

CONFERENCE KEYNOTE

Space Travel Brings Out Our Identity As Creative Beings

by Helga Zepp-LaRouche

This is the edited transcript of the keynote address, an interchange with the audience, and concluding remarks presented by Schiller Institute founder and President Helga Zepp-LaRouche to the institute's conference in New York titled, "Mankind as a Galactic Species: The Necessary Alternative to War," held on October 5, 2019 in New York.

Hello! I am very happy to address you, even if it's only via the internet and video. Today is a truly joyous day! All around the world, and actually above—on the International Space Station—there are celebrations of the International Observe the Moon Day. All the people who are celebrating have caught a very healthy disease—Moon Fever. The annual celebration of Moon Day began only 10 years ago. This year there are 1,564 events taking place all over the world: 526 in the United States, 298 in Europe, 268 in India, 67 in



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China, 27 in Africa, and 103 in Latin America.

The number of people watching and participating in this is in the hundreds of thousands, probably in the millions. I think I'm not overstating it when I insist that these people are the vanguard of the future identity of civilization. Because they understand that mankind must be united, not in a space race for the sake of competition, but through cooperation; because this is the only way to have a long-term, sustainable existence of the human species in space.

Nicholas of Cusa, the great 15th century thinker, concluded that the only reason representatives of different nations, cultures, and languages are able to even communicate with each other, is that they all produce great scientists. I would especially add that it is because they have produced astrophysicists who understand that the future of mankind is for mankind to be a galactic species.

The Power of Space Research and Travel

Let me give you quote from our collaborator, Krafft Ehrlicke, who was a board member of the Schiller Institute until he died in 1984. He described very clearly why space travel and space research are so absolutely important. In his 1957 [book](#), *The Anthropology of Astronautics*, he wrote:

The concept of space travel carries with it enormous impact, because it challenges man on practically all fronts of his physical and spiritual existence. The idea of travelling to other celestial bodies reflects to the highest degree, the independence and agility of the human mind. It lends ultimate dignity to man's technical and scientific endeavors. Above all, it touches on the philosophy



Anonymous
Nicholas of Cusa

of his very existence. As a result, the concept of space travel disregards national borders, refuses to recognize differences of historical or ethnological origin, and penetrates the fiber of one sociological or political creed as fast as that of the next.

As a technical concept, astronautics is all-embracing, and more revolutionary than anything conceived so far, including even atomic technology. As a scientific concept, it is bound to stimulate and rejuvenate practically all fields from astronomy to zoology. Its sociological and political implications are such that future generations may well describe as 'cautious' even the

boldest prediction of our time.

Now that unbelievable power of space research and travel may become obvious to you if you reflect that the idea of man leaving Earth and travelling to other planets is only 154 years old. It was first presented in the novel by Jules Verne, *From the Earth to the Moon*. That was a novel, but it contained many highly accurate predictions that later became true. I would call it much more a vision for the future of mankind than science fiction, because it actually inspired many of the pioneers of space like Konstantin Tsiolkovsky, a Russian space pioneer (who has a crater named after him on the far side of the Moon);

Hermann Oberth; Robert Goddard; and Krafft Ehrlicke himself, who stood on the shoulders of Hermann Oberth, but was greatly inspired by the movie of Fritz Lang, *The Woman in the Moon* of 1929.

Today, we are very much beyond the novel and beyond the movie. Astronautics has become a scientifically recognized discipline, and only those people who are troglodytes ridicule those who promote space travel, like some of the mainstream media that ridiculed my husband in 1988



A scene from the 1929 silent film Frau im Mond (Woman in the Moon).

for his marvelous movie, which you should all [watch](#), *The Woman on Mars*, with its beautiful vision of colonizing Mars.

Today several countries have Moon and Mars projects—the United States with its Artemis program, as well as programs in India and China. Johann-Dietrich Wörner, the Director-General of the ESA (European Space Agency), which actually represents the best of the European attitude these days, announced “Space 4.0,” saying that the international Moon village which ESA is planning to build in cooperation hopefully with all the other space agencies, will no longer be the preserve of just a few space-faring nations; it will be open to all governments, private companies, academia, and industry.

There are still some obstacles to be overcome, but there are promising signs of international cooperation. For example, NASA and the China National Space Administration (CNSA) coordinated efforts around the recent touchdown of the Chang’e-4 lunar mission, where the Moon lander and Yutu-2 rover landed on the far side of the Moon. Images of the Chang’e-4 landing were taken by NASA’s Lunar Reconnaissance Orbiter and released in February of this year. This was clearly a first step in international cooperation between the United States and China, which is still hindered a lot by the Wolf Amendment in the United States. The leading scientist of China’s lunar program, Wu Weiren, referred to a request made some years ago by NASA at an international conference, to “borrow” the Chang’e-4 spacecraft and the Chinese far-side relay satellite in order to plan a mission to the Moon’s far side.

