

MARS: **Science v. Fiction**

Humans have always been curious about space. Many humans have been, and are, *deeply* curious about space, and in the past millennia we have expressed this in two ways: by asking questions and by answering those questions ourselves. The first one is called science and the other is called fiction. One pursues facts, the other hypothesizes them. It is easy to see how they have become a dichotomy, polar opposites in academia and media, and yet they are both part of a feedback loop that cannot exist alone. As science inspires storytelling, fiction encourages scientists. Regardless, they are still in constant conflict. Fiction simultaneously rejects science and would be unable to exist if it remained within its boundaries; science cannot rely on fiction as a tool. Our stories, since the first rustic mythologies of the cosmos to the newest spaceship battle special effects, and their complex relationship with scientific exploration, serve a broader role in helping us understand how we view ourselves as society. Mars is an analogue planet onto which we can toss, explore, and wrestle with the issues of a material Earth. The utopias of the late 1900's remind us of the hopes for the new century. The dystopias of the next fifty years are indicative of the fears of the economic crash, World War II, and the Cold War. The first photographs of Mars inspired the beginnings of scientific realism, and in this new era we seek to remake Mars for ourselves, paying heed to what the consequences may be. As Kim Stanley Robinson said so well in *Red Mars* (1992), "We are all the consciousness that Mars has ever had" (Crossley, 16). Through film, music, books, plays, radio dramas, video games, and countless other mediums, we are working through our own conceptions about society and science.

The New World, the oceans, Antarctica – as humans explore the earth it becomes harder find a place to locate fantasy realms. There are no longer blank spaces on our maps in which to draw in sea monsters, dragons, and magical kingdoms. Instead, we either look to hidden places within our own world – consider the popularity of *Harry Potter* – or we take advantage of the mysterious expanses of space and hypothesize about what those worlds might be like. Giovanni Schiaparelli famously named one region of Mars "Utopia" in his legendary map, the first of its caliber, a decision that foreshadowed the hundreds of utopic stories to be built on the back of his canals theory and greatly inspired by Percival Lowell's belief in life and civilization on Mars (Crossley, 90-91). People jumped at the idea of unexplained geographic features and possible extraterrestrial life, and the novels published on the topic between the 1880's and right after the turn of the century have a number of fantastical predictions about underwater civilizations, subterranean tunnels, lush landscapes, and anthropomorphous Martians (Crossley, 91). They all manage to live in a pacifist, socialist, well-planned, pro-science, technologically advanced, one-world society free of disease, poverty, taxes, social classes, prison, and inequality of the sexes (Crossley, 91-93, 95, 99). Often, such as in *To Mars Via the Moon* (1911) and the aptly-titled *Unveiling a Parallel* (1893), this apparent perfection is used to shame human visitors into realizing the embarrassing shortcomings of Earth culture (Crossley, 95-97). *The Man from Mars, Or Service for Service's Sake* (1910) uses the same technique to promote a very different and decidedly Christian view on Mars' perfect society (Crossley, 101-102). These works are exercises in simulation as a means of criticism. The most pronounced and culturally integrated of

these works would have to be *A Message from Mars* (1924), a play that was performed over five hundred times during the twenty years it was in season, in which a Martian teaches a selfish English millionaire the Martian ways of “philanthropy, benevolence, and altruism,” in a manner very reminiscent of Dickens’s *A Christmas Carol* (Crossley, 100). The familiar format of the plot makes it a lesson in morality. These stories, prompted by the discoveries of astronomers and science, are meant to teach humanity about itself through the powerful tool of comparison. Martians are to be admired as perfect role models. Mars, as an analogue to our planet, was a straightforward way for creatives of that time period to conduct social experiments, argue for their utopic ideals, and either shame or threaten the imperfections of current human behavior. Most darkly but most clearly put in *Krasnaya Zvezda* (1908), or *Red Star*, Martians seeking to escape their dying planet determine that coexistence with violent, xenophobic humans is impossible and therefore that “colonization of Earth requires the utter annihilation of its population” (Crossley, 108-109).

