend and like a brother to him, but he can see Frank thinks he is naive (*RM* 279). "John found himself [...] irritated at Frank's scorn, which never let up. The old rivalry, sharp as ever; and no First Man routine would ever make a dent in Frank's sneery arrogance" (*RM* 280). Consequently, John seduces Maya, who has popped by, into spending the night with him, "just to irk Frank" (*RM* 281), so that "tonight Frank would be reminded what real power was made of" (*RM* 280) – apparently, Frank believes the power is in the politics; John, that it is in the human relations. Frank and John are thus seen as competitors not only for Mars leadership, but also for Maya's affection.

On the political level, Frank thinks John is too idealistic: "His vision of Mars was a lens that distorted everything he saw, a kind of religion" (*RM* 4). What John hopes could be "an astounding spiritual voyage" is for Frank merely

a “tin-can existence” (*RM* 5). In the conflict between Frank and John we thus see a typical literary contrast: that between an idealist and a realist. John prefers to think what the ideal situation would be like rather than to admit the problems of the real situation and try to cope with them. Frank’s attitude seems to be the opposite. John’s ideas appear impracticable to other people as well. Ann says to him, referring to Hiroko’s group: “What you and Arkady say you want, they really wanted.” John replies: “If they do it, they’ll do it for twenty people. I mean to do it for everyone” (*RM* 250). This, perhaps, is John’s biggest problem. He wants something good for everyone, even though there is no way to make it happen. It may be relatively easy to arrange a single, isolated, well-equipped colony of like-minded inhabitants on the principle of common good, but it can hardly be done on a planetary scale, especially when there are so many disagreements and no regular meetings where opinions could be exchanged and policies discussed. Ann predicts: “The whole thing’s going to be out of your hands. It’ll be business as usual, and all your ideas will disappear” (*RM* 249). Even John himself is getting frustrated during his lonely travels:

> Events were out of his control, and more than that, out of anyone’s control. [...] There were so many people on the planet these days he could never hope to connect with them, to become the articulator of all their hopes and desires. [...] They had no plan. [...] They needed a plan. [...] They needed a vision. [...] Societies without a plan, that was history so far; but history so far had been a nightmare, a huge compendium of examples to be avoided. (*RM* 283-284)

Yet the impracticability of John’s ideas can hardly be regarded as the reason why he gets killed. It is Frank’s overgrown personal resentment, more than anything else, that makes him organize the assassination. Thus, despite the problems and the occasional frustration, John remains an optimistic figure, whom people need as a motivator. This is confirmed by his brilliantly utopian

speech to members of the first hundred in a regathering party on Olympus Mons. Pessimistic interpretations of the Mars leadership situation only really gain the upper hand when John is killed and Frank takes over. The murder of the Mars leader is a pessimistic image as it suggests that in the project of colonizing Mars, beautiful ideas (as represented by John) will have to succumb to ruthless manipulation (as represented by Frank).

3.3. Interaction of Optimism and Pessimism

It has been argued in the previous subsections that the optimism of *Red Mars* is mainly technological, and that its pessimism, on the other hand, is related to human beings and their tendency to end up in conflicts. In presenting my analysis of the optimistic and pessimistic tendencies I did not attempt to keep these two spheres strictly separate, as that would have been rather fruitless. Instead, certain patterns of interaction between the optimistic and the pessimistic tendencies have already been hinted at. The purpose of this subsection is to make the connections more explicit. We can now study an image that, in my view, most forcibly exemplifies the uneasy relationship of technological optimism and human-related pessimism in the novel: the rise and fall of the space elevator.

3.3.1. The Case of the Space Elevator

The chief motive for building the elevator is that it would make mining profitable on Mars as the products could be shipped back to Earth cheaply enough (*RM* 276, 303). The elevator first appears in rumours, as when Sax says to John: “It looks like they’re going to approve Phyllis’s elevator at the next UNOMA

session" (*RM* 266). Sax, who calculates everything that happens on Mars according to its effects on his terraforming efforts, is pleased about the elevator because it "will cut the costs of terraforming tremendously". Sax downplays both the technical difficulty and the costs of constructing the elevator: "Push an Amor asteroid into orbit, set up a robot factory, let it go to work. It's not as expensive as you might think." The idea is that the robots can mine the asteroid to produce the materials they need, and then build a cable downwards from the orbit until it can be attached to the surface of Mars. Miners talk in a similarly enthusiastic manner when they say to John: "Oh yeah, the materials are there! Graphite whisker reinforced with diamond spirals, why you could almost build one on Earth with that. Here it would be easy" (*RM* 276).

