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“THE VALUE OF HUMAN PATRIMONY: A 100% INCLUSIVE VISION”

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Abstract

This paper proposes the key concepts of cosmic humanism, the space renaissance philosophy. The philosophy bases itself around the real cultural value of human patrimony, discussed from different points of view, i.e. demographic, ethics, evolutionary. The great variety of human attitudes (S. Wolfe) and types of intelligences (H. Gardner) is analyzed, to provide a practical view of the immense richness of human types, and why it is interest of the civilization to preserve the whole human population, against the multiple crises of the current age. The hierarchical pyramid of needs (A. Maslow) is then shown, in relation to the great richness of the human patrimony, to demonstrate that expanding civilization into space is the only direction to be urgently undertaken, in order to give birth to a modern feasible utopia: a 100% inclusive society. The paper also recalls the K. A. Ehrlicke's history of life evolution, to target the next step of life industrialization", in our range: becoming a Solar Civilization, capable of exploiting the resources and the energy of our Solar System a type II civilization, according to the Kardashev classification.

DEFINING SPACE HUMANISM

The Space Renaissance Manifesto, written in 2010, states: “We think that each human person, wherever born, is precious, since anyone could have the idea or make the discovery that solves some critical problem.”

Real wealth is not found in money, but in human and material resources, new technologies, new solutions and the potential for work. **With almost 8 billion intelligences, humanity has never been so rich!** This richness, however, poses a big challenge: protecting human life and health in space, or, in general terms, developing the technology needed for an exo-biology strategical framework. Such a development cannot be further delayed, considering the dramatic urgency, for our 8 billion citizen civilization, to start expanding into outer space[1].

Astronautic humanism is fully inclusive, for all humans, without neglecting other sentient species. In this respect space humanism is definitely non sectarian, and rejects any elitist concept of salvage or redeem, proper of almost all religions and more or less secret societies of the past (“*only the ones who believe will be saved*”, “*only few elected ones*”, etc...). Space humanism is for all and each one of the eight billions Earthers: **Salvation will be for everybody, or it will not be!**

Space Humanism is undoubtedly rooted in classic humanism in that human beings are the main focus and the end: human beings, their interests, their material and spiritual needs hold a primordial place in this philosophical perspective. Yet, Space Humanism develops on traditional humanism in a critical way: while the classic humanists had little knowledge of those things which lay beyond the physical limits of our mother planet, modern humanism can take this into consideration.

Continual scientific accomplishment has driven both great civilizational growth and an increasing awareness that our mother planet cannot sustain a growing civilization enough indefinitely.

EVOLUTION OF EVOLUTIONARY FACTORS

Often we read and listen references to evolutionary principles. The most frequented one is the concept of the so called survival of the strongest individuals of any animal species, in the natural environment. Yet, such a principle cannot be universally applied: for instance, another criteria, applicable to species, as well as to individuals, is the capability of a species to adapt to the natural environment where it is growing. The capability to adapt already involves intelligence – something different, respect the simple brutal physical force.

Considering a cultural species, we are witnessing an evolution of the evolutionary criteria themselves. With the development of scientific knowledge and technical capabilities -- or we could talk about human culture -- physical strength has decayed as main evolutionary factor, in favour of intelligence, awareness, and social intelligence: capability to conceive visions and projects functional to social growth and evolution based on heuristics.

Space humanism operates under the assumption that the individuals who contribute most to the evolution of the species are the inventors, the philosophers, the explorers, (as opposed to the most violent, arrogant and authoritarian of human characters). Despite this, history bears out a disheartening collection of antihuman movements based on anti-evolutionary theories such as eugenics, racism or even simply the praise for reduction of humans number on Earth.

Losing 30% or more humans – due to pandemics or global wars, or any global catastrophe -- would mean losing many precious intelligent, yet physically weak, people. We need to conserve our whole human patrimony, the intellectual platform necessary to step to the stars.

A Google search with this wording: “*need to conserve our whole human population*” gave answers only related to nature and environment conservation! It means that none discussion in the world is dedicated to the conservation of human life! Surprisingly, human life however went ahead and grew up, so far, though nobody cares about or, worse, many are doing their best to kill lives.

