

THE MARTIAN – Film at CONCA VERDE on 30.05.16 – Talk by Adam Dukes and delivered by Joel Ormsby

I would like to start, if I may, with a quote. Isaac Asimov once said: 'Individual science fiction stories may seem as trivial as ever to the blinder critics and philosophers of today - but the core of science fiction, its essence has become crucial to our salvation if we are to be saved at all.'

Salvation. A word that immediately makes you think of religious images; saviours, deaths, resurrections and Gods. Fitting, then, that *The Martian* is a tale of a man, thought dead by his crew mates and the people of Earth, **seemingly brought back to life** and trying to survive on the hostile planet of Mars.

The novel

The Martian was written as a novel in 2011 by Andy Weir and was the first novel published under his own name. The story follows NASA astronaut Mark Watney, a botanist and mechanical engineer left stranded on the surface of Mars after his crew mates are forced to escape the planet as the result of an intense dust storm.

The film

The film was released in 2015 and stars Matt Damon. It was directed by Ridley Scott. The film's ensemble cast also features Jessica Chastain, Kristen Wig, Jeff Daniels, Michael Peña, Kate Mara, Sean Bean, Sebastian Stan, Aksel Hennie, and Chooitell Edgy oh four.

The novelist Weir is the son of a particle physicist and with a background in computer science and began writing *The Martian* in 2009. He researched relevant material so that his novel would be as realistic as possible and based on existing technology. In doing so Weir studied orbital mechanics, astronomy, conditions on Mars, botany and the history of manned spaceflight (no wonder it took two years to write).

Botany, also called plant science(s) or plant biology, is the science of plant life and a branch of biology. Orbital mechanics is the principle governing the motion of bodies in orbit around other bodies under gravitational influence, such as artificial Earth satellites. This area of study plays a pivotal role in the film. Astronomy, a natural science, is the study of celestial objects and processes, the physics, chemistry, and evolution of such objects and processes, and more generally all phenomena that originate outside the atmosphere of Earth.

We can call *The Martian* a hard science fiction novel because it uses scientific accuracy and technical details. Hard science fiction uses proven scientific concepts and technologies as well as well-regarded scientific theories to help drive plot. In doing so it attempts to ground what may be otherwise fantastical stories and far flung adventures in the depths of the solar system and beyond. Of course science fiction isn't limited to the realms of infinite space but that is another discussion.

When Andy Weir wrote the novel *The Martian*, he tried to present the science correctly and used reader feedback to get it right. When Ridley Scott began directing the film, he also tried to make it realistic and got help from James L. Green, the Director of the Planetary Science Division at NASA's Science Mission Directorate. Green put together teams to answer scientific questions that Scott asked.

Of the film Green said, "*The Martian* is reasonably realistic", though he said that the dust storm in the film would be weak even if it reached 190 kilometres per hour. Film critics picked up the point that the *Martian* winds would feel like "barely a light breeze" in their reviews, and screenwriter Drew Goddard agreed the winds had to be exaggerated in order to set up the situation that sets the story in motion.

The method in which the character of Mark Watney makes water is accurate and is being used by NASA for a planned *Martian* rover. The radioisotope thermoelectric generator (or RTG for short) that Watney uses for heat is also depicted accurately. Interestingly enough, RTGs use a specific type of plutonium (plutonium-238) that makes it a perfect material for use in space because of its half life but unfortunately it is in short supply. The reason being that Plutonium 238 is a by-product of producing plutonium 239

which is used in nuclear weapons. Therefore, because of the end of the cold war and a decreased need for weapons that could end all life on Earth, our expansion into the solar system is being slowed.

Popular scientist Neil DeGrasse Tyson was rather witty in his comments about the accuracy of *The Martian* by saying “Evidence that the @MartianMovie is fantasy: The USA & China cooperate with one another in Space.” and “Evidence that the @MartianMovie is fantasy: All (the people) who make important decisions are scientifically literate.”

Author Andy Weir's commitment to the rigorous research required for writing his novel *The Martian* should be rewarded and praised. It comes as no surprise then that the book and the subsequent film was nominated for many awards and even won a few, most notably including two Golden Globe Awards for Best Motion Picture and Best Actor in a Motion Picture Musical or Comedy. Those particular awards were seen as a sort of joke in the critical community and offered up as a critique of Hollywood as a whole. The reason being that even though the film had some light-hearted elements, it didn't make it a proper comedy. Scott was also nominated for Best Director. The film received nine nominations from the Broadcast Film Critics Association, including Best Film, Best Director, Best Actor, Best Adapted Screenplay, and Best Visual Effects. The film was nominated for seven Academy Awards, including Best Picture, Best Actor, and Best Adapted Screenplay, but lost in all categories.

The reviews

The Martian has an 8.0 user rating on review website Metacritic and is certified fresh with a 92% rating on Rotten Tomatoes .com. Joe Morgenstern of the Wall Street Journal said: What's so fascinating about the film is that it truly turns on the solving of problems, and its chief solver, stuck on Mars, manages to be so funny, interesting and infallibly likable that you're invested in his predicament at every moment. Manohla Dargis from The New York Times said: Mr. Damon's Everyman quality (he's our Jimmy Stewart) helps scale the story down, but what makes this epic personal is Mr. Scott's filmmaking, in which every soaring aerial shot of the red planet is answered by the intimate landscape of a face. Andrew O'Hehir of salon.com said: You can argue that the plot of *The Martian* doesn't offer many surprises, but this is a movie of innumerable delightful moments and small discoveries, and even more of infectious enthusiasm. And Russell Baillie of The New Zealand Herald described *The Martian* as the interplanetary tech geek gardening thriller of the year. Personally I think that this film is an amazing science fiction story that inspires as much as it entertains. Films like *The Martian*, and many others besides, are instrumental in inspiring the next generation of engineers, physicists, mathematicians and astronauts to take those tentative first steps to another world. This, I believe, is essential to our survival as a species and in that respect I agree wholeheartedly with Mr Asimov on the subject of science fiction: that it has become crucial to our salvation if we are to be saved at all.

The sponsors

This 5th Film Show is sponsored by AEGEE Bergamo – the association of Erasmus students, by Anderson House – the Cambridge Centre for Bergamo and, last but not least, by CRTDrills Lingue Bergamo – the Resource Centre for Language Teachers for the province of Bergamo coordinated by Noemi Ciceroni which operates within the Ufficio Scolastico Territoriale – the local education authority.

This is the last film in English this year. The next film will be in Spanish - *La Isla Minima* followed by the film in German - *Im Labyrinth Des Schweigens (Il Labirinto del Silenzio)*. There are 13 films altogether – 10 in English, 1 in French, 1 in German and 1 in Spanish.

Enjoy the film!