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Earth/Space Ethics

ABSTRACT[1]

This article explores the evolving nature of ethics, particularly in the context of space exploration. The author defines ethics as principles guiding behavior, which are subject to change across different cultures, times, and locations. The article argues that ethics are social constructs that adapt to societal needs, in a way that is comparable to biological evolution. Using historical examples like the Vietnam War and Martin Luther King's activism, the essay illustrates the tension between law and ethics, highlighting how ethical perspectives and laws can shift over time, and not always in sync. The article extends this discussion to outer space, asserting that Earth itself is a space community and the ethical systems we develop for these communities will differ based on their unique conditions. It is suggested that "Lunar ethics," "Martian ethics," and ethics for other habitats will emerge, reflecting the distinct challenges of each environment. Ultimately, the idea of a "Space Ethics Singularity" emerges as a point where human evolution beyond Earth may lead to ethical systems that are also beyond our current understanding, possibly influenced by advancements in artificial intelligence, robotics, and other new technologies. The author concludes that while we can explore space ethics within known parameters, the future may hold ethical complexities beyond our imagination.

INTRODUCTION

Is there such a thing as "Space Ethics," by which we mean something that is dramatically different from "Earth ethics?" In this essay, we will argue that the answer is "not exactly," because no single ethical system exists on Earth and no single ethical system will exist off-world. Simple observation reveals that the former is true, and an equally simple analysis of future communities beyond Earth will reveal the validity of the latter.

Before examining this question in more detail, let us consider a couple of definitions.

Definition of ethics: Moral principles that govern a person's behavior or the conducting of an activity. "Medical ethics also enter into the question."[2]

Definition of morals: Principles concerning the distinction between right and wrong or good and bad behavior. "The matter boiled down to simple morality: innocent prisoners ought to be freed."[3]

These definitions suggest that ethics addresses the issue of what is right *behavior* and what is wrong *behavior*. If we push the issue a bit farther, we must ask

1 This abstract was compiled with the assistance of ChatGPT. The article was entirely written by the author.

2 Google Dictionary, "Ethics," Oxford Languages, languages.oup.com/google-dictionary-en/.

3 Google Dictionary, "Ethics."

ourselves if what is ethical might change with shifts in time and space, on Earth or beyond. Although this is not explicit in the definitions, it is a logical extension of them.

Regarding time: what was ethical 2,000 years ago might not be ethical today.

Regarding space: what is ethical in Saudi Arabia today might not be ethical in the United States today.

As we will show, ethical systems are constructs designed as "social technologies" to meet evolving social needs.

Moreover, ethics does not relate to what you think or feel. You can think the "right things" or the "wrong things," but as far as society is concerned, the ethics problem only arises when you translate your thoughts into behavior. You can also have, let's say, racist feelings, but you will not get into trouble unless you express them in public or act on them in a way that hurts someone else.

In addition, there is a relationship between law and ethics, but it is complicated. We accept the fact that there are actions that are legal, but not ethical. We also accept that there are actions that are ethical, but not legal (which depends largely on where you are in time and space.)

For example, until recently, smoking marijuana was illegal throughout the United States. At the same time, millions of Americans believed that there was no moral issue involved in this practice. Legalization advocates worked hard to change the law so that it aligned with their ethics. They succeeded, and today, marijuana is legal in numerous states, though it is still technically illegal at the federal level.

During the Vietnam War, it was illegal for American men to resist the draft, and those who burned their draft cards could go to jail. However, many young men felt it was the only ethical action available to them. As a result, they became "draft resisters," and risked going to prison, or they left the country and risked losing their citizenship. President Jimmy Carter later declared an amnesty for them, and said they were the "true heroes" of the war. Those who opposed the war justified it by saying that United States' participation in it was neither moral nor legal, and therefore fighting against it *was* moral, if not strictly legal. President Carter essentially agreed with the resisters and changed the perception, for many Americans, of what was right and what was wrong. Eventually, the laws changed as well.

