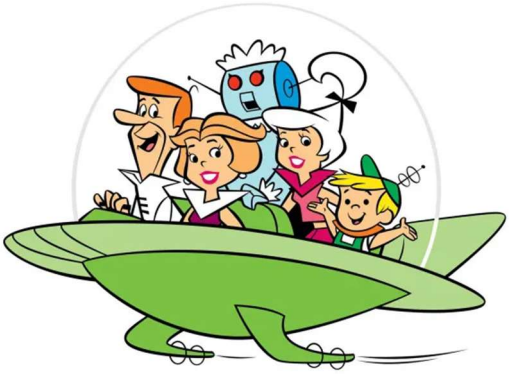
Back to the Moon

By Brad Young

“There is no dark side of the moon, really; matter of fact, it’s all dark.” - spoken by Gerry O'Driscoll, the Abbey Road Studios doorman where Pink Floyd’s Dark Side of the Moon album was made.

While looking over some of my books for ideas for this article, I came across a passage that described flying in a spaceship towards the Sun from above and how we would notice not only the very bright star, but also “eight star-like scattered around the Sun at different distances.” We would notice they moved around the Sun in journeys from “three months to more than 160 years.” Looking at the book, I noticed that it was far too old to consider the demotion of Pluto. Then it hit me; Astronomy for Everybody was written by Simon Nemcomb In 1902, before the discovery of Pluto. This was fascinating, here was a book written the year before my great-grandmother was born that had no idea Pluto even existed. Between this realization and the excitement of humans returning to the Moon on Artemis II, I have been caught up in the same popular movement of pride again in humans and how we can discover and accomplish fantastic things when we put our minds to it. I was as guilty as anyone of bemoaning the fact that I hadn't seen a moon mission since I was six years old before this one, but it still has rekindled the sense that space travel and exploration are things we can and should do. Perhaps best of all, it has done so readily. especially among younger folks.

Looking back through some of my other books I turned my attention to the beginning of the Space Age and all the wonderful promises that we were given just before I was born and when I was a small child. These books contain descriptions of space stations much larger than the one we have with people living on them full-time in a community that would rival an army base here on Earth. In fact, the first serious discussions of space travel had taken it for granted that men would be the most important payload carried into space. There were all kinds of space vehicles that would be developed not only rovers for the moon and Mars but also quick shuttles to and from the space stations and even tourist adventures like a weekend on the moon.

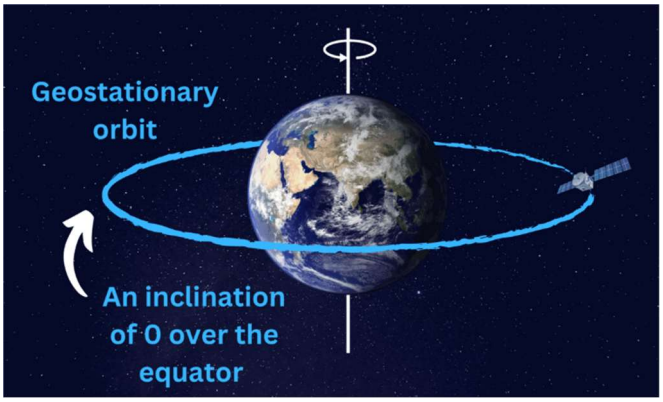


Of course, here on Earth things would continue to adapt and improve, including roadless (not driverless) cars that flew around or were on a sort of magnetic air rail. Of course, all transportation would have their energy needs supplied by nuclear power. Enough uranium was estimated to provide 1955 energy requirements for 2000 years and nuclear waste and accidents were seen as manageable.

Come, my friends 'tis not too late to seek a newer world.
To sail beyond the sunset, and the baths of all the western stars. Ulysses, Lord Tennyson

We certainly did accomplish a few of these things, but the emphasis on manned exploration dwindled as visiting the outer planets became paramount. We might have visited every planet in our solar system and even now perhaps be sending people in cryogenic states to a nearby star to explore it and return or report on it from there. Whatever the situation called for, and whatever our curiosity turned to, we would be able to do these things by applying science and by developing a society in which people are rewarded for what they give to mankind, a meritocracy.

In space development, there have been many fantastic choices that turned out to improve our knowledge dramatically. Science in Space, by Berkner and Odishaw, pointed out several ways to use space for science in 1961, and many, including space telescopes useful across the entire electromagnetic spectrum, the study of Earth's structure using tiny fluctuations in the orbit of satellites, life science studies and many more.



As described in the paper, “Can Rocket Stations Give Worldwide Radio Coverage?” Wireless World, October 1945, Arthur C. Clarke shows how geostationary orbits can allow global communication satellites, and later modified orbits support GPS, weather forecasting and much else.

Society changed after the Moon Race, much like the downturn after a gold rush. Government funding dried up, and experts left the industry. The high initial cost of manned space travel, coupled with unfortunate accidents, soured the public’s taste for it. And the utopian dreams of weekends visiting Jupiter were soon seen as laughable, not something to strive for.

In addition, poor choices were made. Limiting the manned program to Shuttle flights while also axing many unmanned missions tended to annoy all sides equally. Colonization of the skies with artificial satellites by the world’s wealthiest companies threaten our dark skies and even the use of Earth orbit due to possible debris. Of course, it would be simple and a complete waste of your time for me to list all the ways that we have failed to meet the vision of a better world through space in the last sixty years. And remember that some of today’s threats to astronomy, such as the on-orbit solar panels transmitting energy down to the ground, started in the late 1970s as the Solar Power Satellite (SPS).

Perhaps returning to the Moon, building a permanent base there or going to Mars will help a new generation see the possibilities if we work together and use science as a tool for good. If nothing else, I know that many of the astronomy clubs and the increase in interest in space coincided with the space race and perhaps that will repeat itself in the next few years and give amateur astronomy a much-needed boost. It's also up to us who are currently involved and hold the future of amateur astronomy in our hands to make sure we welcome new people, meet them halfway on issues of equipment technique, etc., and make this an exciting and rewarding hobby populated by people who are interested in making the study of our universe both professionally and individually a priority matter. Amateur astronomy is one of the most popular ways to bring young people to a STEM education, and citizen science is one of the approaches that seems to have great potential to draw a wide group of people to science in a popular way.

Bibliography

Rocket Dreams, Marina Benjamin (2003) p.3-4
“The Earth’s Uranium”, Atomic Power, Paul F. Kerr (1955) p.69
Space Resources: Breaking the Bonds of Earth, John and Ruth Lewis (1987) p.311-313
Astronomy – Sky Country, K. Noon and K. De Napoli (2022), p.100
https://www.space.com/29222-geosynchronous-orbit.html
Other sources quoted within article