Take Bold Steps Beyond the Bounds of Earth

By Peter Diamandis July 21, 2014

U.S. World and News Report

<http://www.usnews.com/debate-club/should-we-go-back-to-the-moon/take-bold-steps-beyond-the-bounds-of-earth>

The fact that we went to the moon with 1960s technology is extraordinary. That fact that we never went back is shameful. Should we send another mission to the moon? Absolutely. But it should be a private effort backed by financial support and incentives from the government.

A mission this complex requires the kind of cost efficiencies and risk-mindset found only in today’s commercial industries. It should make use of the most modern, cutting-edge technologies in modern consumer electronics, rather than obsolete components. Did you know that the Curiosity Rover that’s exploring Mars runs on a PowerPC microprocessor? That’s similar to the processor Apple used in its laptops back in 1997.

Such a mission should also be independent of the “start-stop-start-stop-cancel” cycle of government space projects. Time and time again we’ve seen the most audacious government ventures canceled because they take a decade to accomplish, and thereby span several election cycles, with Democrats canceling Republican initiatives and Republicans canceling Democratic initiatives. Consequently, nothing gets accomplished.

It is only with a commercial mindset and commercial technologies that we will achieve a long-term vision of space commercialization and industrialization. The systems pioneered by a company like SpaceX, with its Falcon 9 rocket and Dragon 2 spacecraft (which allows for propulsive landing), are perfect for going to the moon and beyond.

Furthermore, there has been much debate regarding whether we go back to the moon or focus our attention on Mars. The answer is we do both: Mars is a place where we can set up human colonies and essentially recreate the Earth’s biosphere, but the moon and near-Earth asteroids are critically important stepping-stones to the entire solar system.

As a precursor to humanity’s return to the moon, I’m very proud of our Google Lunar XPRIZE competition, which is offering $30 million in prize money (and up to $30 million in additional NASA contracts) to the first privately-funded team to land a robot on the Moon that travels 500 meters and sends back high-definition photos and videos. We will spark the creation of a cottage industry of exploration companies that will help bring down the cost of accessing the moon by 10 to 50 fold.

These next few decades represent the window in time when the human race is moving irreversibly off the Earth. Thousands of years from now, when humanity looks back, our generation will be remembered for the bold steps that took us beyond the bounds of Earth.

Konstantin E. Tsiolkovsky, the Russian scientist who is considered the father of modern day cosmonautics, famously said, “Earth is the cradle of humanity, but one cannot remain in the cradle forever.” It’s time for us to get out of the cradle and start exploring the boundless resources of space.

Main argument (should explore space)

Premises:

1. It is a shameful inaction that the U.S. has not returned to the moon/funded space exploration.
   1. The U.S. has the ability to enable space exploration, e.g. return to the moon.
2. Shameful inactions should be reversed. (implied)

Conclusion:

The U.S. should return to the moon/space exploration.

Analysis:

This conclusion focuses on whether space exploration should be performed. For this conclusion, the argument must answer why space exploration is required/beneficial. Premise 2 is the key premise in this argument. It basically states that things that are shameful should not be done. The question of whether this premise is true is the heart of the argument. The fact that ‘shame’ is fundamentally a moral issue implies that enabling space exploration is a moral issue. The presented argument does not provide any evidence/premises as to why a technical activity such as space travel is a moral issue, however. Therefore, this argument is quite weak and poorly presented. (Note: The quotation at the end of the article is the same, but uses “get out of the cradle’ as the moral imperative rather than ‘shameful’.)

The information in most of the article about commercial funding is not relevant to this argument as it is a proposed strategy on how to fund/enable space exploration/return to the moon but does not supply a compelling reason to do space exploration

Alternative main argument (should commercially fund space exploration)

Premises:

1. Solely government funded space exploration is inefficient.
   1. Solely government funded space exploration uses outdated technology.
   2. Using outdated technology is inefficient.
   3. Government political election cycles cause disruptions in funding space exploration.
   4. Disruptions in funding are inefficient.
   5. Inefficiencies result in increased expenses and project delays.
2. A commercial/industrial mindset is efficient.
   1. Efficiency means accomplishing the same objectives at lower cost/in less time
   2. Private commercial industries use current technologies.
   3. Current technologies are efficient.
3. Efficiency is beneficial.
4. Long term space exploration requires a commercial mindset.
   1. A commercial mindset to fund projects requires profit generation. (implied)
      1. Commercialization results in competition.
      2. Competition decreases the cost of producing goods/services.
      3. Decreasing the cost of producing goods/services generates profits
   2. Space (moon/Mars) contains useful resources.
      1. Useful resources generate an economic profit.
   3. Long term exploration of space is needed to obtain these resources.
   4. Long term exploration of space requires efficiency.
5. Commercial companies are capable of funding space exploration.
   1. Google lunar XPRIZE
   2. SpaceX space craft
6. [Beneficial actions should be done]

Conclusion: Private/commercial industries should fund space exploration.

Analysis

This argument does not focus on whether space exploration should be pursued (see prior argument) but rather who should fund the space exploration. The reasoning is based on the inability of the government vs. commercial industry to efficiently perform space exploration. The main HOS here is the term ‘commercial mindset’ or ‘efficiently’. The reader must supply a key premise (4a) that for commercial industry these terms are related to profit. The logical linkage between profit (purpose of a commercial industry) and space exploration results in the conclusion. Without a premise of this type, the argument is not logically valid, hence the conclusion is weak.

There are 2 very different arguments presented in the article. The argument about a moral imperative to enable space exploration is rather weak, as most readers would not consider space exploration to be a moral issue. The argument about commercial funding is a much stronger argument, depending on the inclusion of the key premise connecting profit to space exploration. However, this argument has a major inductive flaw in premise 4c, which implies that space exploration is the only way to make a profit.