A good sample of such back-ward thought employed in the above anti-human ideologies is without any doubt Niccolò Machiavelli. One could call him the dark side of the Renaissance age. Niccolò Machiavelli (often considered as a precursor of Malthusian thought), in his second book of discourses[2], describes the beneficial effects of natural disasters, as a sort of purge in order to limit the number of inhabitants of a nation, when they are too many, leading, for example, to the plague of the thirteenth century.

From an ethical point of view, Machiavelli makes a typical philosophical mistake: he confuses the map with the territory⁵⁰, where the "territory" is mankind, and the "map" is a fat body, burdened with superfluous materials (useless wastes and an unnecessary weight). When speaking of people, who would be considered as the "good material", and who would be the "waste"? In medicine a purge will eliminate unexcreted waste, but does not end millions of intelligent lives, as the plague of 1300 did. In other words, as Kant states, every rational being must always be considered as an end, and not only as a means[3] therefore certainly we will dismiss this type of Machiavellian thinking. Immanuel Kant: “*Act in such a way that you treat humanity, whether in your own person or in the person of any other, never merely as a means to an end but always at the same time as an end.*”

From a historical point of view, in the 13th Century, Planet Earth provided the material resources and environmental conditions which were more than sufficient, for a human population that consisted of just some hundred million individuals. There was enough space and time for various attempts, errors, recoveries, and the trend was moving upward, from lower cultural levels to higher levels. Let's say that some types of "purge", although always deplorable from a moral humanist point of view, was still tolerable both from the point of view of the eventual survival of human species and from an anthropological point of view. In today's context, we are instead moving on the upper line of the most radical development curve possible in our native ecological niche, while today's society is extremely complex, hanging in a precarious balance between advancement and decline. Any "purge" would therefore have irreversible effects, triggering a cultural decay of epochal significance. Our task today is to fight every type of purge or, to use a term more consonant with our times, of an Armageddon.[4]

Our duty, today, is to fight any kind of purge or Armageddon[5].

THE VALUE OF HUMAN PATRIMONY

“Overpopulation” and its associated “threats” is an awful outcome of Malthusian thinking, that has led to demonstrably condemnable policies. However, demographic growth is considered a big problem, and nobody dares to discuss demographic growth.

Threats of overpopulation have been refuted at every point in history. I thus reject the concept: the global multi-crises is due to our growth in a philosophically closed system, not to the growth in itself. The true positive rationale of human growth is composed by a good number of humanist concepts: it's very much better to have many growing brave and young people than a few discouraged old people.

The core concept of Space Humanism is compassion and inclusion, seen not only as a universal moral principle, yet as a social tool of great utility as well. Offering opportunities of social growth is key for global development. In other words, a social elevator needs to exist wherever poverty exists. Yet, social growth needs space, resources and energy, three items which are becoming increasingly scarce, within the limits of Planet Earth. Space expansion presents the possibility of access to resources and energy of the cosmos, which are realistically available beyond the limits of our mother planet.

The true value of Human Patrimony is demonstrated by the following concepts, at least. First of all a growing human patrimony means a growing nursery of good ideas. Growing markets means, for poor Countries, growing industrialization, wealth, democracy and freedom, and industrialization is key for social growth – a concept often forgotten, in this time of harsh criticism of the industrial society. Growing business and jobs is another

consequence of the human patrimony growth. More opportunities of social growth, from very indigent conditions, to medium social status, to wealth. The growth of human size also means a growing cultural diversity, in a perspective of space diaspora, that will see the foundation of many different communities in our solar system. And evolution works by differentiation. Avoiding a too elderly society is another outcome of a growing human population: useless to recall that a too elderly society will be a culturally decaying society, void of innovation and hope in the future. A growing human community will give us the joy of being many people, working, collaborating, competing, socializing, loving and making children. Last, but not least, we need to second, not to oppose, our natural instinct: if there are many billion people, maybe there will be a girl (or a boy) for me too!