There is extensive cooperation going on between NASA, Roscosmos (Russia’s State Corporation for Space Activities), the ESA, and India’s Space Research Organization, and even with many developing countries. This is the vision of Krafft Ehrlicke and also of my husband Lyndon LaRouche, that the Moon would be the first colony of this endeavor. As Tsiolkovsky said, “It is true that the Earth is the cradle of mankind, but man cannot stay in the cradle forever. The Solar System will be our kindergarten.”

Now Krafft Ehrlicke’s vision of the Moon city Selenuopolis is becoming a reality. Lyndon LaRouche’s idea of a Mars colony is now very concretely on the table with Artemis, and with the Chinese Mars mission in 2020, which will test if it’s possible to have terraforming on Mars, in which ESA is also cooperating. There is already a model for such a Mars city in China’s Gobi Desert.



ESA/Foster + Partners

An artist's depiction of the European Space Agency's design for a lunar base which offers protection from meteorites, gamma radiation, and high temperature fluctuations.

Why Go to Space?

The beauty of all this is that space projects prove that man is capable of overcoming all seemingly insurmountable obstacles. Lyn, in one of his many beautiful writings about space, asked the question, “Why should man go to space?”

“Why,” many people ask, “should we spend all this money for space when there are so many problems on the Earth?” Now, we have one such representative of this world outlook in Bernie Sanders, who, because of his New Green Deal, wants to solve all problems on Earth first and only then spend the rest for NASA projects. This reminds one of Cervantes’ Don Quixote fighting windmills, but I cannot see how you can reach the Moon or Mars or other planets with windmills for power.

It is the nature of man to conquer all challenges by exploring the unknown. Krafft Ehrlicke referred to the qualitative steps, just to give you an idea, that mankind again and again made such steps into the unknown. He refers to Homer who, in the *Odyssey*, describes how Odysseus got on a ship not knowing where he would end up. Then, there was the operation by Christopher Columbus, which led to Europe’s discovery of the New World, when he also did not know exactly where he would wind up, even though he had maps from Paolo Toscanelli and an idea. But it didn’t turn out exactly as planned. Then think about Yuri Gagarin, the first man in space; or think about the Apollo 8 mission. Each time, a qualitative step was made, boundaries were overcome.

With that perspective in mind, it is very clear that

even colonies on the Moon and Mars will not be the limit. They will be only the stepping stones for a new era of discoveries for future cosmic civilizations. Sure, it is clear that space research has a utilitarian value; there is often the quote that “Every cent spent on the Apollo project brought fourteen cents return in profit.” But there are already many forward benefits of space technology today. For example, agriculture is vastly aided by space technology. Space medicine, new materials, the vast resources on other celestial bodies. Think about all the breakthroughs about the fundamental questions of the laws of the universe which we would not even have an inkling of if we only look with our nose to the ground on the Earth.

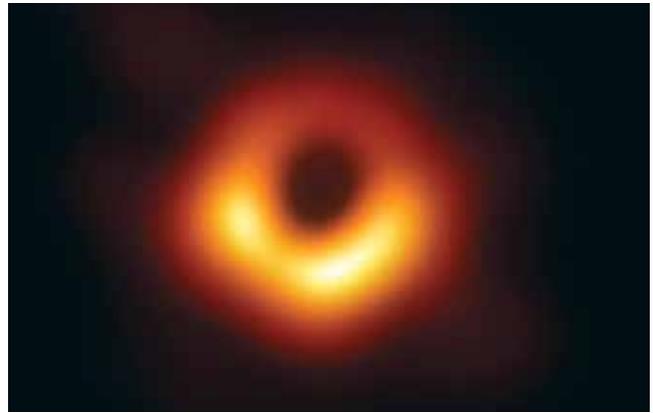
In 1966, Lyndon LaRouche [wrote](#) in “The Science and Technology Needed to Colonize Mars,” that it was absolutely necessary to go outside the Earth’s atmosphere, to go to places like the far side of the Moon, or Mars, as an indispensable precondition for studying the entire spectrum of electromagnetic radiation, from the very long to the very short waves emanating from all the distant stars and galaxies.

