

## Celestial Values

By Kim Peart

As we travel through space on Starship Earth, we may wonder about the values that could guide us in a future we look to among the stars.

At the world premiere of a film on the Overview Effect at Harvard, Frank White spoke of his vision, “we’re on a spaceship.... We are the crew. We need to work together as the crew of spaceship Earth.... We’re astronauts.”<sup>1</sup>

Often we see ourselves as helplessly trapped on a planet and totally at the whim of the forces of Nature. If we see the Earth as a spaceship of any kind, then we may see ourselves as passengers. If we take Ron Garan’s cosmic view to heart, then as the crew of this great ship, we are in one sense all astronauts, as we travel through space.

We are space-farers and if we wish the ship to remain in good condition, we must ensure that our life-support systems are all in good working order. If we dare face the brutal truth in these matters, then we have to admit that there are life-support problems that must be addressed.

Too many of our fellow crew members are trapped in poverty and starving. On a well-run ship, this should not be happening. We look around and see sections of the crew at war and killing one another. With some nations bristling with nuclear weapons, conflict on our starship is a dangerous thing.

We can look at our evolution and see that it has delivered our civilization to the edge of space development, but progress there has slowed to a snail’s pace and this is a problem. To get to where we are now, we have burnt a huge volume of fossil fuel and a direct consequence has been the release of fossil carbon into our starship’s life-support systems. This carbon, as carbon dioxide (CO<sub>2</sub>), is now increasing the greenhouse effect of the ship. Getting the carbon out of balance, however, presents a great risk to the security of the ship, which is now overheating.

In evolutionary terms, we needed to burn fossil fuel so that we could lift our game from the planetary surface of our starship and begin operating in space. The key to running our civilization is energy and fossil carbon is a transition energy from which we should have moved on by now, by building solar power stations in space to harvest the

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<sup>1</sup> The Overview Effect: Freethink@Harvard [www.youtube.com/watch?v=0X\\_fhLIPydE](http://www.youtube.com/watch?v=0X_fhLIPydE). The earliest known reference to Earth as a spaceship is by Henry George in his 1879 book, *Progress and Poverty*, in which he wrote, “It is a well-provisioned ship, this on which we sail through space.” In 1965 Adlai Stevenson said in the United Nations, “We travel together, passengers on a little space ship.” Buckminster Fuller explored the concept in his 1968 *Operating Manual for Spaceship Earth*. See [en.wikipedia.org/wiki/Spaceship\\_Earth](http://en.wikipedia.org/wiki/Spaceship_Earth). Further on in the space age, Frank White explored the concept that we are all crew on the spaceship Earth in his book, *The Overview Effect*, in which he writes, “become a crew member on spaceship Earth” (2nd ed.; Reston, VA: American Institute of Aeronautics and Astronautics, 1998), 169.

unlimited energy-well of our star, the Sun, which has so much fuel in reserve, it will burn brightly over the next 5 billion years, until it expands beyond the orbit of the Earth as a red giant. We are yet to wake up to the need for energy transition from carbon to solar and this is a double banger problem that directly impacts on our values as star-farers.<sup>2</sup>

We could have begun the great energy transition in the 1970s, but we could not see past the need to keep on burning fossil fuel for energy, even though the way was worked out by visionaries like Dr. Peter Glaser and Professor Gerard K. O'Neill. Now we face the consequences of our inaction, with the planet getting hotter, polar ice melting, the sea level rising, climate areas shifting, and with CO<sub>2</sub> being absorbed into the oceans, the sea is becoming more acidic.

Concerns are being expressed in some scientific quarters that conditions could now be gathering for a repeat of the Great Dying that happened 251 million years ago, when 90% of life on Earth perished in the first great extinction event on our planet. At the time, massive volcanic activity in Siberia saw the release of large volumes of CO<sub>2</sub>, which likely came from coal being ignited by volcanic ash and which drove up the planet's greenhouse effect, causing temperatures to rise and climates to change.<sup>3</sup> The extra heat in the air in turn warmed the oceans, which caused methane hydrate deposits on the ocean floor to be released. This went into the atmosphere and further increased the planet's greenhouse effect. Extra CO<sub>2</sub> in the air was also absorbed by the ocean, making the sea more acidic and hostile to life.