All of this having been said, a connection between ethics and law does exist, and it can most easily be perceived in a description of democracy, operating ideally. It goes like this: *Ethics of the Majority + Legislation = Law*

Another way of putting it is this: "The ethics of the majority translated into legislation becomes law."

To be sure, this formula can be distorted by the power relationships within a democracy, which never operates ideally. A Marxist would argue that any government within a bourgeois society is simply a façade for the class relationships within that system and is therefore meaningless. Marx espoused an idea of a revolution producing a transitional state called the "dictatorship of the proletariat," which would, of course, be anathema to those who believe in democracy. Marx saw this dictatorship as the prelude to a period in which everyone became truly free, a kind of utopia of equality.

Marx's ideas have never been fully realized, either, though a number of dictatorships have been put into place in his name since he wrote *Das Kapital* and *The Communist Manifesto.* Sadly, the transitional part of his concept seems never to happen in the real world.

One does not have to be a Marxist to see that economics does exert an impact on our idealistic visions of government. For example, the wealthy (a minority) can, through political donations, have an outsized impact on legislation, as compared with those who are less advantaged. As a result, the laws may reflect the will of a minority, not the majority.

On the other hand, a vocal minority can sway public opinion to such an extent that they can affect legislation more than the majority. For example, while most people in California are probably not part of the LGBTQ+ community, that group has been effective in changing laws around issues like gay marriage. Of course, this might actually be seen as democracy functioning effectively, as a minority convinces the majority to support its cause.

Some societies may project the image of a democracy while actually operating as dictatorships. For example, Russia is clearly ruled by one man, Vladimir Putin, even though he has the title of president, and has supposedly been elected by the people several times. In fact, though, his election set off demonstrations throughout the country because many citizens believed it was rigged. He governs largely through fear, not consent, and opposing him may lead to your death, as Navalny and others have, sadly, found out.

In the People's Republic of China, the Community Party makes no secret of the fact that it rules the society, and will use force to confirm its mandate, as it did in Tiananmen Square and, more recently, Hong Kong. The Party has its own elections, of course, but the vast majority of people have no say in how they turn out. A minority openly rules the majority. The

Communist Party in China justifies its rule on the basis of an evolved version of Maoism, which was itself an evolved construct of Marxism.

Regardless of the system, whether a democracy or a dictatorship, an ethical system that justifies the laws governing the society exists, implicitly or explicitly.

Any examination of this topic leads to the conclusion that *ethical systems evolve to provide perceived survival advantages to the society in which they exist*. In this way, they are similar to biological evolution, and it may make sense to talk about "ethical ecosystems" within larger societal systems. Thus, what may have offered a "survival trait" in one place and time may become vestigial in another place and time. This realization has major implications for space ethics, of course. There can be little debate about the fact that the environment of the Earth and that of the Moon are dramatically different, and that humans who choose to live on our nearest neighbor in space will be likely to evolve both ethical and legal systems to improve their survival chances. This is an example of ethical systems shifting in space. The same can happen in relation to time.

For example, there were past civilizations in which exposing newborns with "defects" (such as a withered leg) to death was considered not only ethical, but also necessary. Using scarce resources to keep a child alive who might never become a productive member of society seemed foolhardy, even dangerous. Today, however, we recognize that a person with a dysfunctional leg can be fitted with a prosthesis or even learn to live a meaningful life with one leg that does not work as well as it should. This person may become a brilliant medical scientist and be a productive citizen because what it means to be a productive citizen has evolved.

Looking ahead a bit, we know that people living in a zero-G environment hardly need their legs at all, so our hypothetical "disabled" person would do well in that situation, even without a prosthesis or surgery.