For Thomas Malthus, humans are just “mouths to feed”: this the source of any bureaucratic thought, a herd of passive obedient consumers, and a few pastors, in charge of feeding the flock, and keep the wolves away. One of many despotic attempts to simplify society, regardless the “collateral damage”: suppression of creativity and evolutionary impulse.

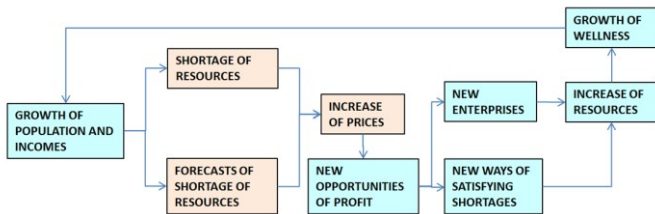


Figure 1. the Julian Simon's paradigm of the crisis/progress loop

Julian Simon[6], opposite, added human intelligence into the equation of sustainability and development: people are not problems, but resources.

Simon (and Robert Pirsig too) stated that every human intelligence is precious: the higher the number of thinking beings, the higher the possibility that problems are solved. Moreover, thanks to his direct fieldwork observation of various processes of social crisis, he could formulate a totally antithetical thought, compared to Malthus’s stolidly rural one: crises are influencing factors of growth[7].

To borrow a concept from Lebanese thinker Nassim Taleb[8], human society seems to have demonstrated “anti fragility” (growth response to damage) over the course of history. Not only have challenges and limitations forced the human cultural patrimony to grow, growth may have been impossible without them. Why? Because humans are incredibly good problem solvers.

By adding the intelligence factor to the development equation, Simon outlines a much more interesting paradigm, field tested while observing the case of Hong Kong, for example: during a resource crisis, many

entrepreneurs strive to find technological higher-level solutions which could allow them to offer the market new products and systems at more favorable prices. Such process favors the creation of new, more skilled jobs and puts on the market instruments of further social emancipation and cultural advancement. At the end of such a cycle, the result is a definitive social progress, compared to the pre-crisis period.

THE GREAT SUCCESS OF HOMO SAPIENS ON PLANET EARTH

Since the end of Middle Age, the Renaissance, the scientific revolution, and the consequent industrial revolution, generated growth of civilization, including growth of population, that exceeded 8 billion individuals, in 2022.

The outcomes of industrial society are immense: technological development, economical development, mass health systems, mass education systems, social progress, human dignity, freedom and democracy, growth, increased nursery of ideas. On the side of the minus, industrial society brought over-exploitation, pollution, waste of resources, environmental decay, alienation, mass extinctions of many natural species. The concurrency of these two threads in the closed environment of Earth atmosphere caused the global crisis that our civilization is experiencing.

However the industrial society’s increased nursery of ideas generated a new social subject: a generation of young entrepreneurs, pursuing personal profit and success, but not only. They also follow their ideals, which for many today include working at pushing humankind towards becoming a multiplanetary species. And such a social subject is working to the solution, to overcome the crisis: opening the space frontier, and kicking-off civilian space development.

Unfortunately, widespread support for these efforts seems to be languishing, since the current view of the world is still largely pre-copernican: Earth, also called “The Planet” in the current popular discussion, is considered a unique object, completely different from the rest of the universe. It seems to be seen as an impenetrable crystal ball within which we are permanently encapsulated . When they say “we don’t have a planet B” they mean that we cannot migrate into space: we are still locked in.

To start civilization expansion into outer space needs more popular consensus, based on a larger and more mature awareness of the urgent need: the whole space community should raise its awareness of the extreme urgency of this task, and put in place higher levels of outreach and education.

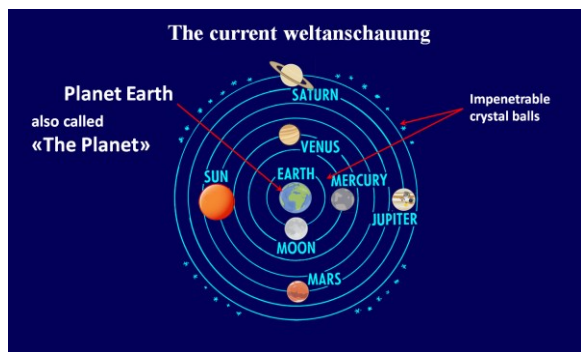


Figure 2. The current (pre-copernican) weltanschauung

Was said by Robert Zubrin during a recent lecture[9] at Florida Atlantic University: “Here’s something a lot of people don’t realize, about Earth: Earth is in space”.