In complete contrast comes a line from the film *Rocketship X-M* (1950): “Pity [the Martians]. Pity them” (Markley, 227). By the beginning of the 20’s up until the 60’s, Martian science fiction took an abrupt change in course. Lowell’s vision of extraterrestrial life, before interpreted as a hopeful and fantastical prospect, was overcome in popularity by his postulation that it was a planet on the brink of running out of water (Markley, 183). This dying planet theory, where life was headed towards extinction and all land was being consumed by desert, became the perfect mirror in which to interpret cultural anxieties. The stock market crash of 1929 and the Dust Bowl of the thirties brought ecological and sociopolitical concerns to the forefront of people’s minds and this became reflected in increasingly desolate works of Martian fiction (Markley, 198). While to some current readers the desolation shown in these novels might seem contrived, nearly cartoonish, it can be seen as genuine concerns for the future, given the immediacy of spreading fascism in the 1930’s (Markley, 199). After World War II, it expanded into ever-more nightmarish political criticisms, in which it was popular to depict humanity as “backsliding,” repeating the errors of its past and sinking into brutish de-evolution (Markley, 208). The Cold War only exacerbated these fears (Eisfeld, 100). *The Titan* (1954), full of blood and slavery; *The Cave* (1943), on a planet gone to dust; *The War of the Worlds* broadcast (1938), with its mass destruction and Nazi analogues; *Gunner Cade* (1952), with capitalism gone gruesome and rapid depletion of resources; *The Coming of the Terrans* (1967), with the continuation of European imperialism; and the famous *Barsoom* series (1912-1943), rife with violence and race struggles – these books and serials depict worlds that are nothing like the utopias of the end of the century, but humanity at its worst and most monstrous (Markley 195, 200, 205, 211, 215). Mars and Martians became a villain, where oxygen could be a drug (*Outpost Mars*, 1953) and water a merciless currency (*Secret of the Martian Moons*, 1955); where the concerns of a people could converge onto a desiccated, fictional planet full of violence and an ever-decreasing standard of living (Markley, 212 & 218). This kind of awareness and social commentary was a hallmark of the genre and of the time period (Markley, 208). In fact it has been noted that there was an aspect of “Frontier Mars” to the entire era, in which the anxieties of the time – war, cultural degeneration, the inevitability of human error – were addressed by filling the unexplored frontier of Mars with Western values as a kind of reassurance of self-preservation (Eisfeld, 97). Despite all this concern for the “status” of humankind and whether it was making progress (or becoming degenerate), creatives of the period did not show a particular love or reverence for science in their works. It was a popular trope to make use of microbes, as in books such as *The Martian Chronicle*’s “June 2001: And the Moon be Still as Bright” (1950), where

Martians are decimated by chicken pox, and *Last & First Men* (1930), where an artificial super germ is used to wipe out the invading Martians – the same occurrence that destroyed the indigenous population of the Americas, betraying the people's fears of colonization (Hendrix, 177-179). Yet as for astronomy and the “reality” of Mars, authors paid little heed. As the hero says in “June 2001,” “Science is no more an investigation of a miracle that we can never explain, and art is an interpretation of that miracle...never let science crush the aesthetic and the beautiful” (Markley, 220).

Science fiction entered a turbulent time following the fifties. Science was still asking the same questions it had been for decades – is there life on other planets? What does it look like? – without much evidence to inspire new models of thought and imagination (Hendrix, 165). The Lowellian prospect of Mars as the home of quirky, ancient civilizations was an embarrassment; no one could believe it any more. Even television was oriented more towards the science of Mars, with programs in the new genre of “science-factuals.” Authors had to use analogues for Mars instead of referring to it directly in order to be believable enough for readers, such as in *Dune* (1965) and *The Man Who Fell to Earth* (1963) (Hendrix, 166). When the first photographs of Mars were revealed by *Mariner 4*, Martian fiction took a severe hit – they reveal a barren wasteland, “blitzed and pulverized” (Hendrix, 168). Writers were reluctant to give up the dream of a Mars filled with life, possibility, and adventure, but the scientific facts were stifling. It seemed that authors had “nowhere to go” (Hendrix, 169). What followed were a number of works that tried to reconcile the very different viewpoints of traditional romanticism and the cold reality of planetary science. *Farewell, Earth's Bliss* (1966); *Marooned on Mars* (1962); and *Martian Time-Slip* (1964) depict bleak, inhospitable worlds that nonetheless have the capability to be a new home, a new frontier (Hendrix, 168-170). Yet Mars was not doomed to circle in this paradox forever; with one door slammed shut, another one opened. In 1971, *Mariner 9* captured a landscape that could inspire anyone to dream of dazzling possibilities. The magnificent volcanoes, gaping canyons, and signs of ancient floodwaters were just the permission that creatives needed to begin a new era of the genre. Now that there was conclusive evidence of the surface of the planet, there were certain limitations in place about what kind of dream worlds could be built. Instead of the free-for-all of the past and the imaginative stalemate of the previous decades, Martian science fiction became much more intimately tied with realism and deference to scientific discovery (Hendrix, 173).