In a most memorable encounter, Phyllis then explains to John how it will be done, and her explanation illustrates the magnitude of the achievement (*RM* 306-307). It will be a cable 35000 kilometres long and ten metres wide, extending all the way from orbit to surface; made with diamond so as to be strong enough to support its own weight – six billion tons; held areosynchronous, i.e. steady above the same spot on Mars all the time; oscillated according to computer calculations so as to avoid collision with Phobos, one of Mars's two Moons. The virtues of the elevator in a technological sense are thus obvious: it crowns the spirit of inventive engineering in the novel ("Anything that can be imagined, can be executed!", *RM* 323). It is equally clear, however, that the elevator project is politically problematic (as it enables all power on Mars to be concentrated in the hands of the elevator consortium) and morally dubious (as it entails permission to tear up the pristine Martian landscapes for financial profit).

In expectation of the elevator, Pavonis Mons, where the cable is going to touch down, becomes a site of crucial strategic importance (*RM* 433-434). The city built on that site is named Sheffield (*RM* 436). Eventually, the cable touches down, and elevator cars start going up and down, making Sheffield a buzzing city (*RM* 437, 438). For a brief moment, life on Mars seems like a techno-capitalist dream come true. Then, the problems begin. Elevator employees complain about bad food, crowded living conditions and lack of personal security, and go on strike (*RM* 439, 442). Frank is angry with the inefficient security team: “If you corrupt bastards had any integrity this wouldn’t have happened!” (*RM* 443). Frank goes up the elevator to meet Phyllis, whose offices are in the orbital station, and talk to her. On his way up he sees Phobos, the moon, hurtle by at 7000 km/h, and “below them the round orange floor of Mars looked just as blank as it had on their first approach so long ago, unchanged despite all their meddling” (*RM* 444). This image suggests how tenuous – temporary, insignificant, childish – even the greatest of human achievements seem when compared with the timelessness of nature’s own relentless powers. Frank asks Phyllis to slow down emigration from Earth, but she will not listen to him (*RM* 446-448). Disappointed, Frank cuts out American money from the elevator enterprise (*RM* 449), but Phyllis finds another way to fund the enterprise, keeps forceful control of the elevator, and continues the emigration (*RM* 466-467).

When the revolution begins, the cable of the elevator is detached from the orbital station by the revolutionaries (*RM* 503). Ann and Simon (her longtime companion and only faithful supporter) experience an emotional shock at this moment, since they know that their son Peter might have been on the elevator

(as, indeed, he was). The now-loose orbital station immediately slips away into space, and Phyllis herself is assumed to be among the casualties. This image confirms the fragile nature of her power and, consequently, the childishness of her aspirations: in the end, simple centrifugal force was enough to dethrone her.

The cable then falls and goes round the rotating planet almost twice because of its length. The velocity of the falling cable is increased by the rotation, so that the power of the impact when the cable hits the surface of Mars becomes more and more destructive. The fall of the cable is a good example of entropy. Detaching the cable by means of an explosion is a form of man-made entropy (fortuitous destruction). The fall of the cable, on the other hand, is natural entropy (tension reduction), following the laws of gravity (falling towards Mars) and thermodynamics (burning in the atmosphere). The strangeness of the resulting images is emphasized in the text. On the one hand, the fall is a spectacle of macabre beauty: “a falling line of fire”, “burning from top to bottom”, causing sonic booms and, as seen from the satellites on the night side of the planet, “cutting down like the edge of a white scythe that was trying to chop the planet in two”, even revealed in slow-motion video shots as “an incandescent double helix of diamond”, “utterly strange and beautiful”; on the other hand, it is the physical embodiment of a tragic failure, ending up on the surface of Mars as “a mound of glowing brecciated debris, stretching from horizon to horizon”, or “a blackened steaming swath of desolation” – indeed, a grave for the several thousand people who happened to be on the elevator (*RM* 506-509).

