The Outer Wilds and Manufactured Wilderness

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What good man would prefer a country covered with forests and ranged by a few thousand savages to our extensive Republic, studded with cities, towns, and prosperous farms embellished with all the improvements which art can devise or industry execute?
– Andrew Jackson, Second Annual Message

Who needs wilderness? Civilization needs wilderness. The idea of wilderness preservation is one of the fruits of civilization, like Bach's music, Tolstoy's novels, scientific medicine, novocaine, space travel… and a thousand other good things one could name, some of them trivial, most of them essential, all of them vital to that great, bubbling, disorderly, anarchic, unmanageable diversity of opinion, expression, and ways of living which free men and women love, which is their breath of life…
– Edward Abbey, "Freedom and Wilderness, Wilderness and Freedom"

The concept of wilderness is fleeting and ephemeral. It means so much, yet at the same time means nothing of value. Because it evokes such differing meanings to different people across cultures and times, it is difficult to precisely define it and evaluate its relationship with humanity. This paper will not attempt to arrive at an exact definition of wilderness in this sense; rather, it will explore what falls under various categories of wilderness, the concept of space as wilderness, and the purpose, value, and hospitability of wilderness. In many ways, space truly is the final frontier, and with our species on the brink of becoming a spacefaring civilization, it is imperative that we collectively work through the implications of a human presence on other worlds.

The starting point for my own thinking regarding space as wilderness is the video game *Outer Wilds*, a small but ambitious title primarily about exploring a minia-

ture alien solar system. The player journeys to each planet in the system, uncovering new information about the world, exploring ancient ruins and learning about the alien race that built them. One of the guiding philosophies of the game's development was to provide the intimate feeling of camping, but in a science-fiction space setting. Each planet draws inspiration from different national parks or scenic wilderness areas like Yellowstone and the glaciers of Iceland, and most characters are named after types of minerals (Noclip, 2020). Some of these characters are other space explorers, and the player can seek out their campsites on each planet, complete with a blazing campfire and marshmallows for roasting. The narrative is deeply personal, engaging with the player in unique ways and exploring existential questions about life and the universe.

Though this is a wildly speculative game set in a fictional world, it sparks interesting questions and possibilities. As hard as emotions are to quantify, the feelings I had while playing the game and after completing it were intense and undeniable, and it spoke to my long-held desire to explore among the stars. Other works such as the *Foundation* series (Isaac Asimov), the film and novel series beginning with *2001: A Space Odyssey* (Arthur C. Clarke and Stanley Kubrick), the original screenplay *Interstellar* (Jonathan and Christopher Nolan)*,* and the ongoing novel and television series *The Expanse* (James S. A. Corey) feed that desire on a grand scale, but *Outer Wilds* engages it successfully on a more intimate level. By giving the player freedom to explore a smaller world where everything matters and the player truly cares about what happens to themselves and the world around them, the game manages to express a sincerity and gravity of space exploration not attainable by other mediums. When humans finally set foot on Mars, they will indeed see grand, sweeping vistas, red cliffs and valleys stretching far beyond the horizon—but the experience of wilderness has always been intensely personal, no matter how grand the scenery. In *Wilderness and the American Mind,* Roderick Frazier Nash quotes from the writings of Francois-Rene de Chateaubriand after visiting New York in the late eighteenth century: "but in this deserted region the soul delights to bury and lose itself amidst boundless forests…to mix and confound…with the wild sublimities of Nature" (Nash, 2014). This sublimity of nature is common through many philosophies of the wilds, and *Outer Wilds* captures it well.

While science fiction has been an extraordinary driver of passion for space exploration since the genre was born, it has only formally existed for the last few centuries. Humanity has been enamored with space, however, since the beginning of recorded history. At various points in our shared history, we have idealized the stars as spiritual entities, observed planets and moons through rudimentary telescopes, and even sent probes and manned missions beyond Earth's atmosphere. It seems

inevitable that humans will one day establish permanent societies on other bodies in the solar system. Overly optimistic estimates predict a sustainable population of a million on Mars by 2050, but even the most conservative estimates still predict a more modest settlement before the end of the twenty-first century (Musk, 2020). NASA has detailed plans for a permanent moon base, to be constructed by 2024, that will be used to train for and launch future missions to Mars (NASA, 2020). One way or another, it seems that humans will maintain some sort of regular presence outside the bounds of Earth's atmosphere, much further than the International Space Station, by sometime in the middle of the century. This opens the possibility of further space exploration and colonization, asteroid mining, manned research missions, and perhaps even terraforming projects in the far future. If this is to be the case, certain questions arise about human life outside our home planet. How will prolonged exposure to radiation and low gravity affect the human body? How will the psyche react to such remote, alien conditions? And more to the point, how will humanity's concept of wilderness and nature evolve as we spread throughout the solar system?