WHEN LAW AND ETHICS CLASH

On Earth or off world, ethics and law clearly clash quite often as societies evolve. Consider Martin Luther King's "Letter from a Birmingham Jail," which dates back to the 1960s and the Civil Rights Movement. It is a brilliant discussion of "just laws" and "unjust laws," in which King argues that there should be a clear connection between law and morality:

A just law is a man-made code that squares with the moral law, or the law of God. An unjust law is a code that is out of harmony with the moral law.[4]

He also points out that a reasonable human law can be unjust if it is used for inhumane reasons. He had been arrested, for example, for "having a parade without a permit." Of course, the "parade" was a non-violent demonstration against segregation. King argued that a reasonable parade permit law actually had the unreasonable function of depriving citizens of their constitutional rights to freedom of assembly.[5]

King's letter represents one example of how ethics and laws are inherently connected. He also argues persuasively for non-violent civil disobedience in the face of unjust laws. Segregation in the American South existed as a successor to its evil parent—slavery. While slavery has existed in all parts of the planet and throughout history (including today), it is difficult, if not impossible, to argue that it is moral or ethical. However, entire societies, from Egypt to Rome to the Southern Confederacy, were built on the premise that slavery had an ethical foundation. Therefore, the laws enforcing it were, they believed, just.

In any event, King and other philosophers/activists point to a way in which we might consider the ethics/law connection:

(1) Ethical foundation/ Just laws	(2) Unethical foundation/ Unjust laws
(3) Ethical foundation/ Unjust laws	(4) Unethical foundation/ Just laws

Options #1 and #2 appear, at first glance, to be inherently logical, with #1 the goal of a good society and #2 the reason for non-violent protest, or even violent revolution.

At first glance, Option #3 does not appear to be consistent with reality. If a society has an unethical foundation, would not many of its laws be passed, or implemented, to uphold that original founding principle?

Option #4 also seems logically impossible. How can a society founded on ethical principles spawn unjust laws? I would argue that the United States was founded on an ethical philosophical foundation that was literally revolutionary at the time. As opposed to the "divine right of kings," the new country embraced the notion that people could rule themselves. While the United States was not quite a pure democracy and certainly not fully equal in its treatment of all people within its borders, the US Constitution established a basic set of principles for the society, as well as a method to evolve, as times and conditions changed. (Some would argue that, because the US Constitution left slavery in place, it was unjust from the start, but

4 Martin Luther King, Jr., "Letter from a Birmingham Jail," en.wikipedia.org/wiki/Letter_from_Birmingham_Jail.

5 King, "Letter from a Birmingham Jail."

let us call it ethical for the sake of discussion.)

In any event, the segregation example demonstrates precisely how a society founded on just principles can foster unjust laws. The White South theoretically existed within the context of the constitution, yet it managed to enforce segregation for decades. Eventually, in response to leaders like Martin Luther King, the nation rejected those offenses to morality and made civil rights the law of the land.

(Even today, there are plenty of people in the United States who would argue that the constitution does not prevent "systemic racism" from existing, and that it pertains to all the states, not just the Old South).

Consider, again, the People's Republic of China as an example. Those of us who live in the West might say that the foundation of China's totalitarian society is unjust and unethical. People should have their freedom, we would say, and the Tiananmen Square protesters of 1989 (those who survived) would agree. Nevertheless, China, like democratic nations, has laws against theft and murder. Killing someone "with intent," for example, generally carries a death penalty or life imprisonment for Chinese citizens.[6]

While there might be disagreement regarding the specific punishment for murder, very few would say that murder should go unpunished. Thus, an unjust society will have some laws that are just.

Having given some thought to the variety of ethical systems on Earth, let us turn to the issue of space ethics.

EARTH IN SPACE

I must begin this part of the discussion by repeating my space mantra: The Earth is in space, it has always been in space, and it will always be in space. I do my best to share this mantra whenever I give a talk, because it represents a shift in consciousness that is vital to understanding who we are as a species and where we are in the universe.

The Earth is a natural spaceship, moving through the cosmos at a high rate of speed. It is often depicted as orbiting around the sun in a flat plane, along with the other planets of the solar ecosystem. However, this is also deceptive. The sun is actually moving around the galactic center, so the true path of the Earth is a spiral, as it revolves around the sun, and also around the galactic center, tied as it is to the star that gives us both light and life.