Zubrin speaks to something profound here, and philosophically, the global space industry needs an update to reflect it: we are immersed in a cosmic ecology, not only in a terrestrial one, and philosophy recognize this. Nature is the same in the whole universe, as Plato, Giordano Bruno, Kepler, and other philosophers said, on the path of natural philosophy[19]. Where the doom-slingers of today cry that man is an antagonist to nature, the humanists must see man as an inextricable part of it. We can naturally expand in the Solar System and beyond, with the help of our natural resources: curiosity, intelligence, science, technology, creativity. This oft-missed truth has the potential to radically reshape the way we view the problems in our world.

THE SOCIAL AND CULTURAL RENAISSANCE

Our true richness are the people. Such awareness was confirmed through some connective studies, made on the work of great scholars of futurology, psychology and philosophy.

The Steven Wolfe’s classification of human attitudes

The first examined case is Steven Wolfe, who wrote a beautiful book titled “The Obligation”[10]. In such narration, written as a novel, a number of human types of attitudes are listed and described: the wanderer or explorer, the settler, the inventor, the designer, the builder, the protector, the visionary, the philosopher, the evolver. Each Wolfe’s type owns its particular beloved attitudes and can feel happy only by practicing them. An explorer cannot breathe remaining long time closed in home, whatever the dimension, the richness, technology and advanced information entertainment and domotic systems. A settler feels happy only when he or she can imagine and design infrastructures to be settled in a new environment. An inventor should be free to conceive new tools and methodologies, to improve the people’s life. A designer will take inventions and ideas, and transform them in projects, and the builder will realize such projects. The protector will think about keeping the community safe from natural events and possible attacks. The visionary

will imagine possibilities where nobody else can see them, and describes future evolution. The specialty of philosophers is to see aspects of reality, of history, of the future, that are not obvious, and to explain them to the people. The evolvers, finally, are individuals who feels very strong the natural evolutionary impulse, and needs to do their best to make evolutionary steps to be realized.

Steven doesn’t investigate how nature distributes such capabilities, or better inclinations, among human beings. He just noted that such a great diversity exists, and that is a great richness, since each one of those attitudes are necessary for the civilization to exist, work and progress. Wolfe’s work is pertinent here in that it implies a high degree of freedom that must exist in the society, to allow each different type of attitude to legitimately pursue its own inclinations. The view also contextualizes a real horror in the consequences of dictatorships and ruthless bureaucracies: trying to simplify the society, imposing a social model in which citizens are forced into a uniform or overly-restricted way of life. For example, a world in which exploration would be not allowed or... traveling would be prohibited. Sounds familiar, thinking about the Covid19 pandemics period? Of course yes, freedom limitations often appear perfectly reasonable, due to contingent emergency conditions.

Howard Gardner and the multiple intelligences

Having reflected long time on the Wolfe’s types of attitudes I was fascinated by the human cultural diversity. And, during my random research for more understanding of human anthropology, I fell upon the research of Howard Gardner, and his classification of the different types of human intelligence[11]. What worlds his work opened to my mind! Gardner classifies and deeply analyses several kinds of intelligence: linguistic, mathematical-logical, musical, visual-spatial, bodily-kinesthetic, interpersonal, intrapersonal, naturalistic, existential. Samples of each type are well known, and we cannot have doubts about nature’s habits to distribute her gifts here and there, without any particular consideration about ethnic, social, wealth or any other conditions. Of course, for such gifts to develop properly, social conditions play a key role, and who knows how many Mozart’s, Einstein’s, or Shakespeare’s are born every day in the awful favelas of our world, and don’t have any possibility to develop their gifts? What gifts could shower on the world, if these children were given the possibility to grow up and develop their personal human patrimony?

