Deep Space II: Taking the Philosophy of the Overview Effect to its Logical Conclusions

By Frank White

What is a "deep philosophy" and how is it different from any other philosophy? Wouldn't we all consider our intellectual work to be "deep?" The answer is yes, in that when we approach any question from a philosophical point of view, we are committed to examining it in great depth.

In this essay, I am using the term "deep philosophy," similar to the way the deep ecology movement has used "deep ecology" for the past 40 years. The term was introduced into the environmental movement in 1973 by Norwegian philosopher and mountaineer Arne Naess. He contrasted deep ecology with "shallow environmentalism," pointing out that the latter focused its arguments on how caring for the environment would benefit human beings, but not necessarily the whole ecological system of which we are a part.[1]

Since there are many different facets to deep ecology, I am not advocating that we apply all of them to a philosophy of space exploration. In fact, there are some aspects of it that I would explicitly reject.

The key connection between "deep ecology" and "deep space" is that both terms are fundamentally non-anthropocentric. As noted in my previous essay for this journal, I discovered this idea while writing my book, *The Overview Effect: Space Exploration and Human Evolution.* At the beginning of the book, I had set out to define a philosophy for space exploration, but as I reached the end, I did not believe I had succeeded. It then occurred to me that most justifications for the space exploration enterprise focused on *benefits to human beings*. But what if our purpose is to more clearly to benefit the universe?

As I wrote in that essay, if we accept that philosophy [of space] only from the self-centered perspective of how space exploration will benefit humanity, it is incomplete. However, if we see ourselves as a holon, a part of a larger system (i.e., the Earth, solar system, galaxy, or beyond), then a more comprehensive philosophy emerges. We can then ask ourselves not only how space exploration benefits us but also how it might benefit those larger "overview systems" of which we are a part.[2]

For that particular essay, the title "Deep Space" seemed appropriate and I regarded the term as a double entendre. After writing it, I decided to look into deep ecology in more detail. It then became clear that that deep ecology took a parallel path to the philosophy of deep space.

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[1] Foundation for Deep Ecology, www.deepecology.org/deepecology.htm.
[2] Frank White, "Deep Space: The Philosophy of the Overview Effect," *Journal of Space Philosophy* 1, No. 1 (Fall 2012): 27.

First and foremost, deep ecology sees every living being on the Earth as a valid entity unto itself. The original distinguishing characteristics of the deep ecology movement were its recognition of the inherent value of all living beings and the use of this view in shaping environmental policies.[3]

Deep ecology does not view human beings as the peak of evolution, nor as being inherently more important than any other living entity. This may sound like a new idea, but it is not utterly foreign to the human mind. For example, indigenous peoples view the world through this lens and have done so for thousands of years. The idea of the Earth being our mother is much more than a metaphor for them, such that the thought of injuring a parent is an anathema. In that sense, there are thousands of deep ecologists living on our planet today. Some of them are doing their best to let us know the error of our ways and how to get on a better path.

The idea of conquering nature and ruling over it for human benefit can be seen as ancient or recent, depending on where you look. For example, Genesis appears to advocate a conquest mentality when it says: "God blessed them, saying to them, 'Be fertile and multiply. Fill the Earth and subdue it.'"[4]

The notion that human beings could actually conquer nature and exploit the planet for their own purposes would have been unrealistic until a few hundred years ago, at the beginning of the Industrial Revolution. Even with the advent of complex civilizations like the Roman, Pre-Columbian, and Chinese empires, our technology proved insufficient to the task of dominating the environment.

Today, as our powers of control have grown stronger, a new environmental consciousness is rapidly emerging, much of it brought about by the Overview Effect. Seeing the Earth from orbit or the moon has had a profound impact on astronauts and terrestrial dwellers alike. In a matter of only a few decades, the environmental movement has made a major shift. It has moved from being a fringe concept into a mainstream consensus.[5]

Deep ecology is something more. It represents a reaction not only to exploitation of the natural world but also to environmentalism that continues to focus on ends that benefit humankind. In its most extreme form, the concept can appear to be "anti-human," evolving into a philosophy that sees the world as being ecologically in balance, except for the human factor. Sadly, it is all too true that we humans can be a disruptive force, by hunting animals to extinction, polluting the atmosphere with excess carbon dioxide, and burning down our rain forests.

