

# Ethics and space exploration



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In recent years, there has been a rise in debate over government spending on space exploration. It is hard to say that the deck is stacked in either way. There is much validity in the arguments from both sides of the gun. In this debate, I believe, the sides are both coming from the perspective of utilitarian ethics. Basically, it is a disagreement on which view's decision will benefit the most people and cause the least amount of pain. Is it better to look toward the future? Or, is it more important to concentrate on the present? How do you compare pleasures that aren't certainly known?

These are just a few of the questions that heat up the debate over space exploration. Space exploration made its' true step into the spotlight in 1957 with the launching of the Sputnik. (Dick, 2008) From there the possibilities of space exploration became endless. An unimaginable frontier was discovered and the whole world was completely behind the idea of the " final frontier". Without diving too much into history; shuttle crashes, decrease in belief that significant space findings are useful to life on Earth, and the extraordinary economic downfall of late have changed the public's view on the " importance" of the space programs funding.

Those who are against the continuance of NASA funding and space exploration have a number of arguments at their disposal. The most heard argument from those against is, " We shouldn't spend money on space exploration until we have solved our problems here on Earth". (Hedman, 2005) There are obvious problems in the United States, i. e. global warming, resource depletion, incurable disease, healthcare, etc. The U. S. is at a current National Debt of 13. 6 trillion dollars. (Simmons, 2010) The

Department of treasury spent \$414 billion dollars on paying interest to National Debt holders.

With an economic crisis of that magnitude on our hands, some believe that any money spent on space exploration is a bad idea. Another point made by those that disagree with space spending, is that if we, as humans, have caused this much disruption and disaster on our own planet, is it worth it to risk disruption in solar system, that could turn out to be astronomical, no pun intended. We have expanded human presence into pristine forests resulting in the disruption of migratory routes, soil erosion, and species extinction. " Stewardship holds us accountable for a prudent use of space resources.

Such responsibility may support exploration of the final frontier, but at the same time it warns against exploitation of its resources. We must account for our urges and actions in terms of their impact on others, the universe, and the future. " (McLean, 2008) Astrobiologist Debbie Pring, not against space exploration, yields, " Like the wood being harvested from the rain forests destroying them in the process...NOW we know it was not a good idea. The moon is there to give light and provide just the right gravitational balance to our orbit and rotation and tilt.

That is an extremely important reason to be weary of tampering. " Is there evidence of enough benefit from space exploration to justify the risk of tampering with the delicate balance of our solar system? Those for the expansion and increased funding of space exploration tell a whole other side to the story. Supporters of space exploration believe that there strongest defense is simply a statement. That statement is that, " The space program

helps us understand the universe and our place in it. I don't know how you put a dollar value on that. (Hedman, 2005)

To the naysayers, space advocates say that " when technology doesn't advance as we expected, one of the biggest reasons is insufficient funding. "(Hedman, 2005) The Planetary Society recently published on their website a piece by Dr. Louis Friedman complaining about NASA deleting more than two billion dollars from Mars mission planning, including a sample return mission and the Mars Telecommunication Orbiter. (Hedman, 2005) Could the loss of funds be sabotaging the space program's ability to conduct proper experiments and exploration?

Dr. Friedman also argues that we must not lose sight of our goals. He goes on to say, " Americans are a competitive group and don't want anyone else to set foot on Mars before we do. Using that fire is one of the best motivations to keep Congress and the next several administrations on our side. " (Hedman, 2005) Space exploration advocates believe, that the fight, over funding and the belief that too much money is being spent when it is needed elsewhere, is purely a hollow and irrelevant argument.

In 2010, the Treasury Department spent \$414 Billion on interest payments to the holders of the National Debt, compared to NASA at \$19 Billion, Education at \$53 Billion, and Department of Transportation at \$73 Billion. (Simmons, 2010) In 2005, NASA had a budget of \$16. 2 billion, this includes not only the human spaceflight division, but also other engineering projects, and science funded by NASA. The total federal spending budget in 2005 was on the order of \$2 trillion (\$2000 billion), making the NASA share 0. % of the budget.

By comparison roughly 19% of the budget was spent on the Military, 21% on Social Security and 8% went to paying interest on the national debt. (Masters, 2005) Not only do supporters make the argument that the amount of money spent on space exploration, while it may seem to be vast amounts to ordinary people, is a relatively small percentage of the National budget, but they also point out that, in 2005, a highway bill included \$231 million dollars for a bridge in Alaska to an island with fifty residents.

In a time when that kind of money is apparently being spent for the convenience of so few people, advocates of other programs have to wonder why they can't get more money. (Hedman, 2005) If they needed a reason to argue for more space funding, it came to fruition in 2004. With the story of the asteroid Apophis (formerly known as 2004 MN4) having a one in thirty seven chance of hitting the Earth in 2029, spending money looking for near Earth asteroids was given a significant increase in credibility. The fact that it still has a one in eight thousand chance of hitting in 2036 keeps that credibility alive.

Do you have to have a more valid or creditable reason that saving the planet from asteroid collision? Like most ethical arguments, one of this nature and this one specifically, will never be resolved because the " answer" to the problem is all a matter of opinion. There is much validity from both sides of the debate. On the " against" side, the argument will always be, " , what could justify spending a non-trivial fraction of an enormous GDP on " pure science" that has little foreseeable social and political benefit? " Advocates for space exploration will always provide sufficient evidence and argument to

keep the majority of “ important” people, government related, on the supporting side of space funding.

At the end of the day, we are trying to decide ethically about something that we aren't even sure will produce significant pleasure over pain outcomes. Our world could be destroyed before we even have the chance to use the resources of space, or there is the fact that the small amount of funding would be pocket change in the fight of our current problems. Personally, I believe that this debate will live on forever with no developments of any significance in the near future.