Freedom for all and each human type, and for each and all human beings

Listing together, in a bi-dimensional matrix, the Wolfe’s classification of human attitudes and the Gardner’s classification of the human intelligences, we get a very high number of combinations, that gives a first idea of the extremely high number of human types existing in our world. Just think that each person doesn’t owns only one attitude and one type of intelligence. Each individual

got by nature one or more gifts, in different percentage, if it was possible to measure the intensity of attitudes and intelligence types. Therefore the number of possible combinations is really a very high number, in the order of millions, at least. Yet, we can still add other axes to the matrix, the geographic localization, obtaining a very much bigger number of different types. And other axes (more difficult to represent graphically), could still be added: ethnicity and traditions, spoken languages, religion, education received, family influences, artistic inclinations, cultural patterns, existential models, environmental difficulties. We can see really an irreducible number of combinations, perfectly providing a scientific justification to the popular intuition that each human being represents a particular human type, endowed by own combination of attitudes, psychological gifts, aims, projects, modes of perceiving the reality, modes of feeling sentiments, ...

All this to demonstrate something oft-neglected in our scientific considerations of mankind. The men and women of the world are a diverse wellspring of creativity and intellect. The unnecessary loss of one of these lives is the unnecessary loss of an inimitable and irreplaceable individual. It is this realization, this reverence for human life which constitutes the idea of the value of human patrimony: which forms the basis of humanism.

The outcome of such very much enlarged view of humanity is a wonder for human cultural biodiversity, a profound respect for each individual, and the awareness that often to really understand the feelings and the perceptions of another person requires more attention and efforts. To say it in one word, reverence for human life, its mystery, and the right of individuals to work for their aims and projects, and to associate them together in freedom, to synergize their different capabilities, to realize their aims and projects.

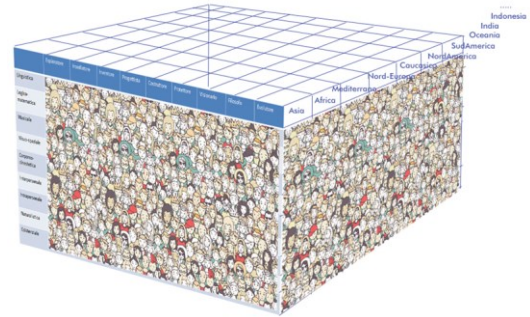


Figure 4. A more extensive, yet reductive matrix of human tyoes

The variety and diversity of human types is enormous, and continues to grow and differentiate along with population growth. Every human type, or almost every person, is characterized by personal inclinations, dreams, tendencies and projects. It is therefore necessary, for any modern governance system, to ensure freedom for the great variety of people. For a civilization of >8 billion citizens, I hold that this means assuring access to space. It is only by working to harness the abundance of resources throughout our solar system, that humanity can finally begin to ease the stresses of our groaning planet.

The “fair management of scarce resources” has often been a harbinger of authoritarianism and dictatorial bureaucracies. Civil, free and democratic development requires great abundance of resources. The ability to manage abundant resources is the real challenge of the future, in the solar (eco)system.

Abraham Maslow and a modern utopia for the space age

Abraham Maslow is considered, in the academic world, only for his great work in the domain of psychology, in which he gave birth to the so-called “third school”, the humanist psychology. Maslow based his work on the simple concept that it is very much more productive to study the mind sanity, instead of the illness: to study the lives of mentally healthy and accomplished people in order to derive methodological lessons from them. The most famous achievement of the Maslow’s work is, without any doubt, his hierarchic pyramid of the human needs[12]. Such a concept is mainly used in the management courses, teaching methodologies for personnel motivation. I maintain that the pyramid of the human needs is a great philosophical asset, that can be fruitfully used to design and shape a modern utopia for the space age. From bottom to up, Maslow classified human needs: basic needs, as air, food, drink, shelter, warming, sex, sleep, safety; medium needs, like love and belongingness, esteem and reputation; and growth needs, as cognitive, cultural, aesthetic, science, art, self-actualization; and the highest level, transcendence, beyond personal self, caring for others.