The terms "wilderness" and "wild," at least in the Western mind, tend to evoke images of the untamed natural world in some form. Though there is still variance here, it almost always refers to animals, forests, deserts, or similar aspects of the natural world apart from human influence. In establishing a colony on a landscape as barren as the moon, all these aspects of nature are lost. The moon's surface consists only of dirt and rocks, pocked by craters and swept by solar winds. No organic material exists at all, and no geologic activity brings the ground to life. Earth's only natural satellite is more desolate than any desert and is so far away that traveling there is equivalent to circumnavigating Earth nearly ten times. It is difficult to imagine anyone finding this landscape hospitable. Yet the first men to set foot on the moon, Neil Armstrong and Buzz Aldrin, described it as "a magnificent desolation" and having "a stark beauty all its own" (Associated Press, 2019). This appreciation seems to follow alongside the mindsets of modern wilderness philosophers like Edward Abbey, whose ideas and experiences are recounted by Nash in *Wilderness and the American Mind*:

> Abbey's paradise was the "real earth" and particularly the desert which he characterized as "spare, sparse, austere, utterly worthless, inviting not love but contemplation…" Repeatedly he warned nature lovers and God seekers to stay away. "The desert," he made clear, "says nothing…" Why, then, go to the desert, or any wilderness? Abbey offered an answer in 1977 in the form of a hike in northern Arizona… He concluded "there was nothing out there.

> Nothing at all. Nothing but the desert. Nothing but the silent world." And then it struck him: "That's why…" It had to do with emptiness and otherness and the way that wilderness was the antipode of civilization and all its myths, including those concerning wilderness. (Nash, 20*14)*

When contemplating one of the only landscapes on Earth that truly resemble the surface of Mars, Abbey found beauty in the emptiness just as Armstrong and Aldrin did on the moon. Even desolation has value, and it can be considered sacred even without religious overtones. Wilderness is what it is, and it does no good to impose other values or definitions on it.

Given this context, it is easy to classify celestial bodies as wilderness as they currently exist, in a way just as valid and important as any forest or desert on Earth. If the moon and Mars are considered a wilderness, then, what do we do with all that land, and what value can it impart to those who will one day live on these alien landscapes? Some have suggested setting aside land modeled after national parks on Earth, which would be preserved for many reasons, including protecting various environments, promoting scientific study, and simply maintaining the original landscape. Regarding Mars, the following rules have been suggested:

- No spacecraft or vehicle parts to be left within the park
- No landing of unmanned spacecraft within the park
- No waste to be left within the park
- Access only on foot or via surface vehicle along predefined routes, or by landing in a rocket-powered vehicle in predefined landing areas
- All suits, vehicles and other machines used in the park to be sterilized on their external surfaces to prevent microbial shedding (David, 2013)

Setting aside what amounts to Martian nature preserves is certainly a goal worth pursuing, but the concept would need to be enacted and enforced by state authorities, and there is little precedent for such acts occurring. Some of the only legislation to exist are the Outer Space Treaty of 1967 and the Moon Agreement of 1979, which broadly reserve all of space for peaceful, non-commercial purposes that benefit all mankind (United Nations General Assembly 21st Session, 1967) (United Nations General Assembly 34th Session, 1979). These agreements are only somewhat supported, however, and many nations have not signed them. Though they provide a solid baseline for future space exploration, they must be developed further before humans venture much farther beyond the atmosphere.

Another ecological and ethical issue that arises in discussions of land use on celestial bodies is terraforming. Though not an immediate concern, terraforming must

be discussed as humanity spreads throughout the solar system. The process creates a livable, Earth-like environment and atmosphere on otherwise inhospitable bodies, making planets like Mars much more easily settled. A thicker, more oxygen-rich atmosphere would allow Earth life to expand and utilize more of the land, as it would no longer be confined to carefully controlled habitats, and it would help block radiation, which remains a deadly threat. It would, in essence, make Mars into a second Earth, another blue and green marble in the solar system.