Similar changes to our planet starship's life-support systems are happening now and are happening so fast that evolution cannot meet the demand for new species in the traditional way of mutation and adaptation. Unless there is a dramatic turnaround in the current trend, it is feared that the oceans could begin to die, leading to sulphur bacteria in the sea releasing a vast amount of hydrogen sulphide gas that can kill life on land and damage the ozone layer.<sup>4</sup> To survive in this hot toxic future, human communities on starship Earth may need to live in protected environments, as if in space.

Often in human history, an environmental crisis has resulted in conflict. As the crew of our starship begins to panic, with the life-support systems breaking down, there is the ever-present risk that any conflict will tumble into nuclear madness, ending all hope for the future. Even if an atomic insanity is avoided, if we lose the cutting edge of space technology, including access to key resources, the surviving crew may find itself trapped on a hulk in space, with a total loss of hope for the future.

When astronomers and cosmologists look out among the stars, they are puzzled by the great silence that echoes back at us. They believe that because there are so many stars and galaxies in the Universe, there should be evidence of alien civilizations in one form or other. An older species should have a presence in the Solar System, as it is at least

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<sup>2</sup> I have explored why we failed to make the energy transition in a timely fashion in my article, "A Deeper Level of Denial," [tasmaniantimes.com/index.php?/article/a-deeper-level-of-denial/](http://tasmaniantimes.com/index.php?/article/a-deeper-level-of-denial/).

<sup>3</sup> <http://www.abc.net.au/science/articles/2011/01/24/3120458.htm>.

<sup>4</sup> [http://en.wikipedia.org/wiki/Permian%E2%80%93Triassic\\_extinction\\_event](http://en.wikipedia.org/wiki/Permian%E2%80%93Triassic_extinction_event).

possible for robot craft to travel among the stars powered by a solar sail and then establish a base and factory in any star system, to send exploration craft on to the next star system.<sup>5</sup>

We can only wonder if many civilizations have risen up in the history of the cosmos but, like us, have burnt their fossil fuel too long, instead of investing in energy transition to become a star-faring species. One day, should we survive our own lax approach to survival, we may discover the remains of failed civilizations among the stars and lament the loss. For now, we need to heed the silence of the stars and look to our own survival, while we have time to act.

It is also possible that extra-terrestrial civilization could have been eliminated by a natural catastrophe, such as a super volcano, a solar flare, or an asteroid strike. Only 12,800 years ago all human communities in North America were eliminated in an asteroid fire-storm.<sup>6</sup> Many asteroids are made up of boulders and rubble, so that when they strike, they break up and come in many parts that may explode in the air. When a small meteor exploded above a Russian city last year, we found out just how dangerous asteroids can be to life on Earth.<sup>7</sup>

### **The First Celestial Value: Survival**

Any set of values is only useful if the practitioners can actually survive to practice it. Without survival, no other activity is possible.

Considering the march of evolution on Earth and how humankind has arrived on the scene with an ample energy supply in the form of fossil fuel that opens the way for energy transition from carbon to stellar, it is our failure to act on this that may make any set of celestial values a moot point. Our most basic value must therefore be to act on energy transition as a survival priority.

Unfortunately, to achieve this we will need to burn a whole lot more fossil fuel, but this can be offset as the construction of solar energy plants on Earth and in space gathers pace. With direct access to the unlimited energy-well of the Sun, we will have the power to extract excess carbon from the biosphere and also process extracted carbon back into a useful resource for Earth and space industries.

At this stage of our survival neglect, we cannot expect to avoid a worsening of starship Earth's environmental condition, with increasing heat and even toxic fumes from dying oceans. With a clear survival plan in action, hope would be generated to inspire the crew to work like crazy to win back a safe starship with a healthy life-support network.

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<sup>5</sup> This concept is explored in my document, "Creating a Solar Civilization," [www.islandearth.com.au/index.php?option=com\\_content&view=article&id=46&Itemid=64](http://www.islandearth.com.au/index.php?option=com_content&view=article&id=46&Itemid=64).