The utopias of the past century – the Marxist utopia most of all – only focused on the very basic needs, biological, safety and belongingness. They were classist utopias, addressed only to a part of the human society, the working class. A utopia for today, for the space age,

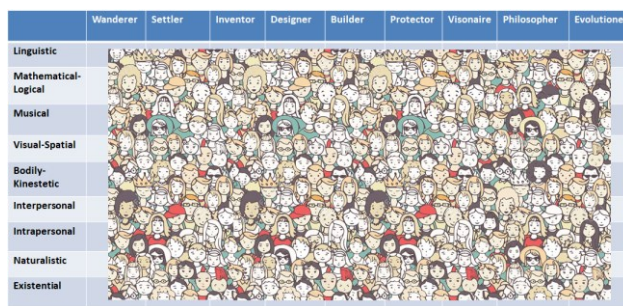


Figure 3. A very reductive matrix, as an example only

should think about the full range of needs, including the highest ones. Of course the basic needs are very important, since we will not have a true freedom and peace until starvation and underdevelopment will not be eliminated. That's why humanity needs to access the great abundance of resources of the solar system. Yet, we also need to guarantee, for everybody, to realize their highest goals.

This is essential for mind sanity. Writes Steve Taylor: *“Humanistic psychologists such as Maslow, Carl Rogers and Viktor Frankl believed that human beings are naturally dynamic. They saw growth as an intrinsic part of human nature. In fact, this is true of life on earth in general, which has always been dynamic, moving towards increasing variety, as expressed through the process of evolution. So when the individual feels a sense of purpose - of any type - they effectively align themselves with this dynamic impulse, which is possibly why following a sense of purpose is so beneficial, and such an important aspect of wellbeing.”*[13]

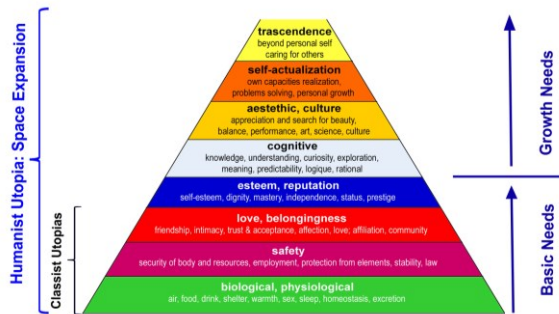


Figure 5. An extended Maslow hierarchic needs, and utopias

A humanist utopia for these days, a space utopia, must include the opportunity for complete satisfaction of all the needs outlined in Maslow's pyramid. Everyone must have the opportunity to become wealthy, without this involving, ever again, theft, murder, exploitation, coercion, suppression of the rights of others. And all this for a virtually unlimited number of humans: *“From each one according to their creativity and availability. To each one according to their desires and capacity of imagination. Or: man does not live by bread alone. i.e.: **the superfluous is indispensable!**”*

THE CIVILIZATION EVOLUTION TOWARDS A 100% INCLUSIVE SOCIETY

An updated Kardashev's scale

Nicolai Kardashev was a Russian astronomer, who devised a method to classify the evolution degree of civilizations which could exist in the universe[14]. His main interest was searching for extra-terrestrial intelligences and, during the last part of his life, Kardashev joined the SETI Institute, founded by Carl Sagan.

The Kardashev's classification scale identifies as type I a civilization that is able to use the energy of its own

planet. A type II civilization can use the energy of its own solar system, and a type III one the energy of its own galaxy.

After that Robert Zubrin, the founder of the Mars Society, added a second criterion of evaluation: resources. A type I civilization can use the resources of its own planet, a type II civilization uses the resources of its own solar system, and a type III one extends its activity taking profit of the resources of its own galaxy.

Carl Sagan added the criterion of information: managing information at planetary level for type I, in the whole solar system by a type II civilization, and within the entire galaxy by a type III one.