Other entropic images complete the desolation. Cities are punctured, a destructive flood is created by the releasing of underground water, and even Phobos, the moon, is brought down. Since it is used as a space station by the

transnationals, Nadia reluctantly conforms to the deceased Arkady's wish and uses a transmitter given to her by Arkady to ignite a blast on Phobos that should bring the moon down (*RM* 522). Breaking up in the atmosphere, Phobos then comes down in flashy fragments (*RM* 525).

The fact that *Red Mars* culminates in such entropic disaster sequences is a setback for the novel's technological optimism, and it reminds us of some new-wave imagery – death, wreckage, anti-technology and anti-space attitudes. *Red Mars*, however, does not show technology as the source of the evil; instead, it shows that the reasons for the destruction are to be found in the evilness of human beings. Technology is as reliable a servant for humankind as a faithful dog, serving its owner in good or bad. It is we who are unreliable. The image of colonization in *Red Mars* is thus a mixture of technological optimism and human-related pessimism.

Peter Nicholls suggests that the interaction of optimism and pessimism in science fiction is typically achieved through the use of *irony*.[160] I think it has to be admitted that there is a great potential for irony in *Red Mars* because of the various differences in perspective that the book offers. Damien Broderick, for instance, considers it ironic that the colonists were sent to Mars "by a largely capitalist Earth of the 2020s", yet "these representatives of the home planet live in a kind of monastic, socialist order, outside the realm of economics".[161] I would add to this that the Earth/Mars irony is also seen in the laconic comments ("Earth was in bad shape", *RM* 389) that the people of Mars make when they watch news from Earth. Being millions of kilometres away, the Martians can afford to dismiss the problems of the "Terrans", as they call them, as easily as

[160] Nicholls, "Optimism and Pessimism" 892.
[161] Broderick, *Reading by Starlight* 107.

that. I would like to stress, however, that I think the potential of irony in *Red Mars* is *downplayed*, rather than celebrated, by the narrative, which seems quite consistently to assume a *compassionate*, rather than mocking, attitude towards the characters and their experiences.

As an example to illustrate this point I would like to use the episode describing Peter Clayborne's escape from the falling elevator. This episode can be thought of as ironic, as it hovers between dark humour and genuine tragedy. It begins with some grotesquely comic images as the people on the elevator car, dressed up in emergency spacesuits, are jammed in the airlock as tightly as "the suits had been in the storage closet" and then they jump out into the nothingness of space "like spores from an exploding seed pod", after which the elevator officials try to determine the right altitude for them to float on so that they would not start falling into Mars, "talking it over as if it were a chess problem" (*RM* 536). Then, as quickly as it started, it is all over. The group disperses into space, and nothing more can be done. By contrasting the horribly inhuman situation – floating in space, alone, without a spacecraft – to Peter's fully human response – he weeps, and thinks he is too young to die, and falls asleep – Robinson offers us a wonderful image of utter helplessness, which is sure to waken our sympathies. Since Peter has not really done anything wrong, we cannot accuse him of foolishness, nor assume a sarcastic attitude. We (readers) experience the moment, therefore, as genuinely tragic. Comic moments return, however, as Peter is miraculously rescued into a spacecraft belonging to Hiroko's group, and he has to convey in signs to a woman inside the spacecraft, who is looking at him through a window, that he wants to come in (as if there could be any doubt about that!). In short, the ironic potential is

clearly there, but the main thing is that the characterization is sympathetic, not scornful.

3.3.2. Which Wins? Comments on the Ending

The question finally arises: which of the two competing tendencies is stronger, optimism or pessimism? In other words, is the novel's vision of the early phases of Martian colonization predominantly optimistic or pessimistic? On the one hand, the two tendencies are seen to lead an uneasy coexistence throughout the novel, making its general message somewhat ambiguous. On the other hand, they are seen to fluctuate as the plot proceeds. First, the opening sequence, leading up to the murder of the Mars leader, is pessimistic: immediately the book disillusions its readers with the thought that whatever beautiful things the colonization of Mars will bring, conflicts will not be avoided. Then, the description of the initial stages of colonization is moderately optimistic, imbued with a positive pioneer spirit and a nascent utopianism. The climax is clearly pessimistic, picturing anarchy and destruction, and this seems to bend the novel's vision towards general pessimism. The ending, however, is moderately optimistic again: it is based on the images of getting into safety and starting again (which will be examined in detail somewhat further below).

