

The Dawn of a New Space Age

The endless expanse we call Space has beckoned us for eternity, and today that pull is greater than it has ever been before, not because our interest in space has increased, but because new technology has enabled us to edge nearer to becoming an interplanetary species. For millennia we have searched the stars for our deepest questions, attributing the alignment of the celestial bodies to our future and past ^[1]. We have never been a species to settle. Our nomadic ancestors had to roam the plains and mountains in search of food and shelter, because for the proto-humans, that was what was a source for happiness. We humans could have remained in the grasslands of the savanna ^[2], but we ventured across the continents, crossed rivers and oceans, scaled mountains and deserts, and today, no piece of land on Earth is unclaimed. It is only the most natural step, what is imbibed in the very essence of what makes us human that we move outwards, towards distant planets, and stars..

Our innate desire to explore, and wander stems from our nomadic roots, but it is no longer food and shelter that is the source of our contentment. Unlike our ancestors, we have moved onto searching for answers to bigger, less tangible problems, but like our ancestors, we will only be able to find answers by searching outwards. As we learn more about the universe around us, we gain a deeper understanding of our place in it. In the next few centuries, we will send satellites deep into space, establish colonies and mining hubs on asteroids and planets, construct gargantuan space stations, not for material, or worldly pleasures, but to satiate our search for a higher purpose in this universe and to probe the mysteries of our existence. When mountaineer George Mallory was asked why he wanted to scale Mount Everest, he said “Because it’s there” ^[3]. Mankind has never shied away from a daunting task, and space is just the next big frontier that we are yet to conquer

The path ahead is not going to be easy or straightforward. Our race is faced with a multitude of problems here on Earth. Social and economic inequality, overpopulation, and climate change are given almost sole importance by the 21st century world leaders. However, what is undervalued is the overarching impact of space exploration missions. The Lunar Landing was a monumental scientific achievement for NASA and the USA, but it inspired millions of children across the globe to think beyond Earthly pleasures and pains, and aspire to make a mark on the planet. Today, it is those kids who grew up during the Space Race that have set up more than 35 space agencies to take the whole human race forward ^[4].

The biggest challenge to interstellar travel isn’t socio political or economic, but a technological one. The propulsion methods that we rely on today are archaic- conventional chemical engines are extremely bulky and expensive ^[5], and ion thrusters provide too little thrust for larger payloads and require an external power source ^[6]. However, innovative solutions are being developed with many strong contenders for what may power our journey into the future, such as the VASIMR. Furthermore, with nuclear fusion technology at the cusp of a breakthrough, the rockets of the future may look very different in the coming decades.

Every war that has been waged by humans has been based on our differences and divisions, but the stars and the Moon that bedazzle the skies the night before have remained unchanged, smiling down upon both sides, being the only constant source of awe and wonder in every human civilization over the last 5000 years. Today, we no longer have to be content with just gazing at the stars from our pale blue dot. We are on the verge of a new age of exploration,

discovery and endeavor, where we delve deeper into the depths of the endless expanse of the heavens; to boldly go where no man has gone before.

- Ishaan Mishra



image courtesy: <https://solarsystem.nasa.gov/>

Citations:

[1]- Fraknoi, Andrew. (2015). Unheard Voices, Part 1: The Astronomy of Many Cultures -- A Resource Guide.

[2]- Tattersall, I. (2009). Human origins: Out of Africa.

[3]- <https://www.forbes.com/global/2001/1029/060.html#1200a3532080>

[4]- <https://www.unoosa.org/oosa/en/ourwork/space-agencies.html>

[5]- Manasvi Lingam and Abraham Loeb 2018 Res. Notes AAS 2 154

[6]- <https://www.nasa.gov/centers/glenn/about/fs21grc.html>