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Humankind: GAIA's Johnny Appleseed

By [Steven Wolfe](#)

As we continue to recover from the Columbia disaster, it is encouraging to see that national support for human space flight remains consistent, if not wildly enthusiastic. Disheartening is that this support seems based on we-have-come-too-far-to-turn-back-now logic, and shows no appreciation for what space travel means to the future of civilization.

The root of this half-heartedness can be found in the conventional list of justifications for the manned space program, which falls terribly short of expressing a clear mandate, and leaves only political pragmatism to dictate its scope. In such an environment, how can we ever expect human space flight to fully mature?

Even in this dark hour, however, there may yet be one reason for putting people into space that could, in the final analysis, trump all others. The reason is simply this:

Humanity evolved on this planet for the purpose of carrying the seeds of life to other planetary shores. To accomplish this task, humankind must learn to traverse the Cosmos and take up permanent residence beyond Earth's atmosphere. This lot is not for everyone; just those of inclined to go. Without a robust manned space program, the fulfillment of this evolutionary imperative would simply not occur.

Atheists and creationists alike may bridle at the suggestion that space migration is in any way related to the mysteries of human existence. It's one thing to view space travel as a marvel of our advanced civilization. It's quite another to see it as our *raison d'être*. But, before you leap to judgment, please consider the following explanation.

We begin with the GAIA Hypothesis, which asserts that the sum total of all life on Earth can be viewed as a single organism. Every tree, tree frog, blade of grass, earthworm and person is interconnected in the web of life that is our planet's singular biological being--we'll just call her GAIA. If this concept is hard to appreciate, imagine that you could only perceive the world at the cellular level. Amebas and bacteria seem normal sized, for example. From this microscopic perspective, think of how hard it would be to believe that billions of individual and highly differentiated cells could possibly be part of a single living organism called a human being.

GAIA had her humble birth about three billion years ago when the first organism appeared in the primordial soup. For more than a billion years, the most complex creature was no

larger than a single cell. Eventually, however, vegetation covered the land, the oceans teemed with life, and animals of all sorts roamed the continents. Life had expanded to every corner of the globe. GAIA had finally reached maturity. She was now ready to consider her own reproduction.

Yes, reproduction. Just as all organisms by necessity are driven to reproduce, so too is GAIA. If we can accept that GAIA is a living distinct entity, than it doesn't take much consideration to see that reproduction is part of her nature as well, albeit on a very large scale.

But what does reproduction actually mean for GAIA? It could only mean reproducing the life that grew on this rocky planet onto another planetary surface or someplace away from Earth. But how was GAIA going to achieve this task? While conditions have been idyllic for life on this globe, the harsh environment of space is anything but hospitable.

To understand GAIA's reproductive system, it's helpful to think of her as a giant oak. Organic material containing the genetic blueprint for all life will be encased in hardened shells--acorns. These interplanetary acorns will be dropped into the void of space destined for new home worlds. Once they reach their destinations, the seeds will germinate, take root and life will flourish anew.

To jump-start her reproductive processes, GAIA would need to first create an organism that was especially suited to the task. Through evolution, a new species needed to emerge that had unique abilities to manipulate the elements contained on this planet to construct the acorns. This new organism would also develop the ability to deliver the acorns to other locations away from this planet. Finally, the organism would need to be versatile enough to adjust to a new existence on host worlds vastly more hostile than our own. This was no short order.

This agent of reproduction would have to be endowed with extraordinary mental faculties to think abstractly, with exceptional ability to manage the resources of the planet. It would need to have an evolved sense of not only its place on this planet, but also its place in the Universe.

Amazingly, such an agent of GAIA's reproduction has emerged—and it is us.

Were we destined for this purpose from the dawn of time, or did evolution make it all up as it went along? We may never know the answer. What is clear is that the evolutionary demand to spread life outward is at work, and humankind, by happenstance or design, is in a position to fulfill that demand.

We are not much different from the bumble bee. Bees take what they need from flowers, and in return, assist in the reproductive process of the flower. This is our relationship with GAIA. Yet, to date we have only taken from her as we have evolved our mental and technical capacity. Now that we have reached maturity, it is time for us to give back and fulfill the responsibility that was cast for us the day humankind first appeared on the plains of Africa.

To be sure, there is more to our existence than serving as a planetary Johnny Appleseed. Restoring and maintaining ecological balance is another big responsibility. We must transform ourselves from pillagers to protectors of the Earth. There is no denying this

mandate. What has yet to become apparent, however, is the integral role that the expansion of life outward will play in the restoration of balance to life down here. This description of humanity as the catalyst for a reproducing world is much more than an abstract idea. When Aldrin and Armstrong first set foot on the Moon there was a global sense of anticipation that transcended geo-politics and high wire curiosity. Something profound had occurred that touched the core of our being. Those who have attempted to articulate that feeling have found it hard to put into words. What stirs inside when we allow ourselves to bear witness to the limitless Universe is a primal recognition of the awesome task that awaits us.

Many have already felt the undeniable call to move civilization beyond this planet. They see that this evolutionary responsibility must be fulfilled, even if they are not consciously aware of this essential motivation. The believers are responding to this call through technology, government, activism, entrepreneurship, art, and entertainment.

Some hear the call and respond to it. For most, the call has yet to reach conscious awareness. Hopefully, that will change soon.

We must be thankful that our government has not yet abandoned the space dream; even in the aftermath of Columbia. But, the real space program will not get underway until we fully appreciate the symbiotic relationship we have with our home planet. Once we do, we will recognize that the purpose of space flight is much greater than most of us had ever imagined.