And what to do, once there is a real image of Mars to explore? Colonize it, has been the reigning answer. Two voices are front of this discussion: Kim Stanley Robinson, author of the *Mars* trilogy and many other works, and Robert Zubrin, aerospace engineer and author of fiction and non-fiction. Zubrin's blueprint for *Mars Direct*, a relatively cheap and eminently possible mission to send humans to Mars with the technology of his immediate time period, with the express goal of finding life and beginning a colony, was outlined in the nonfiction book *The Case for Mars* (1996) and inspired a number of works of fiction such as *The Martian Race* (1999) and *Return to Mars* (1999) (Crossley, 264, 272, 277). His own novel, *The First Landing* (2001), was a rather self-aggrandizing piece, wherein all his predictions come true and *The Case for Mars* is considered a classic in the new Martian society. He is a passionate, vehement proponent for human terraforming of Mars and believes that the empty, impressionable “frontier” it provides will solve most if not all social ills (Crossley, 281-282). In contrast is Robinson, who has a much more delicate and conflicted opinion on human colonization. His short stories “Exploring Fossil Canyon” (1982) and “Green Mars” (1988) tell of the conflict between those who want a “green” Mars – a habitable, lush, inviting world created through the manipulation of the environment – or

a “red” one – barren, dry, but authentically beautiful as well as a historical and scientific record of the Universe (Markley, 358). He questions the ethics and ecological tradeoffs to terraforming and makes no firm preference either way. There is beauty, he argues, in the new world that could be built and there is beauty, too, in the original one (Markley, 360). *Red Mars* (1992) considers whether it is morally right to mold a planet based solely on human needs and desires (Markley, 369). *Blue Mars* (1996) explores a future where terraforming does not go to plan and an ice age sets in that ends up being a deterrent to human expansion just as the desert had been (Markley, 383). In *Icehenge* (1984), he considers the possibility that we might just repeat the same mistakes with Mars’ ecology as we have with our own (Crossley, 258). Zubrin is a fierce advocate for the opportunities the Martian frontier will grant us; Robinson tentatively leans towards caution and respect for the planet that Mars is and has been. Zubrin’s viewpoint is widely seen as simplistic and uninformed, while Robinson is much more careful of humankind’s tendency to err (Markley, 367). Shaping Mars to accommodate us – exploiting the planet, in some views – is contentious, and for the first time it is a conflict in science fiction that actively participates in real decisions that are to be made about our future relationship with Mars. While previous works of fiction could be inspired by the science of the planets, predict the possibilities, and run thought experiments on the nature of human and Martian behavior, the topics that are at the forefront today are genuine dialogues that scientists and politicians will be making in the future. Where do we want to go next? Who will go to space? What can we do and what *should* we do? Science fiction is finally playing a small, active role in the dialogues of our scientific reality.

Mars has served as a distorted mirror to Earth. It is a creative tool that authors and filmmakers use to teach us about ourselves. First it was utopias, inspired by the pseudoscience of the day, to argue the benefit of different models of society. Then it was dystopias to rile and only sometimes assuage the fears of the mid-century. Advances in science threatened to crush the genre, then brought it back to life. Now in modern times, fiction is keeping pace with science and keeping track of the new opportunities that technology presents. The science fiction works of the past are a fossil trail of historical perceptions of the field of science and societal situations; the science fiction works of the present will continue to reveal modern biases and beliefs about the world around us. As Bruce Murray, astrogeologist, said on the evening before *Mariner 9* was to enter orbit, “We *want* Mars to be like Earth” (Hendrix, 172). Mars, small and cold and very far away, buried in fictional history, untouched by humans, can help us understand ourselves.

*We shall not cease from exploration
And the end of all our exploring
Will be to arrive where we started
And know the place for the first time.*
- “Little Gidding,” T. S. Elliot

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