If we go in this direction, new questions will be posed, questions that aren’t even known today. We will find so-called anomalies which will manifest themselves as disturbing experimental differences with the textbooks. These will occur in the combination of astrophysics, micro-physics, optical biophysics. Every time such an anomaly occurs, it will open the door to new insights about the universe.

International Cooperation Is Required

This absolutely requires international cooperation. In April of this year, the working group of the Event Horizon Telescope published the first images of the immediate environment of a super-massive black hole in the center of the galaxy M87. This galaxy is only 55 million light-years away from us at most, and its mass is 6.5 trillion times the mass of our Sun. But with this discovery, the theoretical hypothesis of Albert Einstein’s General Theory of Relativity and the assumption of such black holes was proven, more than 100 years after the theory. This effort required cooperation of many countries around the world. Hundreds of scientists, using ten radio telescopes in locations around the world. That span was needed to make this imaging successful.

In the same way, if we build a colony on Mars, which will have to be self-sufficient and will be a long-term endeavor, it will only function if it has the size of



Event Horizon Telescope Collaboration

First image of a black hole environment, seen at the center of galaxy M87.

a city with hundreds if not thousands of scientists and many more people in life-supporting systems. This requires international cooperation. All of this has a deeper anthropological significance.

Lyndon LaRouche correctly said that we have to look not only at the span of this present century, but into the next, and several centuries ahead. Man, in that time, will not only be capable of operating in the Solar System, but very likely in the entire galaxy, and maybe even beyond that in some distant future.

There is a profound question associated with this concerning the nature of man. It is very clear, as we have developed as a species from very primitive forms—the Stone Age and many steps beyond that—that man, by going into space, by developing colonies on other planets, will change his identity as mankind. I’m absolutely optimistic that that will be very positive—that through the increase of knowledge about the physical universe, and through aesthetical education, our moral character will increasingly improve. Space travel will enable mankind, in the not so far distant future, to become truly human.

The Necessary Next Discovery

Question: Hi, this is José from New York. I have two questions, one for Helga and one for Dr. Aaron Olson. I’d like to start with my question for Helga, and I’d also like to thank her for a wonderful introduction.

My question is, I know you speak a lot about Nicholas of Cusa and other great thinkers. How are you able to take an idea that existed as far back as the 15th century and make it relevant in the 21st century?...

Zepp-LaRouche: Many ideas of Nicholas of Cusa

are eternal: That is the characteristic of ideas. Some of them are just not going to lose their importance. For example, the question of inventions. Cusa developed a method of defining the necessary next invention, and he developed the idea that you have to have a prescience, so that you know that what you find is what you search for, because otherwise, you discover something and you don't know if that's really what was needed.

This has very much to do with Lyndon LaRouche's method of having a parameter with which you can define if a discovery is good, and brings mankind forward, or not? As you know, and have probably discussed many times, it is Lyn's conception of potential relative population-density and the associated idea of energy-flux density in the production process: Now these parameters can tell you exactly if a discovery is necessary or not.

There are many discoveries being made in the area of green technology, of solar, of wind, of batteries, of all of these things. But are they going to lead mankind to the necessary next level of development? Maybe they're all a waste of energy, despite the fact that they may include some useful new technologies. In the large scale, this work does not coincide with the anti-entropic laws of the universe, and therefore, is leading mankind in a completely wrong direction.

Nicholas of Cusa could not know the specifics of it, but using his method of defining the necessary next discovery, he said that each individual recapitulates the entire evolution of the universe up to that point, and from that standpoint, you can then determine the necessary next step.

So, while the particulars may be changing, the method is absolutely valid. Of the many ideas of Cusa, I only want to pick out one more, which is also very important, and that is the method of thinking of the coincidence of opposites, the *coincidentia oppositorum*.

The Coincidence of Opposites

Most people suffer from an inability to imagine the next higher level of unity. But it is precisely this ability, which is absolutely required, for example, to get to the kind of international cooperation among the United States, and China, and Russia, and India, and Europe, and Africa, and so forth. If you cannot think on the level of the coincidence of opposites, you cannot possibly think how it is that politics is not a zero-sum game, and you will always think in terms of geopolitical interests, where one is winning and the other one is losing.

And if you look at the anti-China witch-hunt going on these days, which was mentioned, that is absolutely based on that wrong kind of thinking, which happens to be also the kind of Aristotelian tradition Ben Deniston was referring to, which was so clearly defined by Lyn in his 1978 [paper](#), "The Secrets Known Only to the Inner Elites."

