

Science Fiction and the Exploration of Space

Long before the first astronauts entered space, humans dreamed of space travel. Little about the space environment was known, and it seemed reasonable that the worlds above would be like the world below. In imagination, existing forms of transportation were sufficient to travel through the heavens. Storytellers, the first science fiction writers, concocted adventures that carried people to the Moon on sailing ships and platforms suspended beneath eagles flying to catch legs of mutton dangled just out of reach by sticks. Giant spring-propelled sleighs and whirlwinds transported others. In one story, people traveled to the Moon on the temporary bridge created by Earth's shadow during a lunar eclipse.

During the nineteenth and twentieth centuries, fictional space explorers began to travel through space using rockets, cannons, and antigravity substances. In 1865, Jules Verne's story, *De la terre à la lune*, space explorers traveled to the Moon inside a cannon shell. In 1901, an H.G. Wells' story propelled a spacecraft to the Moon with an antigravity substance called "cavorite" in *The First Men in the Moon*.

Near the end of the nineteenth century, motion pictures were invented. Space exploration science fiction (sci-fi) stories quickly moved to the silver screen. Sci-fi became one of the first movie genres. In 1902, the 8-minute *Le Voyage dans la lune* was released. Loosely based on Jules Verne's story, the movie startled audiences with its special effects.



Special effects scene from *Le Voyage dans la lune*.

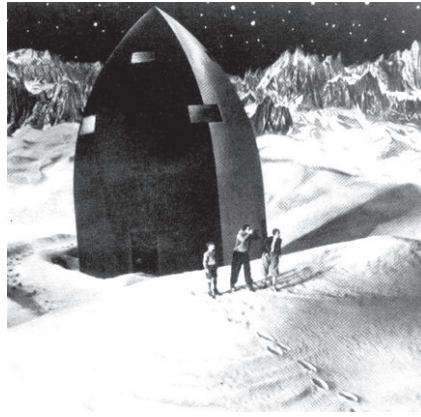


Another early effort was Fritz Lang's 1929 movie *Fra im Mond*. It featured a Moon rocket launched from underwater.

Since the earliest film efforts, hundreds of space exploration sci-fi movies and weekly "cliff-hanger" serials have been created. They tell fantastic stories and stretch the viewer's imagination from Earth orbit to the deepest reaches of outer space. In the late 1940s, movies were joined by television and began broadcasting multi-episode space "westerns."

Today, space exploration sci-fi is among the most popular of film and television genres. Audiences love the stories, in part because they make almost anything seem possible. The stories they tell are often visionary. Long before the Apollo program, movies took humans to the Moon and Mars. Long before they were needed, movie and television makers created spacesuits and space maneuvering units. Large space stations were erected in imaginary orbits. The first space stations didn't reach Earth orbit until the early 1970s, but they orbited Earth in 1950s films. Every few days a new extrasolar world is discovered by scientists. Science fiction space explorers have been exploring those worlds for decades.

However improbable and dopey some of the early special effects may now seem, space exploration movies and television have much to offer.



Scene from *Fra im Mond*.

Comparing the science and technology they present to real space exploration is a fascinating endeavor. What has turned out to be real and actually happened? What hasn't happened yet? What is scientifically correct? What is scientifically incorrect or just plain silly?

Regardless of their scientific and technological authenticity, space exploration movies and television energize the imagination. They have excited the masses and have helped generate popular support that makes real space exploration possible.

Opportunities for Student Research

Space exploration sci-fi offers students interesting and entertaining research lines. Telling the difference between good and bad science and technology requires knowing good science and technology. Have students select a movie and review it for the science and technology presented. The following are a few questions students might try to answer in their reviews:

- What is the movie's title?
- When was the movie made?
- What is the plot (story) of the movie?
- How was space travel accomplished?
- Describe the vehicle used. What was its power source?
- Did the movie employ real science and technology? Give some examples.
- Did the movie make science and technology mistakes? Give some examples.
- Has NASA used similar science and technology to explore space? Explain.
- Did the movie accurately predict the future? Give some examples of how.

Here are a few suggested movies for students to review. All are available on DVDs from rental stores and online rental stores.

Rocketship XM (1950)

Engine and fuel problems during flight cause Rocketship XM to zoom its crew past its original target, the Moon, and arrive at Mars instead. G forces and a destroyed Martian civilization are some of the challenges faced by the crew.

Conquest of Space (1956)

A space crew onboard a spinning wheel space station uses a space taxi during space walks to prepare their ship for launch. On its way to Mars, the crew dodges a flaming asteroid and deals with emotional problems.

Forbidden Planet (1956)

Humans travel by flying saucer to a distant world and meet their inner selves.

First Men in the Moon (1964)

An H. G. Wells story adaptation carries two accidental space travelers and an eccentric scientist to the Moon in an antigravity-propelled space sphere.

2001 A Space Odyssey (1968), *2010* (1984)

In a series of slow-moving visual experiences, humans travel to the Moon and Jupiter to follow mysterious alien signs. The film predicts space hotels and multi-year space missions.

Star Wars, Episodes I - VII (1977 - 2005)

Rebel forces battle an evil empire across a galaxy far, far away. A wide range of space vehicles, robots, and alien life sustain the action.

Star Trek (1979 - 2002)

In a series of movies Captains Kirk and Picard save Earth and strive for peace in the galaxy. Using warp drive and transporters, they boldly go where no humans have gone before.