<sup>6</sup> "Comprehensive analysis of impact spherules supports theory of cosmic impact 12,800 years ago," *Space Daily*, May 27, 2013, [www.spacedaily.com/reports/Comprehensive\\_analysis\\_of\\_impact\\_spherules\\_supports\\_theory\\_of\\_cosmic\\_impact\\_12800\\_years\\_ago\\_999.html](http://www.spacedaily.com/reports/Comprehensive_analysis_of_impact_spherules_supports_theory_of_cosmic_impact_12800_years_ago_999.html).

<sup>7</sup> "Defending Earth from Space," [tasmaniantimes.com/index.php?/article/defending-earth-from-space/](http://tasmaniantimes.com/index.php?/article/defending-earth-from-space/).

With solar power stations in space, industry could be launched beyond Earth that would allow the building of the defences of our starship against killer asteroids or comets. We would also be able to press on to build Earth gravity orbital space settlements anywhere in the Solar System, which could be the basis of future stellar migrations. With the human population dispersed, our species would be able to survive a natural catastrophe that we could not prevent on Earth.

The greatest anti-value is to cling to the Earth and pretend that we will be alright. That is a gamble with life and right now, it is a punt that we are on the way to losing. Nature is not kind to those who ignore the demands of survival.

Another basic aspect of survival in space is to bring an end to human aggression, as in space human communities are located in bubbles in a vacuum, all too easily burst from within or without by conflict and/or terrorism. Part of ending aggression is to send poverty into history on Earth, so all the children of Earth can grow up in a happy and healthy environment. This work has been attempted by many over the decades, but now it must become a core challenge of all the crew members of starship Earth. Only where we invest in a harmony that includes all life can we hope to assure our survival, by eliminating the threat from within.

### **The Second Celestial Value: Harmony**

In space, which must be made clean of rock and trash so that human settlements in a vacuum can be protected and defended, where we must defend Earth and all space settlements from the risk of asteroids and comets, we cannot afford the prospect of conflict or terrorism. Only by building harmony among all crew members and their children can we hope to avoid the inner enemy.

With survival assured and the long hard road begun to repair starship Earth, we could settle into some seriously creative activity, on our starship and across the Solar System. At the heart of creativity will be the building of a stellar economy that maintains fairness for all citizens. To maintain harmony, we can no longer afford the silliness of an economy where a few control most of the wealth and too many people get nothing.

In Nature we see both competition and cooperation are needed to maintain a healthy ecology. Why should the economy of a stellar civilization be any different to Nature? Many companies succeed as a competitive free enterprise, but competition does not work for all citizens, or we would see a full-employment society. Part of the problem is that the socio-economy is ever on the move with industrialisation and automation. Now, with the arrival of robots, fewer workers will be needed in a new wave of eliminating employment options.

If we made a decision to connect all citizens to the economy, this decision could be realised through establishing cooperatives. As full employment must be seen as a natural given in a healthy economy, we need to build systems that share the wealth created in an equitable way. If we rely on competition alone, we will fail to build a fair society.

One detail that enables a whole new approach to the stellar economy is the fact that we would be gaining direct access to unlimited energy from the Sun, energy which will be used to power factories in space to provide any product for Earth and space markets. Though the initial investment will be humongous, in time the return on the investment will be infinite, from across the Solar System and among the stars.

If we had not been so obsessed with burning fossil fuel, we could have secured the stellar economy by now. We must now catch up with the future.

### **The Third Celestial Value: Creativity**

By applying creativity to a problem, we demand a solution. Through creativity, we can create the future.

When Edwin Hubble discovered that the Universe was expanding, he sparked cosmologists on a quest to reverse the process and see where everything began. This resulted in the Big Bang theory, which describes the cosmos beginning as an infinitely small point, or singularity, nearly 14 billion years ago, gaining prominence. The Universe stretched as a primal singularity to become the seemingly infinite space-time continuum that we see around us. Our cosmic home is a point stretched to near-infinity.