In its 3rd World Congress Thesis[15], Space Renaissance discussed a fourth criterion to evaluate the maturity of a civilization (to be added to the method initiated by Nicolai Kardashev): social inclusiveness. A civilization can be defined a type II only when it ensures equal opportunities to all of its members. Such development must be sustainable from all points of view: economic, social, environmental. It is now clear that sustainable development is possible only in outer space, using trans-terrestrial resources, leaving the human community free to expand, grow up and multiply outside of our mother planet.

Earthers cannot move towards a realistically inclusive society without expanding into outer space and using the resources and energy of the solar system. Civilian space development is the achievable utopia of the 3rd millennium: Maslow's highest goals, available to everyone.

Nicolai Kardashev:

- type I –using own planet's energy
- type II –using own solar system's energy
- type III –using own galaxy energy

Robert Zubrin:

- type I –using own planet's resources
- type II –using own solar system's resources
- type III –using own galaxy resources

Carl Sagan:

- type I – managing own planet's information
- type II – managing information at solar system's scale
- type III – managing information at galactic scale

Space Renaissance (A. V. Autino):

- type I – fight for own planet's resources
- type II – 100% inclusive (Solar System Civilization)
- type III – ...

The Sustainable Social Inclusivity: needs and opportunities

Humanity needs to expand into outer space as soon as possible, because:

- 8 billion citizens cannot live and grow indefinitely on a finite planet
- De-growth is not a solution, and it is worse than the problem it tries to solve
- The only sustainable development is now outside our mother planet

Expanding into space is the greatest effort ever undertaken by humankind. It will cost a huge quantity of money, work and efforts. Yet, remaining closed inside Earth's boundaries, would cost very much more: likely the end of our civil life as we know it, and a vertical quick decay of our civilization.

However:

- Expanding into space is a critical next step for humanity
- Quality of life has the potential to improve in space and on Earth
- A space diaspora will give birth to an unprecedented cultural diversity
- Thousands of communities could be feasibly established in the geo-lunars pace, on and around Mars, in the Asteroid Belt and on the Jupiter Moons
- Expansive space settlement would provide a feast of sociological information and hundreds of new social experiments will take place, in which persons will be valued for what they know and can do
- The great abundance of resources of the Solar System will constitute the basis for a 100% inclusive society

Considering that humankind will in any case strive to expand and grow up in the solar system, it is relevant how such a process actually takes place. Just to represent two extreme opposite modes we will have either a) a desperate escape from an awful Armageddon on Earth or b) a coral synergistic effort, supported by the majority of Earth Countries. I will resort again to the Steve Taylor's study on the work of Abraham Maslow, related to modern utopias: *"As Maslow wrote, one can set up social institutions which will guarantee that individuals will be at each other's throats; or one can set up social institutions which will encourage individuals to be synergic with each other. At present, we clearly have social institutions and values that encourage competition and selfishness and discourage compassion and empathy."*[16] If it is true that humans often give their best in very critical conditions, it is definitely clear that a world leadership encouraging fair and synergistic cooperation would give more probabilities to the space settlement evolutionary effort to succeed, keeping the great human patrimony intact and integer.

A NEGENTROPIC STRUGGLE FOR FREEDOM

This section of the paper freely quotes parts of two Krafft Ehrlicke's papers: "The Extra-terrestrial Imperative"[18] and "The Anthropology of Astronautics"[21]. We thank M.-L. Heuser for providing the hint to the

natural theoretical remarks of Krafft Ehrlicke and for putting them into a natural philosophical context[17].

The First Great Crisis: 1st step of industrialization of life

Krafft Ehrlicke, in his essay titled "The Extra-terrestrial Imperative"[18], wrote the following narration (free abstract from the paper): One particular one-cell organism, the photoautotroph, evolved an enzyme that was capable of utilizing solar energy to produce chemicals that stored energy. It was a stunning *technological growth* thrust: the photoautotroph was the forerunner of today's chlorophyll molecule. That is, by advancing technologically to higher levels of energy processing, controls, and more sophisticated, complex ordered organic systems.

Something terrible happened: as in every industrial process, there was pollution. At that time pollution was the release of the waste product of photosynthesis, namely, free oxygen into the environment. If there had been Greenies among the autotrophs, they would have demanded the immediate cessation of photosynthesis!