The challenge we face philosophically and ethically is that our experience of reality is different. Our senses tell us that we are living on a stable platform, with the heavens revolving in the sky above us. Our experience of reality today is the same as that of our ancestors 500, 1,000, or even 10,000 years ago.

In discussing this topic, I have made an analogy to Plato's Cave, as have many other writers.

Plato said that his contemporaries were like people living in chains in a cave. They could only look forward, not back. There was a fire casting light on the cave's walls, and other people paraded back and forth with figures of humans, animals, and other shapes. These processions created shadows that showed up on the cave walls, and the chained people, who were always looking forward, perceived the shadows as "reality."

Finally, someone broke free and rushed outside. He saw the sun and the actual surroundings outside the cave and realized that he and his fellows were "living in a fantasy world."

However, Plato said that the cave dwellers did not want to believe the messenger and they could dismiss him, abuse him, or even kill him to avoid this shocking truth.

In *The Overview Effect,* I compare our astronauts and cosmonauts to Plato's brave explorer who leaves the cave, then returns to tell his friends about the beautiful world in which they really live. We have not threatened to kill our space travelers, but we did ignore them for a very long time.[7]

The first edition of my book came out in 1987, and I sat back to await the revolution in consciousness it would surely bring. And I waited … and waited … and waited.

Today, some 40 years later, I can see a glimmer of hope that the Overview Effect, that startling view of the Earth from a distance, is indeed beginning to foster a new perspective, a new philosophy, perhaps even a new ethic.

But it took a long time, and the revolution is far from complete. Even space advocates fall into the trap created by our Plato's Cave language. We talk about Earth and space as separate, when the two are really part of one continuum, and we talk about going into space when we are really leaving the planet. We cannot go somewhere if we are already there.

Far too often, we fall into a familiar trap in thinking about space ethics. The underlying binary assumption is that there are Earth ethics and there will be space ethics, and they will clearly be different, just as Earth and space are different.

This is part and parcel of the false dichotomy of Earth and space, and there are two flaws in this way

6 "Capital Punishment in China," en.wikipedia.org/wiki/Capital_punishment_in_China.

7 Frank White, ***The Overview Effect: Space Exploration and Human Evolution*** (Denver: Multiverse Media, 2021).

of thinking:

It seems to assume that there is one set of homogeneous ethics on Earth and there will be a similar set of homogeneous ethics in space.

It fails to account for the fact that the Earth is in space, and so are we.

Regarding the first point, there is not, never has been, and never will be a single set of ethics on the Earth. As we discussed earlier, ethical systems differ in time and in space. What might have been considered ethical in the Middle Ages in Europe might be abhorrent today. Moreover, what might be considered ethical in Saudi Arabia today might well be condemned in the United States.

Similarly, the Moon and Mars are often seen as future sites for human habitation in space. However, the two are very different in terms of their distance from Earth, gravitational pull, size, and overall environmental setting. If ethical systems evolve in response to time and place, it is faulty to imagine that humans on the Moon and humans on Mars will have the same ethics.

In regard to the second point, it is typical of the fact that we constantly overlook the reality of my mantra that we are already in space, we have always been in space, and we will always be in space.

In that sense, the ethics of Earth, varied as they might be, *are*, *in a way*, the ethics of space! It is for this reason that we can say that *Earth is the first space community*.

I believe we would make more progress if we could agree that the Earth is the first space community, the various space stations leading up to the ISS were also space communities, and the ISS functions as the fifth one.

In other words, Salyut, Skylab, and Mir were the second, third, and fourth space communities, and the ISS is the fifth. Whatever we do on the Moon, Mars, or in an O'Neill cylinder will not be the first space community, but rather the sixth, seventh, or eighth.

It is very hard for surface dwellers to grasp this reality, but for those who have left our planet and looked back at it, a new paradigm takes hold.