This concept of the *coincidentia oppositorum*, the coincidence of opposites, this is very close to the Chinese thinking of establishing, or trying to develop a harmony among people, among individuals, among nations. It is what Xi Jinping calls the "shared community of the joint future of mankind."

Cusa on the Eternity of the Soul and of Its Creations

Nicholas of Cusa also had the idea that every human discovery occurs in the human soul. The fact that the sciences discovered by the soul—the music, the geometry, the mathematics, the other areas of science—are all eternal, and that the soul is inventing all of them, is proof that the soul, which is of a higher order than that which is being created, must also be eternal. This, in my view, is one of the most beautiful arguments for the immortality of the soul I know of, of all the great thinkers of the past.

Nicholas also said that each such discovery is so important that there should be an immediate—I would use a modern term—an international pooling of knowledge, so that all other nations have access to this discovery, so that the development of none of them is held up by denying access to this knowledge. I think this is an extremely important principle, one that China is following in respect to many developing countries, by offering for them to participate in the most advanced space experiments and space programs. Sometimes patents are necessary, but every qualitative discovery, such as the control of fusion power, and other breakthroughs, should not be hidden, but be made available to the whole world to share and accelerate development.

In Nicholas of Cusa you find many, many extremely progressive ideas, which make him actually much more modern for the 21st century than most people who are in academia today.

I don't know if I have answered your question; I could say a lot more, but that's for starters.

Follow-Up: No, it does, and thank you for clarifying that. And that's kind of what I meant about the

design of experiments. Because, Mr. Harrison Schmitt, while he was up there on the Moon, had a hypothesis about the effects of the volcanic activity on the mountains of the Moon—no water, it might have been gases. That may or may not be true, but what is needed is an experiment to prove or disprove that hypothesis, and that's what my question was about. Thank you, Mrs. LaRouche.

Cultural Optimism, Cultural Pessimism

Zepp-LaRouche: The reason why our occupation with space and the physical laws of the universe is so very important, has everything to do with the image of man which you derive out of that. I think the big controversy of our time is, is man a parasite, is every additional human being just a burden for nature? Is it worth it to protect spiders and little insects, or is it better to address the urgent development of Africa?

It is estimated that there will be 2.5 billion people in Africa by 2050, and for me, this is one of the crucial questions of morality. Either there will be a tremendous refugee crisis and all its attendant horrors, such as people drowning in the Mediterranean, and coast guard troops shooting at them; or we join hands and develop the African nations. Africa is the continent with the greatest development potential, because most of its population will be young people. The average age will be something like 18 or 19 years. Africa will need hundreds of millions of jobs for these young people.

The reason that space is so absolutely important is that once you actually start to study the laws of the physical universe, the galaxies, their governing principles, you begin to realize that we are not in a closed system, but in an expanding system which is huge! I mean, I am always still flabbergasted by the idea that by using the Hubble Space Telescope, mankind has discovered two trillion galaxies!

Now, I think that shows you that we are just making absolute baby-steps in knowing what this physical universe is like, and why the optimistic view represented by such people as Robert Goddard or Krafft Ehrlicke, or my late husband, is so important: Because if you look at the longer cycles of history, you can actually see that every time humanity was gripped by pessimism, it led to a catastrophe.



Earth seen at night from the International Space Station, showing the lights of human civilization.

NASA

That was the case of the 14th century in Europe; that was the case of the 1920s and 1930s in Europe, where mass cultural pessimism led to fascism and Nazism. On the other hand, when an optimistic world outlook and image of man prevailed, such that every human being was seen as a creative person, lives were bettered. If universal education is provided to every child, every child has the potential of becoming a genius, and in that capacity, contributes to the benefit of all of humanity.

Now, the difference between these two views, cultural optimism and a vision of the future leading to beautiful periods, and its opposite, cultural pessimism leading to fascism, is a very important criterion for us today. This poor girl Greta Thunberg is so—I think she will break down soon anyway—but meanwhile, she is injecting millions of teenagers with pessimism. Desperate children are taking violent actions—and you will see a lot more violence as already announced by the Extinction Rebellion. This is eco-fascism. It's something which is not only brown, but also green.

There are now so many spacefaring nations, and the optimism bacillus has sort of caught on. There are many third world countries that absolutely want to be leading space nations pretty soon. I think this is fantastic! Space is the absolute best antidote, because it leads to the creativity of the human person, and it leads to the kind of optimism which is key to conquering every barrier of knowledge and so-called political obstacles, and this is human nature: We can do everything if we do not impose arbitrary limitations on ourselves. That happens to be the first of Krafft Ehrlicke's Laws of Space, and I think this is absolutely the case.