The untouched "First Earth" was indeed totally polluted with free oxygen. This was terrible, because it destroyed precisely the Earth environment that was able to create life, and changed it over into today's industrialized biosphere. Through the photoautotrophic process, life began to develop its own means of production, hence, to assume control over its energy supply—its food supply—resolving the first global crisis.

A negentropic response to the crisis

Facing the crisis, the choices were: to give up and perish, regressing to a minimal state of existence, or to advance and grow up. Living matter responded negentropically, choosing to leap boldly over the existing limits in interacting with primordial resources by means of a growth thrust, utilizing higher technology.

Let's also note that life basic elements likely didn't have origin on Earth, but were seeded by comets. Earth is not a different thing, separated from the rest of universe: universe is one, nature is common in the universe, we are immersed in a cosmic ecology, as it was announced by Plato and later developed by Giordano Bruno. The history of life is characterized by an irrepressible evolutionary impulse: Krafft Ehrlicke talked about several steps of industrialization of life; Robert Pirsig described the succession of progressive evolutionary "schemes of values" from inorganic, to organic, to social and lately to intellectual; Steven Wolfe has written about the evolutionary impulse, from big bang to nowadays. According to Ehrlicke, the natural history tells a struggle of life for freedom, to get free from entropy and from the ferocious laws of the jungle. Marie-Luise Heuser, who dedicated her life to a deep research on space philosophy, found in the work of Friedrich Schelling a comprehensive discussion of natural philosophy, the self-organization and productivity of nature[19][20]. All together, such works constitute a deep foundation and motivation of the nowadays aim of terrestrial life to expand into outer space.

Other intermediate steps of liberation

With a few exceptions, after exiting the sea, animals remained crawling. Their bodies were in close contact with the ground, resulting in extensive heat exchange. Hence, their blood temperature followed, and today still follows, that of ground temperature. The development of mammals, the most versatile and perfect land animal, was a brilliant biotechnical achievement. Divorcing the body from the ground by means of legs freed the body from slavishly following the temperature cycle of the soil, permitted the development of insulating furs, and allowed the maintenance of a fairly constant temperature.

Now it was no longer necessary to lay eggs and depend on the sun for hatching. Therewith, life became almost independent of climatic conditions. The conquest of the land could be completed. Also, the lower atmosphere could be occupied in time by follow-on developments of the reptiles, which showed a better growth potential for this environment than mammals.[21]

The Second Great Crisis: we are children, and not pets, of the biosphere

We are now facing the second big crisis. And of course we don't want to destroy the 2nd Earth, while building the 3rd one. The womb example works as a good analogy here: the child who was at first parasitical in the body of the mother later on becomes the protector of the mother. We have the power to help only because we are (technologically) emancipated. And we have to continue to emancipate ourselves, because we are children of the biosphere; we are not pets of the biosphere.

Becoming progressively less parasitic and progressively more in control of ourselves, production, resources, independent of Earth's biospheric womb—in short, emancipation from planetogenic to cosmogenic state. There is a "ninth month". And if that ninth month is not adhered to, both the embryo and the mother body are destroyed.

Today this means that if 7 or 8 billion people fall back on a life-style of an embryonic mankind, we are threatened with the abject destruction of both ourselves and the biosphere.

This is what – in the Theses of the 3rd SRI World Congress[15] – we called risk of civilization implosion.



Figure 6. Earth is not sick: she's pregnant!

The Three Fundamental Laws of Astronautics, by Krafft A. Ehricke

First Law: Nobody and nothing under the natural laws of this universe impose any limitations on man except man himself.

Second Law: Not only the Earth, but the entire Solar system, and as much of the universe as he can reach under the laws of nature, are man's rightful field of activity.

Third Law: By expanding through the Universe, man fulfills his destiny as an element of life, endowed with the power of reason and the wisdom of the moral law within himself.

The way out, by Gordon Sumner (in art Sting)

The world is in crisis, political crisis, pandemic crisis, climate crisis, ... music [and philosophy] should show us a way out of our crises. I am not looking for ways to reiterate my problems, I am looking for solutions, ways to get out."

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