

The loss of the space shuttle, Columbia, reminded us just how dangerous human spaceflight still is. We had almost come to take for granted the precision with which NASA launches astronauts into orbit and brings them back home. The fiery re-entry of Columbia breaking up 40 miles above Texas on national television provided a stark reminder of how difficult spaceflight is and causes us to question the basis for these missions as we mourned the loss of the astronauts and the grief of their families.

NASA has only two reasons to send humans into space right now: to populate the International Space Station (ISS) and to service the Hubble Space Telescope. Although the ISS dominates the number of missions, most people follow the missions to Hubble more closely. The basis for the Hubble missions is easiest to understand. In almost every newspaper article discussing NASA's commitment to human space flight, Hubble servicing is mentioned as the shining example of how the shuttle program has benefited science. We, too, believe that servicing Hubble has been a great benefit to science and is an aspect of human spaceflight that is worth supporting. But we must ask if the scientific return can justify the risk to human life.

There is no shortage of applicants to NASA's astronaut program. Explorers, like scientists, are driven by curiosity and routinely risk their lives to explore unknown frontiers. Throughout history, great adventures into the unknown by brave souls risking their lives have been epic tales of inspiration for all civilizations. Risk-taking in pursuit of knowledge lends a noble purpose to life that transcends the need for mere subsistence. The astronauts who service Hubble enable society to explore the cosmos, and hence contribute to exploration that has been a driving force among humans since their early evolution. Like the ancient explorers of new lands, they risk their lives to lend a noble purpose to our existence.

I would not ask an astronaut to risk her life for my science. But I am grateful that there are people who do so voluntarily, who go into space to improve civilization through the acquisition of knowledge and give their lives a noble purpose. So long as we have people with these ambitions, it is worth the risk of sending them on purely voluntary missions of scientific exploration. They enrich the society that makes their exploits possible.

We are justly proud and simultaneously humbled by the courage of those who journey to space on our behalf. And because even non-scientists can appreciate the wonders that Hubble has uncovered, I believe the nation will continue to send astronauts into space to maintain our most important observatory. We respect the people who go into space for us and pay tribute to their comrades who lost their lives so tragically on the first day of February this year.