



Interstellar

2014

Directed by: Christopher Nolan

Produced by: Emma Thomas, Christopher Nolan, Lynda Obst

Written by: Jonathan Nolan, Christopher Nolan

Starring: Matthew McConaughey, Anne Hathaway, Jessica Chastain, Bill Irwin, Ellen Burstyn, Michael Caine

Music: Hans Zimmer

(Ref.: Wikipedia)

Interstellar and Space Travel

At a press conference of the European Space Agency (ESA) on January 12, 2017 ESA's Director General mentioned during his introduction of his "Moon Village" vision the movie Interstellar as a visionary example of how space exploration might look like in a century or two, or three....

Having watched the movie I would like to recommend Interstellar dearly for space enthusiasts as well as for laymen and -women, because it is inspiring and moving as it touches on actual global problems which might accelerate in the future and might – as predicted in the movie – threaten our unconditional living on this planet.

As a basic theme the movie addresses and tries to illustrate Einstein's theories of relativity and its mathematical consequences for space travel close to the speed of light. In particular the movie sends a team of astronauts on a journey to travel through a "worm hole" into another universe to look for a habitable planet. Only using the wormhole "traversing" technique, travelling on a "closed timelike loop" would bring you to a point to the past "... if you could master to survive the bodily perils looming for you". The "closed timelike loops" go back to a solution of Einstein's field equations by Kurt Goedel in 1949 (Goedel-solution), valid for a rotating universe – which ours isn't. Nevertheless the mathematical existence of these loops is proven [1].

The basic plot deals with the big question of how mankind can survive in the future: former NASA astronaut Cooper is recruited by then de-institutionalized NASA to slip through a wormhole into another galaxy and look for earth-like planets. A fantastic and epic story about heroism, love, envy and survival develops, changing across and between space and time to finally lead to an encouraging end.

The movie really breaks new ground when it comes to visualization of the 4th dimension and the relativity effects of spacetime and time dilation.

I think the shown solutions are fascinating and imply a "metaphysical-scientific" touch. Introducing the wall-filling, huge bookshelf in the old Midwest farm house of the unemployed astronaut and farmer is a little odd in the beginning, but in the end it turns out that it symbolizes the spiritual, spacetime interconnection with everything important to Cooper and his daughter Murphy.

After a desperate slingshot past a "Gargantuan" black hole Cooper crashes into a "tesseract" passing through spacetime and dimensions in a mindboggling sequence, similar to Kubrik's "Odysee 2001" – and finds himself metaphysically in a time wrapped, four dimensional space, the tesseract, behind the bookshelf in his old farmhouse trying to relay to his daughter at young age, to his grown up daughter and even to his former self i.e., before he left for his interstellar trip.

I find the metaphor of the bookshelf very intriguing because it suggests that all findings humankind

ever collected during its very existence is captured and perpetuated somehow through and by books as our legacy. In a sense, the contents of the books carry their own dimensions through space and time. Thus, the “timelike” loops close here.

Additional dimensions are faith and love: when Cooper, unaffected by age through time dilation , meets his old age daughter on her deathbed and she tells him she knew that Cooper would return “because my dad told me he will be back”.

The movie is highly recommended, because it raises the viewer’s awareness for our current global problems, their possible consequences and their theoretical, but very difficult solutions offered by optimistic “futurists” – with still a long and cumbersome way to go. A much better and easier solution would be to take better care of the Earth we have, but that is by no means a plea to stop space exploration and research, in the contrary, we need more research to protect the Earth from the perils of space and to utilize resources offered by space. If meaningful space travel develops as a side effect – the more the better!

A little remark about Dr. Brand and his de-institutionalized NASA: as experience with the International Space Station (ISS) has shown, one nation alone will not be able to shoulder such an interplanetary enterprise.

Global cooperation is needed – and not only for finding earth-like planets, but also for securing the survival of our grandchildren and great grandchildren in the long run!

Reference

[1] Zeitreisen und Zeitmaschinen Andreas Müller Heute Morgen war ich noch gestern (Time Travel and Time Machines) ISBN 978-3-662-47109-8, Springer Praxis Verlag, 2016

February 2017, Joachim J. Kehr, Editor Space Ops News for the “Journal of Space Operations & Communicator” <http://opsjournal.org>