A happy end, even in a novel with such strong pessimistic undercurrents as *Red Mars*, is hardly surprising: it is, after all, one of the most difficult narrative conventions to resist. As we know, novels usually end happily, or they may occasionally have unresolved, ambiguous endings, but because of readers' expectations and publishers' requirements, there is a strong implicit obligation for novelists not to end their stories entirely unhappily. This is,

incidentally, one of the ways in which new-wave writers challenged conventions. Brian Aldiss, for instance, is said to have criticized “the strong moral pressure, found especially in some US publishing houses, to legislate for a kind of mandatory optimism”.[162] Nicholls explains: “The casual insertion of a happy ending [...] no more constitutes true optimism than an awareness of the difficulties of life [...] constitutes true pessimism.”[163]

Nevertheless, even if we admit that there is nothing original about a happy end as such, it is interesting, and thematically significant, to see exactly *how* the ending of *Red Mars* overcomes the sadness of the disaster sequences.

During the revolution, Nadia rescues Ann and Simon from a damaged city (*RM* 488) and Sax from a stranded rover (*RM* 498). They then join Frank and Maya, and when escape becomes imperative for the whole group, they are rescued by members of Hiroko’s team (*RM* 531). Using stealth vehicles, these people hope to get to the hidden colony unnoticed (*RM* 541). Ann is depressed because of the revolution and the damage it does not only to people and equipment, but to the Martian landscape, which she loves. She refuses to talk and keeps looking at the landscape. The flood initiated by the revolutionaries’ bombs begins (*RM* 546), and Ann weeps (*RM* 550). She then breaks her silence to give the others a geological explanation of the flood (*RM* 554) and realizes how great it is to have human company and how comforting that company can be (*RM* 556-557). She starts driving to do her share for the common good (*RM* 557). Frank then dies in a surge of the flood as he goes out to help the stuck rover get going again and fails to come back in time (*RM* 562). In a way, his death for the good of others is an act of poetic justice after all he

[162] Nicholls, ”Optimism and Pessimism” 892.
[163] Nicholls, ”Optimism and Pessimism” 892.

had done. Ann, however, feeling guilty because she had been driving when they stuck, decides to die and goes out at night and turns off the heating of her suit. Simon rescues her, and they reconfirm their mutual affection in a passionate scene (*RM* 567). At the very end of the novel, Ann and Simon are reunited with their son Peter, as the group joins Hiroko's colony, hidden under the southern polar cap (*RM* 572). Thus, through the personal suffering and salvation of Ann, who finds that there are reasons to live on after all, optimism forces its way through, suggesting that it pays off to hope for a better tomorrow as long as life goes on.

Michel Duval's personal history carves a similar path. As psychiatrist for the first hundred, he had been homesick and depressed, feeling like "a doctor in a hospice in a prison in hell" (*RM* 215). He had noticed that he had mental problems but he did not know what he could do about it ("Physician, heal thyself!" *RM* 225). He had then been rescued by Hiroko's team and initiated into their mysticism (*RM* 226-230). By Michel's example the novel seems to say that life on Mars can go psychologically wrong for the individuals concerned, but also that the meaningfulness of the colonization experience on a personal level can be guaranteed if the colonists are allowed to live in an atmosphere of emancipation and togetherness, as in Hiroko's colony.

The novel ends in a comforting double image of homecoming and a new beginning: "'This is home,' Hiroko said. 'This is where we start again.'" Hiroko's colony thus becomes an embodiment of new hope and a new lifestyle. What John tried to achieve by wishful thinking, and Arkady by radical action, Hiroko achieved by simply retiring into isolation. Their hideaway place is not a simple hole in the ground, however, but a well-designed little world of its own, which

seems to be a mix of archaic and futuristic elements. They have their own nuclear reactor to provide them with electricity. Medically, they make test-tube children out of the genes of everyone in the first hundred, and they also have the longevity treatment; the children thus have an augmented probability of becoming both healthy and intelligent. Environmentally, they have trees, and a lake, and a village. Spiritually, they have their own kind of Mars mysticism, which helps them to assert that they belong to Mars. All in all, it seems that the colony wants its children to be able to feel at home on Mars.

