

Following on the end of Mitchell's talk last week: Going to the Moon has many characteristics of a religious experience. Armstrong deals with it by saying nothing. Someone else makes these awful paintings of his experiences on the moon. Mitchell does his ESP experiments. Astronauts aren't trained in how to deal with the transcendent experiences they often have upon going into space or landing on the Moon.

On one hand, it's a shame that Armstrong doesn't talk at all about his experiences and perspectives. On the other hand, it's kind of understandable, given his close post-Apollo friendship with Charles Lindbergh, who did make strong political statements after becoming a huge celebrity, which were very naïve and really ruined his public image. Lindbergh advised Armstrong not to make the same mistakes.

According to Mitchell at dinner before his lecture here in class, Nixon cancelled the Apollo program because it was the remnant of a Democratic administration. So, it was an almost entirely political move.

Landing Point Designation

Armstrong used the semi-automatic control to find the first landing site, so that one doesn't count.

Apollo 12: landed near Surveyor II. Didn't try to be as accurate as landing at a particular set of coordinates; just wanted to land amidst a particular set of craters, near the Surveyor spacecraft, and they did this successfully. Descent was steeper than in Apollo 11; pilot lost sight of the landing site, so he relied on knowing where he ought to have been. The maneuvering for this landing happened higher off the ground than in Apollo 11, and then the descent was just quick and steep.

Picking the landing site at a higher altitude and coming in steep is more fuel-efficient and better for landing in rough terrain, but does make it harder for the pilot to use his own visual confirmation.

What happens when the vehicle is going along smoothly, but the terrain changes dramatically in altitude beneath it? The altimeter will change its readings really fast and a servo on the craft will probably want to send the craft up higher, so you need to fix this (often by letting it get a map of the terrain to know what's going on beneath it). Terrain monitors greatly improved the accuracy of later missions.

The height at which the pilot would take over attitude hold decreased from earlier to later missions (dropped from 550 ft to 240 ft above the surface), showing how the astronauts became more comfortable with computer control.