For example, Sara Sabry is the second Citizen Astronaut sponsored by a nonprofit called Space for Humanity to have an experience of the Overview Effect. When I interviewed her after her Blue Origin flight, I asked her what had changed for her as a result of the experience. She said the following:

> One of the biggest things for me was the lack of separation between Earth and space. We've always used the terms "space" and "Earth" separate from one another, and we always thought we were doing things on Earth … and then there are certain things that are going to be done for space, but … when I was up there, I realized that there is no actual separation between the two. The Earth is just a continuation of it and we're just part of this much bigger thing … and for me, it just clicked. It was like, "Oh, it makes sense why we have this need to explore, it makes sense for us to understand more of it, because it is us; we are it."[8]

Having this shift in consciousness does not negate the fact that ethical systems will evolve to fit into the new circumstances of the new space communities, of course. However, we will do better to break down the terminology from a binary "Earth ethics" and "space ethics" to specifics, like "terrestrial ethics (many)," "Lunar ethics," "Martian ethics," and "O'Neillian ethics." Even that may be too broad a categorization. What about people living on the far side of the Moon? Will they have different legal and ethical systems from those living on the near side? Probably so.

Ultimately, our thinking is flawed before we even talk about ethics because the Earth/space dichotomy is inaccurate.

In our minds and in our language, everything lower than 50–62 miles above the terrestrial surface is part of Earth, and everything else is space, whether it is 63 miles above the surface or millions/billions of light years away, in another galaxy. This simply makes no sense.

We also talk about the "harsh environment of space," where we need special equipment to survive. Let us not forget that the Earth was a pretty harsh environment for our ancestors, and we are able to live comfortably only because of "special equipment," like cars, homes, heating, and air conditioning. Even so, we can only live comfortably on 30% of the Earth's surface. The rest is water, and, again, we need special equipment to survive there if we want to travel under the surface. If we want to travel very far on the ocean's surface, we need special equipment called a ship.

Moreover, the past 10,000 years are recognized by climate scientists as having been remarkably warm and stable, allowing *Homo sapiens* to develop this remarkable civilization in which we live today. Prior to that time, the Earth had its periods of violent change, producing a total of five major extinctions to date. Scientists tell us that we are in the middle of a sixth major extinction now, driven largely by our own actions.

Humans have a very thin sliver of an environment

8 "Space Philosophy," www.youtube.com/watch?v=fj29RyHd-A2o&t=56s.

to which we are somewhat adapted, but to be anything more than hunter/gatherers, we still need to create artificial environments wherever we go!

OFF WORLD

At the same time, the farther away from the Earth we migrate, the farther away from *any* recognizable terrestrial system of ethics we will also go. Conditions on the Moon, Mars, O'Neill cylinders, and the moons of Saturn and Jupiter will be different, and we will evolve physically, emotionally, spiritually, and socially in response. Our descendants will be different from us in ways we can hardly imagine.

In fact, we may reach a "space ethics singularity," a point beyond which we cannot easily imagine what an ethical system might look like, because we cannot imagine what a human society would look like—or if it can even be called "human." A new species, which I have dubbed *Homo spaciens*, may well evolve to meet the new circumstances, and it is currently in the realm of science fiction to fathom its ethical systems. Such people will be true extraterrestrials, though descended from humans.

This possibility is compelling enough without even raising the question of contact with extraterrestrials who are not descended from *Homo sapiens*. Science fiction does imagine their ethical systems, but this remains a matter of speculation.

I believe it might be like the "technological singularity" we have imagined will occur when artificial intelligence surpasses all the human intelligence on Earth. We now might be facing that very moment, and we cannot imagine what it is like on the other side because it is, indeed, singular in nature, and beyond our imaginative capacities.

Thus, we can only work on space ethics questions that are on this side of the singularity. At a certain point, we may have to admit that we do not know what lies on the other side. The question is, where is the point at which the singularity occurs?

A second question is this: how will the technological singularity influence the advent of the space ethics singularity? It may well be that the ethics of a super-AI are far more incomprehensible to us than space ethics will ever be! As AI becomes more powerful and ubiquitous, it will influence how we expand outward into the solar ecosystem and beyond. It may well take us on paths we can only dimly perceive at this moment in time.