In developing the philosophy of deep space, we can and should move away from an anthropocentric view of human purpose in the universe. However, we can also view humans as a positive force in the cosmos, rather than as the primary problem.

[3] Foundation for Deep Ecology.
[4] Genesis 1:28, New American Bible, Revised (*The Catholic Study Bible*).
[5] R. Poole, *Earthrise: How Man First Saw the Earth* (New Haven, CT: Yale University Press, 2008), 198.

A Positive View of Human Purpose

As humans evolve into the universe, the cosmos itself will also evolve. I call this the "Cosma Hypothesis." The basic thesis for this hypothesis is that the universe, as the largest whole system we can perceive, evolves. It does so because its parts evolve, human beings and human systems included. The Gaia Hypothesis—a theory advanced by James Lovelock—helped us see Earth as a living system. This theory inspired me to develop the Cosma Hypothesis.

In writing about Gaia, Lovelock said that *Homo sapiens* had "vastly increased Gaia's range of perception." He also said: "Gaia is now awake, and aware of herself. She has seen the reflection of her fair face through the eyes of astronauts and through the television cameras of orbiting spacecraft."[6]

This is a remarkable statement. While calling Gaia "awake and aware of herself" may seem at first glance to be a simple metaphor, it actually describes a monumental benchmark in consciousness that human evolution has brought into being.

It would be useful if the Cosma Hypothesis could function in the same revelatory way for the universe as the Gaia Hypothesis has for the Earth. Within this context, I believe that the common denominator between the Gaia and Cosma theories is "awareness."

To understand this concept, consider that when we began sending humans and satellites into orbit and to the moon, we created an "overview system." Prior to these technological achievements, Earth had been the "world" for us and for itself. We couldn't actually see it any more than a fish can see the water in which it swims.

However, once we experienced the Overview Effect, Earth became established as a planetary entity—both in how we perceived it and how we functioned within its biosphere. We tend to focus on this shift as a fundamental change in human awareness (and it is), but since humans are now aware components of the system, this opens new possibilities for initiating profound changes in the system as well.

The Earth as an overview system has now achieved a level of awareness that could not have existed before the Space Age. I have described this new, enlightened overview system as "Terra," to distinguish it from "Gaia." Terra consists of a physical system (Earth), a living system (Gaia), a human system (humanity), and a technological system (*technos*). Please note that this is not an abstract metaphysical statement claiming that the Earth has self-awareness. Rather, that the system of which the Earth is a part has achieved that consciousness through human beings.[7]

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[6] Frank White, *The Overview Effect: Space Exploration and Human Evolution* (Reston, VA: American Institute of Aeronautics and Astronautics, 1998), 108.

[7] Ibid., 108. Another term commonly used for the part/whole relationship that characterizes the overview system is "holon." Also, another term often used interchangeably with awareness is "consciousness," which can be problematic for some people. I find it useful to assume that every entity in the universe has a level of consciousness or awareness that is defined by its information-processing capability. The more complex its capability, the more aware or conscious it is.

As humans spread out into the solar system, we will inevitably create new overview systems. The first one might be called "Solarius," which will include everything that Gaia includes, plus a new spacefaring species, *homo spaciens*.[8] *Homo spaciens* will, like *homo sapiens*, eventually have an overview of the entire solar system. At that point in time, Solarius will become aware of itself.

We almost have the Solarius equivalent of those first views of the Earth from orbit and the moon in the picture taken from the edge of the solar system by the Voyager spacecraft. Carl Sagan called the Earth as seen in this photo "a pale blue dot" and said of that perspective: "Look again at that dot. That's here. That's home. That's us. On it, everyone you love, everyone you know, everyone you ever heard of, every human being who ever was, lived out their lives."[9]

The pale blue dot image represents a strong counterpoint to any anthropomorphic vision of space exploration. As Sagan points out, all of the past, present, and future, everything we have ever been and done is summed up in a small point of light that is barely noticeable, even within the confines of the solar system.