This remains a highly controversial topic, however. By definition, the process destroys the prior ecosystem completely. Whether this is a problem depends on the viewer's perspective on life and ecology, and it again brings up the question of where value is found—i.e., does the Martian landscape have inherent value? Or should it only be preserved if it hosts indigenous life? By current analyses, Mars appears to be lifeless, though that verdict does have the potential to change. Perhaps a middle ground could be reached: if various original environments are preserved via similar methods to controlled human habitats, would it then be worth turning Mars green? It is a complicated topic and one that likely has centuries to be fleshed out, but it is important to acknowledge and consider the possibilities even before humanity has the capability.

One more thing that needs to be considered before humanity establishes permanent settlements outside the bounds of Earth is the psychological need for greenery. If a barren landscape has value as wilderness, it still provides no analog for flora or fauna. The degree to which humans have an innate need to be connected with nature is uncertain, but the effects of exposure to nature on the human mind is beginning to be studied with promising results. Specifically, visiting or living by natural or manufactured green areas seems to provide benefits to mental health, reducing stress and promoting relaxation, and can help the immune system, reduce risk of chronic diseases, and even reduce mortality rates (Chavaly & Naachimuthu, 2020). These advantages are too important to ignore. Crucially, a permanent moon base or Mars colony would lack significant greenery of any kind; there are no forests to walk through or parks to visit. Any plant or animal life must be brought from Earth and cultivated, often at prohibitive resource costs.

But manufacturing wilderness spaces might be necessary to promote mental health and provide a reminder of home, especially since long space flights are already some of the most mentally taxing experiences anyone can go through. Establishing permanent colonies and being stuck millions of miles away from home will almost certainly be even worse. Having a facsimile of a forest to escape to and recuperate from the stresses and other harmful effects of life on another planet could greatly improve long-term physical and mental health in the population. Though the

resource cost of developing and maintaining such an area seems high, one simple solution may be to open existing farmland for recreation. Allowing settlers to relax and recuperate in the green areas that already exist would eliminate the need for separate, impractical parks, and the farmland would be doubly efficient as it serves several purposes instead of just feeding the population. Other strategies may prove effective as well, but regardless, having access to a green area in some capacity will likely be extremely beneficial to the psychological well-being of long-term settlers, scientists, and explorers.

Exploring the solar system is and will be one of the greatest achievements of humanity in all its history. While humans will likely never feel the thrill of stumbling upon ancient alien ruins or uncovering a cosmic mystery like in *Outer Wilds*, expand across the galaxy like in *Foundation*, or find physics-breaking spacetime anomalies like in *Interstellar*, the real world is infinitely more vast, strange, and exciting than anything we can imagine. For now, media like this feeds our collective desire to explore and discover new realms, but one day those dreams will be made reality, possibly even within a generation or two. What humans make of that cosmic wilderness is yet to be seen, but the wastelands just beyond our reach will soon be home to many. It will be difficult, dangerous, and lonely, and it will take centuries to achieve truly sustainable, independent societies. The wilderness is harsh and unforgiving; it owes us nothing. Yet it continues to inspire, and the desolate, stark beauty of space will undoubtedly motivate spacefaring pioneers for generations to come.

References

Associated Press. (2019, July 13). *AP Was There: Man walks on the moon.* Retrieved from APNews: https://apnews.com/article/c1919542260b49af8a1ff8228f11d5a2

Chavaly, D., & Naachimuthu, K. (2020). Human nature connection and mental health: What do we know so far? *Indian Journal of Health and Well-being*.

David, L. (2013, January 17). *'Planetary Parks' Could Protect Space Wilderness.* Retrieved from Space.com: https://www.space.com/19302-planetary-parks-space-wilderness-protection.html

Musk, E. (2020, January 16). Retrieved from https://twitter.com/elonmusk/status/1217990910052458497

NASA. (2020, September). *NASA's Lunar Exploration Program Overview.* Retrieved from NASA.gov.

Nash, R. F. (2014). *Wilderness and the American Mind.* New Haven and London: Yale University Press.

Noclip. (2020, January 1). The Making of Outer Wilds - Documentary. Retrieved from

https://www.youtube.com/watch?v=LbY0mBXKKT0

United Nations General Assembly 21st Session. (1967). Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies. *RES 2222 (XXI)*. Retrieved from https://unoosa.org/pdf/gares/ARES_21_2222E.pdf

United Nations General Assembly 34th Session. (1979). Agreement Governing the Activities of States on the Moon and Other Celestial Bodies. *RES 34/68*. Retrieved from https://www.unoosa.org/pdf/gares/ARES_34_68E.pdf