The film *2001* may prove prescient in this regard. HAL, the computer on board a mission to one of Jupiter's moons, kills one of the astronauts on board, fearing that he will jeopardize the mission. In response, the surviving astronaut unplugs HAL, effectively "killing" the AI.

These ruminations contribute to the uneasy feeling that there may be an ethics singularity. The future may confront our species with extraterrestrial intelligence, artificial intelligence, and *Homo spaciens*. Are we ready for that?

THE META-ETHICS OF SPACE MIGRATION

Looming over this discussion is a meta-ethical question. By that, I mean a question that transcends ethical questions that focus primarily on individual behavior or single events.

To be specific, a number of "space people" support the idea that space exploration, development, and migration would be beneficial to humanity and to the Earth. Those who prefer to remain on the Earth, or focus on the Earth, may favor a limited level of space exploration, but oppose the idea of large-scale space migration. These opponents see this concept as unethical because it represents an opportunity for the wealthy and privileged to escape the problems we face on our planet; it is the minority leaving behind the majority to fend for themselves. Seen in this way, the only ethical choice is to remain on Earth and join with others to right the environmental wrongs of the past.

However, let us try a thought experiment: suppose I could prove to you that if human civilization continues on its current trajectory, we are likely to destroy our civilization and damage our planet. The reason is that we have already exceeded the carrying capacity of the Earth, and we are headed down a dangerous path indeed. Suppose I could also prove to you that the best solution would be large-scale space migration, in which large numbers of humans and industries depart from the home planet and begin to live and work in the rest of the solar ecosystem.

If you believed me, you would have to admit that the "script has been flipped," and that remaining on the Earth is the meta-ethical poor decision. The only meta-ethical choice is to leave, or support others to do so. The location in space remains unchanged, but the meta-ethics perspective could shift.[9]

Only more time will tell us how this meta-ethics clash will turn out. At the moment, permanent migration is not a reality, even for the most enthusiastic supporters of the idea.

FINAL THOUGHTS: OVERVIEW ETHICS

To return to our original thesis: if Earth is the first space community and all the subsequent space stations are

9 Frank White, "The Urgency of Large-Scale Space Migration," Space Renaissance International, YouTube, 2024, https://www.youtube.com/watch?v=0wZfwZBplyI.

Numbers 2 through 5, we actually have information on whether ethical systems have changed in the new off-world environment. Is there any evidence that ethical systems have evolved to adapt to the differences posed by isolation, radiation, and altered gravity? If we do not look for it, we will not find it.

Moreover, we must be comprehensive in our investigations. For example, I have focused primarily on people living in space stations in this essay, but short flights, like the pre-Shuttle and Shuttle eras, and the new commercial flights may yield new information about Earth/space ethics. In particular, let us consider the body of knowledge building up about the Overview Effect, the experience of space travelers in seeing the Earth from space and in space. My interviews with more than 50 astronauts suggest that there is a significant shift in worldview on the part of most, if not all, of these experiencers. Does this also imply a change in ethics?

The Overview Effect: Space Exploration and Human Evolution reveals a cornucopia of information about the Overview Effect itself, but also other shifts in consciousness, which are dubbed "The Copernican Perspective" and "Universal Insight."

This is not the place to go into great detail, but let us consider a few quotes from the book that might be illuminating:

> You can watch the sun set across North America and then see it rising again over Australia. You look back "home" and say to yourself, "That's humanity, love, feeling, and thought." You don't see the barriers of color and religion and politics that divide this world. You wonder, if you could get everyone in the world up there, wouldn't they have a different feeling—a new perspective?
>
> —*Gemini and Apollo Astronaut Eugene A. Cernan*

> It's going to be left to historians to find out if it really makes a significant difference, but I characterize spaceflight as the metaphor for the technology of the 20th century, during which science and technology have exploded. The unfortunate thing is that our morals and value systems are still rooted in the 13th or 14th century. Spaceflight, getting outside of Earth and seeing it from a different perspective, having this sort of explosive awareness that some of us had, this abiding concern and passion for the well-being of Earth—a more universal point of view, to use your words—will have a direct impact on philosophy and value systems.
>
> —*Apollo Astronaut Edgar D. Mitchell*