Concluding that the Universe has a finite beginning, the question arises about the larger environment in which our cosmos exists, often referred to as the multiverse, which could be home to an infinite number of other universes. Though we sail on starship Earth through the cosmos, we are also denizens of a much vaster realm, which begins to reveal mysteries beyond imagining. Accepting that we dwell in a realm that transcends the Universe, we may wonder how amazing the larger transcendent environment is.

The key to approaching the transcendent realm lies in the nature of the cosmic birth, where we see space-time stretching from the primal singularity to near-infinity. If we wonder where it all began, we can know that we occupy the space where the cosmic birth happened. It is the appreciation of this very simple aspect of space-time being a stretched singularity that opens the way to approaching the multiverse. When we can know that we are part and parcel of the cosmos, that there is no difference between who we are and the Universe, then we focus on a central awareness, that we are one with space-time.

In this awareness we may wonder what the highest experience of life is and we may consider happiness as being a pleasant state of mind that is at peace and yet also playful. When we experience happiness, we can be in a state of mind that is expansive, like space-time.

### **The Fourth Celestial Value: Happiness**

A transcendent experience of happiness allows connection with the Universe and the multiverse. Being happy is a liberating experience.

The transcendent state of happiness, like space-time stretched, is a singular experience. Honesty is therefore natural to a happy state of mind. Out of simple honesty, the concept of truth that is so vital to the arts of science and revealing the mysteries of Nature stands. In this honesty, there is no fear, as there is nothing to hide. The art of veracity, of living and telling the truth, is spontaneous in a state of happiness.

To build a stellar economy without poverty and to repair and defend our starship Earth calls for the emergence of empowered individuals who have connection with their inner happiness. These will be people who practice the art of fearless compassion, which is described so well in the story of the Good Samaritan.<sup>8</sup> Fearless compassion is the ultimate expression of happiness in life, seeking the well-being of others. It is this dynamic happiness that we need now to build a stellar economy without poverty.

Will we, the crew of starship Earth, sing a happy song of our voyage among the stars, as we build new cities in space?

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**About the Author:** Born in 1952, Kim Peart was raised in the Australian island state of Tasmania, where he trained as a visual artist, launched a Viking Society in 1975, and became a life-long space advocate in 1976 when joining the L5 Society. He founded the Southern Cross L5 Society in 1981, now the National Space Society of Australia, which was given its national launch in the Observatory at The Rocks in Sydney in early 1982. After a journey to India in 1986, he became a human rights defender and urban environmentalist, gaining an entry among Tasmania's top 200 movers and shakers in 2007 at number 123. In 2006, he wrote the document "Creating a Solar Civilization," moved north to Queensland in 2007, and is currently director of Space Pioneers.

In March 2012, he worked with research scientist Dr. Jennifer Bolton, to identify a way to build a working model of an orbital space settlement in the virtual world, the virtual orbital space settlement (VOSS), which allows any number of people to be involved in a space-like virtual environment, as if in space. When they discovered that Second Life had activated the RayCasting function, it became possible for an avatar to walk around the inside of a torus space station, as if in space. Responding to this new potential, they built a torus space station above Nautilus in Second Life to develop their virtual space program further. They now look toward the potential of the Oculus Rift and the Omni to provide a more realistic virtual experience of space, as well as the development of a more advanced form of the virtual world by High Fidelity, where astronauts may train in a realistic virtual space environment and people can prepare for space tourism.

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<sup>8</sup> Luke 10:25-37.

Over the past couple of years they have been working with members of the Overview Institute, seeking to develop a virtual experience of the Earth from space. They are also pleased to develop their relationship with the Kepler Space Institute, seeking ways to develop space studies in a global context in the virtual world.

They see a unique opportunity with the virtual world environment for people to meet globally and plan locally, toward building celestial futures. Kim Peart now lives in Mountain Creek on Queensland's Sunshine Coast with his wife and partner in space and virtual world development, Jennifer.



**Editors' Notes:** Kim Peart not only describes the four celestial values – he has created them in his Virtual Orbital Space Settlement. Kepler Space Institute is proud to have Australia's Space visionary as member of the Board of Editors for the *Journal of Space Philosophy*. **Bob Krone and Gordon Arthur.**