Thus, discarding the radical, new-wave-style possibility of using an unhappy ending, Robinson prefers to let hard-science optimism have the final say in this first volume of his trilogy. It makes sense, after all, to think that the availability of advanced, reliable technology must be viewed as the decisive factor in determining our chances to succeed in colonizing Mars, and that our tendency to end up in conflicts can be viewed as something that slows down and complicates the process but cannot prevent it altogether. It is not as though *Red Mars* portrayed human beings as completely incapable or unwilling of cooperation; rather, the point is to show the *complex* and *contradictory* nature of human behaviour – to show, in fact, how the same *dynamism* of the human mind that allows us to design the great technology and devise the great plans also makes us feel so insecure in our personal lives and act so unpredictably towards our fellow human beings.

Finally, if we view the interaction of optimism and pessimism in terms of overcoming a binary opposition, or the message of the novel in terms of portraying the human subject as unstable, then we might think that the interaction hints towards a *postmodern* position. After all, “postmodern

narratives seem designed to defeat determinacy".[164] Damien Broderick, who has carefully examined the relationship of science fiction and postmodernism, argues, however, that *Pacific Edge* and *Red Mars* – the two novels by Robinson that he considers – are "pleasing and intelligent" but "not quite postmodern" by the criteria he is using.[165] It seems to me that this is another indication – comparable to Robinson's alleged "humanism", mentioned in the introduction (1.1) – that it may be better to view Robinson as an *individual thinker* than as a proponent of "isms" (such as postmodernism). Even so, the idea of examining the relationship of his fiction to postmodernist positions remains an interesting possibility.

[164] Broderick, *Reading by Starlight* 47.
[165] Broderick, *Reading by Starlight* 108.

4. Conclusion

Would the colonizing of Mars, if it were to take place as imagined in *Red Mars*, be a triumph or a tragedy? Apparently, it could be either – depending on the way we look at it. In fact, it seems that the colonization of Mars might be both a scientific triumph and a personal tragedy at the same time. Let us see once more how this somewhat controversial statement may be understood.

On the basis of the discussion in this thesis, especially section 2, we may tentatively conclude that a certain heightened sense of contrast between optimism and pessimism, or hopes and fears, or encouragement and warning, is an important part of the dynamics of science fiction as a genre. This contrast may manifest itself as a contest between utopian and dystopian visions, or it may appear in the form of debates between different subgenres, such as the one between hard-science and new-wave ideologies.

The optimism of science-fictional utopias, it seems, is embedded in the belief that confronting the future – thinking about it, preparing for it, trying to direct it – is a chance and challenge for us to make the conditions of life in human societies more rewarding than they are now. It is a matter of willed transformation, as Raymond Williams pointed out, and of discarding utopia as blueprint while preserving it as dream, as Tom Moylan put it. The role of dystopias, on the other hand, can be to serve as warnings of those kinds of failed utopias that we should do our best to avoid.

The utopianism of *Red Mars* is related to the project of building a new kind of society on Mars, and it is ”nascent” in the sense that it introduces utopian aspirations which will become clearer in the context of the trilogy as a whole. Arkady’s radical utopianism is a variety of socialism (just as classic

utopias used to be) in that it positions itself against money economy, private property and capitalist exploitation. John, on the other hand, hopes that common good could be attained with the use of a synchretist attitude, and his idealism has an encouraging effect on others.

Dystopia, in *Red Mars*, is most clearly seen in Phyllis's greedy, insensitive leadership, and it is a form of exploitative capitalism since it is generated and maintained by transnational corporations using the space elevator to profit from the mining and selling of Martian metals and minerals. As in classic dystopias, Phyllis's "regime" is bureaucratic (maintained with the help of UNOMA officials) and technocratic (based on building and controlling the space elevator).

As Edward James's article implied, it seems that there are good reasons to regard *Red Mars* as an example of critical utopian thinking (cf. 2.2.2). The critical utopian concepts of opposition, emancipation and dynamism are clearly characteristic of *Red Mars* as well. For instance, I would associate dynamism with John, opposition with Arkady, and emancipation not only with the wish to free the inhabitants of Mars from the power of the transnationals, but also with the hippyish lifestyle of Hiroko's hidden colony.

