The Urgency of Space Migration

By Michael Goff

Debates rage about whether space migration is a moral good. Can human intervention in extraterrestrial environments be considered a positive thing? Is human civilization a morally positive force, and if so, is expanding it far across time and space a good thing? Within the framework of the idea that space migration, in the abstract, is a good thing, there is a debate on how high a priority space endeavors carry, and with how much urgency they should be carried out. I argue that space migration, as a moral good, should also be regarded as an urgent priority, for there is no guarantee that the window of opportunity presented to humanity today will remain open indefinitely.

The arguments for delay are manifold and, at first glance, seemingly sensible. First, there is the argument that, as there are significant terrestrial problems, effort expended on space exploration will detract from more compelling priorities. Perhaps, then, space endeavors should wait until conditions on Earth are improved. A major problem with this reasoning is that there is no reason to expect that, if NASA's or private space ventures were halted, the resources spent on these ventures would then be diverted toward a desired aim. Humanity now comprises eight billion people, leaving ample opportunity to pursue many priorities simultaneously. World government spending is over $14 trillion per year, ostensibly for public good, and it is highly doubtful that the addition of less than 1% of that for other purposes would make a decisive difference in any terrestrial outcome.

Space exploration is dangerous and physically taxing. The first generations of Martian explorers, and of permanent dwellers in orbit, on the Moon, and on Mars, will face severe risk of death from accidents, as well as threats from radiation, rudimentary medical care, zero or low gravity, psychological stress, and other risks. Perhaps after a sufficient period of time, supertechnologies such as warp drives, matter replicators, or artificial general intelligence will be available and reduce the risk. Therefore, it is morally sensible to delay further human space exploration until such technologies are developed.

Against these considerations is the overwhelming case for urgency. First, as thinkers such as Stephen Hawking have argued, an earthbound humanity faces severe existential risks, such as nuclear war or ecological disaster. If humanity has built self-sustaining civilizations in multiple places throughout the solar system, or especially in multiple places beyond the solar system, the risk of a disaster that could permanently foreclose space migration is greatly reduced.

Even absent a disaster on the magnitude of general nuclear war, delay carries risk. Those of us living in the early 21st century have experienced such extensive progress in the modern world—in science and technology, in economic growth, in peaceful and just government, in rising standards of living, and in respect for human rights and dignity—that it is tempting to take such progress for granted. But it is not automatic or inevitable that the future will continue to be better than the present.

Indeed, in the early 21st century, there are several worrying signs that this trend of progress may halt and go into reverse. Breakthrough scientific discoveries and technological inventions are becoming less common. Governments and major institutions are becoming more sclerotic and unable to address the needs of the public or the purposes for which they were created. Economic growth in wealthy countries is slowing down. Birth rates are falling worldwide to the point where most wealthy and many middle-income countries are not able to maintain their populations. The impulse to delay space migration is part of the "can't do" attitude that underlies many of these trends.

A delay in space migration, will, at best, deprive a generation of the opportunity to enjoy the scientific, technological, cultural, and spiritual fruits of such an enterprise. At worst, delay is tantamount to preventing migration from happening at all. To borrow a phrase from Alex Steffen, writing about action on climate change, the excuses offered against approaching space migration with great urgency constitute "predatory delay" and should be firmly rejected. Instead, we must approach space migration with all the care and deliberation demanded of what may be a central project. Such deliberation is the opposite of delay.

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About the Author: Michael Goff is a founder of Urban Cruise Ship, an environmental policy think tank. Prior to that, Michael received his PhD in mathematics at the University of Washington and did a postdoctorate at Vanderbilt University. His hobbies include programming, data science, and urban hiking. Michael currently lives in Portland, Oregon.

Editors' Notes: As we near the end of this issue, we hope you leave with not only a prospective approach to space migration, but also a sense of urgency around it. As first-time contributor Dr. Michael Goff eloquently argues in this brief piece, delay could be catastrophic. It is up to each of us to do our part in communicating this urgency to others so that catastrophe can be averted in the coming decade. ***Mark Wagner and Gordon Arthur.***