> You begin to see that new values, norms, and laws will apply in space. On Earth, one can enjoy a great deal of freedom. On a space station, one doesn't have that freedom; individual freedom is constrained because of the more constrained environment. One cannot go off and "do [one's] own thing."
>
> —*Skylab Astronaut Gerald P. Carr*

> You can't see the boundaries over which we fight wars, and in a very real way, the inhabitants of this Earth are stuck on a very beautiful, lovely little planet in an incredibly hostile space, and everybody is in the same boat.
>
> —*Shuttle Astronaut Don L. Lind*

> Seeing the Earth from that perspective did reinforce my concept of a small fragile planet and a species needing to come to terms with itself. With successive flights, I have become more at home in space. I miss it. I miss looking down on the Earth and looking out into the universe.
>
> —*Shuttle Astronaut Bonnie J. Dunbar*

> If you're not a conservationist before you go to space, you're at least partly a conservationist when you come back. When you see how thin that atmosphere is, that protective layer that we have that allows us to walk around without a spacesuit on down here and breathe the air, you think "Wow, we really have to take care of this because it does look so fragile from orbit."
>
> —*Shuttle and ISS Astronaut Michael J. Foreman*

> That is what is so beautiful about what is going on with the space station and space exploration, there are always two things going on: how do we live and work better off the planet and how do we help out to make life better on Earth as well? There is nothing we are doing on the station that does not feed into both of those things.
>
> —*Shuttle and ISS Astronaut Nicole P. Stott*

> You see how this beautiful planet is so out of place in the vastness of space, it's almost like a newborn infant that once it comes out of the womb and it's all cleaned up and it's swaddled in its blanket and it's in your arms, it falls asleep because it's so trusting that it's there, right? Here's this planet, teeming with life, when there's nothing else around it, and it just keeps on turning and turning and turning and we're watching it. And you know that there's a lot going down on the planet that sometimes runs counter to the Earth providing us life, but it does it anyway. All of that just affirms to me that there's something bigger than the rest of us to put something like that together.
>
> —*Shuttle and ISS Astronaut Tracy Caldwell Dyson*[10]

If there is a sharp division between Earth ethics and space ethics, it can be found in interviews like those contained in *The Overview Effect*. And if so, it is not so much in the environment itself as in the perspective, which will, in the near term, include the Earth. Ideas like "no borders/no boundaries," "the thin blue line of the atmosphere," and "We are all in this together," may do more than shape the ethics of the new space communities—they may also begin to permeate the first space community and its many sub-communities, bringing about a revolution in thought and action on Earth, even before the ethics singularity takes place.

Several hundred people have visited, lived, and worked on the second, third, fourth, and fifth space communities for many years (twenty-four on the ISS alone). That is enough inhabitants and a long enough time to see if these "new worlds" are decidedly unlike the multitude of cultures on the first space community.

Moreover, hundreds of Earthlings have joined the Analog Astronaut movement, simulating what it is like to live off world, in contained communities for a week or up to a year. The experiences of these Earthbound pioneers also offer fertile ground for the study of Earth/space ethics.

In addition to my work on the ethics of the Overview Effect, other researchers have begun to make strides in this direction. For example, a study at the University of British Columbia points to a shift in astronaut values from a focus on the individual and personal achievements to a more universal point of view.[11]

Ultimately, creating an ethical system is not simply a product of adapting to an environment; it is also a matter of choice and perspective. The more we know about the options available to us on this side of the singularity, the better we will be able to cope with that moment of unfathomable transformation.

10 All quotes by astronauts are from ***The Overview Effect: Space Exploration and Human Evolution.***

11 P. Suedfeld, K. Legkaia, and J. Brcic, "Changes in the Hierarchy of Value References Associated with Flying in Space," University of British Columbia, ***Journal of Personality*** 78, no. 5 (October 2010): 1411–25.