While this photo does not quite represent a picture of the entire solar system, it does remind us that while the Earth itself is a whole system as seen from orbit, it is also a part of a larger whole system when seen from an even greater distance.

This system is the solar system, and in the words of physicist and science broadcaster Brian Cox, this is the real environment for humanity now. Speaking of the exploration of the solar system that has taken place to date, he says: "Mission by mission, piece by piece, we have learnt that our environment does not stop at the top of our atmosphere."[10]

We can begin to look ahead to a "galactic overview system" that might be called Galaxia, although at our current level of technology, we do not yet have the means to expand physically beyond the solar system, except through generational starships.

However, if the search for extraterrestrial intelligence (SETI) succeeds, we may begin to communicate with other inhabitants of our galaxy. Assuming that we do eventually make contact with other lifeforms, we and they together will constitute the embryonic beginning of yet another "overview system."[11]

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[8] Ibid., 109.

[9] Carl Sagan, *Pale Blue Dot: A Vision of the Human Future in Space* (New York: Ballantine Books, 1997), 6.

[10] Brian Cox, *The Wonders of the Solar System* (London: HarperCollins, 2010), 9.

[11] Isaac Asimov wrote a novel about this some years ago, in which individual human minds became a part of an "overmind" and he called it Galaxia as well. This is an ultimate extension of the deep space philosophy, and of a non-anthropocentric view of space exploration. I imagine it will be uncomfortable for many of us to accept, but it is an alternative that must be considered as we search for the ultimate "philosophy of space."

Beyond Galaxia lies Cosma, the ultimate overview system. At this time in history, we do not know enough to understand the evolution of the universe, or the part we might play in it. How can we shift from our current self-centered and individualistic view of existence to a view of ourselves as part of the great adventure of cosmic evolution? How can we begin to see space exploration as a voyage of self-understanding within the cosmic order?

I will have more to say about this topic in future essays. For now, it is perhaps enough to state that we barely know what it means to be citizens of a planet, much less "citizens of the universe." However, it may well be that this philosophical concept of "deep space exploration" will be the ultimate result of taking the philosophy of the Overview Effect to its logical conclusions.[12]

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About the Author: Frank White is the author of *The Overview Effect: Space Exploration and Human Evolution*, first published in 1987 and re-issued in 1998. A member of the Harvard College Class of 1966, Frank graduated magna cum laude and was elected to Phi Beta Kappa. He attended Oxford University on a Rhodes Scholarship, earning an MPhil in 1969. He is the author or co-author of nine additional books, including *The SETI Factor*; *Decision: Earth*; *Think about Space* and *March of the Millennia* (both with Isaac Asimov), *The Ice Chronicles* (with Paul Mayewski), *Space Stories* (with Kenneth J. Cox and Robbie Davis-Floyd), and *The New Camelot*. He also contributed chapters on the Overview Effect to four recently published books on space exploration, *Return to the Moon*, *Beyond Earth*, *Living in Space*, and *Space Commerce*.

Editor's Notes: Frank White elaborates on his previous essay in the Fall 2012 issue of the Journal of Space Philosophy regarding a space philosophy that was presented as The Overview Effect – the experience of seeing the Earth from space and in space. This second essay explores in more detail the significance of a "deep philosophy" of space exploration and what it would mean to us as we venture off our planet and out into the universe. Frank White is one of the Space Community's leading philosophers. *Bob Krone, PhD*.

[12] My friend and colleague Steven Wolfe has explored the idea of a non-anthropomorphic vision of human purpose in the universe brilliantly in his book *The Obligation*, which is now available on Kindle. It includes an in-depth look at holons, the "evolutionary impulse," and other key concepts and is a must-read for anyone interested in the "why" of space exploration.