The debate between hard-science and new-wave ideologies, as I mentioned above, is another way, apart from utopias and dystopias, in which the question of optimism and pessimism has been addressed in science fiction. Traditional hard-science optimism, it seems, is related to the idea that scientific exploration and technological innovations will enable human beings to master their physical environments and thus to improve the quality of their lives. By

contrast, the critique introduced by the new wave focuses on the necessity of exploring the social and psychological vices and virtues of human societies.

Clearly, *Red Mars* can be viewed as a continuation of the hard science tradition, i.e. as a contemporary manifestation of similar attitudes that have characterized the hard-science approach in earlier times. Two points are particularly noteworthy. Firstly, Robinson's Mars, before it is terraformed, is identical with the one described by recent planetary astronomy; yet his fiction suggests that hard technology can conquer the planet, as hostile as it is. Secondly, the invention of the longevity treatment stands out from the rest of the book as a reminder that the advance of science will keep making life better for human beings. Kathryn Cramer describes the relationship of the Mars trilogy to the hard science tradition as follows:

> Robinson injects large doses of communitarian political discussion, but also intensifies the overt science and portrays scientists at work, and (like Arthur C. Clarke) evocatively describes the natural landscapes of his planetary setting. [...] When it was more fashionable to explore virtuality [as in cyberpunk], Robinson remained steadfastly loyal to actuality as the true origin of stories. [...] He imagined how people would get along it they colonized Mars; not the sf trope Mars, the easily habitable planet, [... as in] Ray Bradbury's *Martian Chronicles* (1950) [...], but the real place.[166]

As Cramer's cursory remark on "large doses of communitarian political discussion" implies, however, it is also important and interesting to see how Robinson's fiction not only continues, but develops and enriches the hard-science tradition by exploring a broader range of themes and attitudes than may have been customary within the tradition. Inspired by William Bainbridge's claim that the dimensions he identifies "will always serve well in analyzing new fiction even if authors of the future combine them in novel ways" (cf. 2.1.4), we can say

[166] Cramer 191-192.

that, even though there is no reason to regard *Red Mars* as in any way directly indebted to the new wave, it is possible to read this novel as an example that shows how the hard science tradition has evolved so that it now includes elements that used to characterize the new wave in earlier times. Firstly, the narrative invests a great deal of interest in the psychological makeup of the six different viewpoint characters. Secondly, the novel discusses a variety of political and societal themes. Thirdly, the depiction of entropy, conflict, murder and disaster is liable to evoke a certain amount of pessimism, as it did in the new wave.

As can be seen from my analysis of *Red Mars*, presented in section 3, it is the interaction of optimism and pessimism that permeates my reading of the novel on all levels. It seems to me that the tension between technological optimism and human-related pessimism is both a *structural* factor, regulating the ebbs and flows of the events, and a *thematic* factor, serving to formulate, in readers' minds, the message of the novel in terms of its principal theme, i.e. the colonization of Mars.

It has been my central argument in reading *Red Mars* that this novel presents a world in which, on the one hand, it is technologically and ideologically possible to start the project of colonizing Mars, but in which, on the other hand, the chances of succeeding in the project are undermined by psychological complications and social conflicts. Let us once more break down this proposition into its components and see what it means.

First of all, it seems to me that we (human beings) are *technologically* ready to colonize Mars if the technology needed to take us to Mars and sustain us there is available, and if that technology is advanced and reliable enough so

that we can trust our lives on it. In *Red Mars*, this is the case. The availability of the required technology engenders an optimism that is seen in the exploration and engineering on Mars as a positive pioneer spirit and as a typical hard-science joy of being able to master the physical environment. This optimism also opens up a utopian potential. It is the utopianism that most clearly emphasizes the specificity of Martian colonization as it claims that in colonizing Mars we are a given a chance, which we should grab, to redesign human communities for the better. It seems to me that such utopianism immediately encounters some ideological problems that it must face. Firstly, there is the question of moral responsibility: do we have a right to colonize Mars? Secondly, there is the question of motivation: why would we need to colonize Mars?

It thus seems to me that we (human beings) are *ideologically* ready to colonize Mars if a majority of us, or at least the ones who decide on behalf of the majority, can agree that the project is both morally justifiable and somehow necessary, or at least useful. In *Red Mars*, these two requirements seem to have been met fairly successfully. Mars's lifelessness, entailing that the planet is useless for us unless it is changed, serves to justify its colonization. The project is made to seem useful, even necessary, by ideologies of scientific exploration and commercial exploitation. Ann's protests, however, serve to remind us that even if we colonize Mars, we should try to respect the planet and not destroy it.

It seems, on the other hand, that *socially* and *psychologically* we are not quite ready to begin the colonizing of Mars unless we can find some effective ways to minimize the risk of psychological complications and social conflicts occurring when we carry out the project, and ways to deal with them in

a constructive manner if they do occur despite our efforts. The conflicts, if destructive and/or abundant, endanger the mission and force us to contemplate the more troublesome aspects of colonizing Mars, which are liable to evoke pessimism. In *Red Mars*, there are political debates and personal hatreds; there is colonial exploitation, with the danger of dystopia; there is a battle for freedom, with a sense of tragic failure. Human beings, as portrayed in the book, do not seem to have the collective ability or wisdom needed to reconcile conflicts and abstain from using the advanced technologies for destructive purposes. It is as if the human species was not yet wise or mature enough to place collective goals ahead of individual whimsies and to do it consistently. We seem to be far too irresponsible and unreliable – far too *childish*, in fact – to be trusted in planet-wide projects. It is thus in the conflicts that we most clearly see the analogical potential of Martian colonization: instead of coming up with new methods and attitudes to meet the requirements of the new situation, the colonists may end up reverting to old solutions which the examples of history have already proved defective.

To look for reasons for the unreliability of human beings, as it is represented in this novel, though, is to enter the realm of psychological and sociological explanations, which go beyond the scope of the present thesis. Instead, I would like to draw attention to the fact that the book seems to portray the initial failure as virtually inevitable. Nobody wants the project to fail, yet nobody seems to be able to stop it from failing. Paradoxically, good intentions seem to lead to bad results, and nobody quite knows where the fault lies. Elaborating on the thought that human beings, like all advanced animals, mainly learn from their mistakes, we can explain this by saying that you have to make

the mistakes before you can learn from them. Since the colonization of an entire uninhabited planet is something that has never been rehearsed in the course of human history, except in science fiction, it is only inevitable that we would make mistakes in our first attempt, and that we would have to learn from those mistakes and try again, perhaps several times, before we could succeed. The good thing about this – the one that, again, testifies of human dynamism – is that we *want* to learn from our mistakes (though in practice we often fail to do so): this promises that if we keep trying, even though our attempts are occasionally thwarted, we will eventually succeed.

Finally, the analysis presented in this thesis, while interesting and useful in its own right – illuminating a central tension in an important work of contemporary science fiction – also opens up paths for further study. A natural followup is to review the themes brought up in *Red Mars* in the context of *Green Mars* and *Blue Mars*. In fact, any profound attempt to analyse Kim Stanley Robinson's vision of terraforming, or of building a Martian society, would require a consideration of the themes and attitudes of the entire trilogy. Discussions of the traditions and potentials of utopian science fiction would undoubtedly constitute an interesting background to such an analysis. More specifically, one might examine Robinson's Mars books in terms of cultural syncretism, i.e. as "integrated-humanity fiction", as Chris Galtenberg calls it.[167] One might ask, for example, whether Robinson's vision, despite its apparent syncretism, is to some extent biased towards American ideals and against other cultures.

Another useful approach would be to study the image of colonization in Robinson's Mars books in the context of earlier science-fictional portrayals of

[167] Galtenberg, Review.

Mars, or its colonization, or interplanetary colonization in general. The varying representations of Mars in science fiction, of which Robinson's trilogy is one example, could be analysed with relevance to Darko Suvin's theories of science fiction as cognitive estrangement, or Mark Rose's ideas of science fiction as an encounter of the human with the non-human, or later discussions drawing on similar concepts. Alternatively, some of the concepts and findings of postcolonial theory might possibly be incorporated. The crucial problem with *this* approach, I suspect, is how to validate the relevance of discussions of real-world colonialism to analyses of the science-fictional theme of interplanetary colonization. Problems, however, are there to be solved, and this relatively unexplored topic might prove to be fertile ground for a critic well read in both science fiction and postcolonial studies.

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