

**1<sup>st</sup> INTERNATIONAL CONVENTION  
of Technologies of the Frontier**

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Buon giorno. I am a little embarrassed to admit that this is my first trip to this beautiful country of Italy--Italia. And though I have come a long way to a place I have never been, I feel welcome because Adriano Autino, Arthur Wood and others are kindred souls searching for the deeper meaning in the human journey into space. Thank you for inviting me. Mille grazie invitarmi a questo incontro stimato.

My intention this morning is ultimately to challenge each of you to go much deeper into understanding why it is you are so passionate about space development. That inquiry--if you are brave enough to go all the way with it--will not only be the source of your own awakening to higher consciousness, but is, in my opinion, the very key to our success in creating civilizations beyond our small, precious home planet.

Part of my discussion will make sense intellectually, satisfying the scientifically minded. But, in much of this discussion I ask you to consider that the universe itself contains an intelligent awareness that manifest through the physical world, and most certainly is manifesting through us -- particularly in gatherings like this one. The only thing I will ask is that you keep an open mind and open heart.

A couple of weeks ago, Nature magazine reported about an unusual nebula at the center of the Milky Way Galaxy that is shaped curiously like a double helix strands of DNA. Reading about this phenomenon, I couldn't help thinking how appropriate this astrological discovery is to my talk this morning.

We all know from biology that the characteristics of any form of life are determined by its DNA code. DNA contains the information about an organism's appearance, function and how it will progress through its developmental phases of growth. Could it be that entire galaxy and even the universe have some equivalent to a DNA code? I believe so. Just as patterns repeat at higher and lower orders in a Fractal geometric image, each level of existence in the universe is governed by a kind of DNA code.

This discovery is very relevant because I want to talk about the DNA of our planet--or specifically the biosphere. Rather than life evolving in completely random fashion, I hold the opinion that the life on this planet evolved according to a design, much like a DNA code. As many of you may know this idea of our planet as a singular living organism was described James Lovelock in his Gaia Hypothesis. According to Lovelock, and others, the human race, rather than being separate from its environment, is very much a part of a whole system that has been developing over the course of four billion years. As a complete living

entity, it is not much of a leap to see that the biosphere has a life cycle much like its constituent species. The planet as a whole moves through stages of development, and I believe with the dawn of the space age, the living biosphere is moving into its most exciting stage yet. In transitioning to this next stage, humankind will play a central role.

To help illustrate where I am leading with this I want to relate a personal story. In May of 2002, I was on a spiritual retreat with Andrew Cohen, an important teacher of enlightenment. It was near the end of a five-day program. I was meditating alone in the meditation hall. My meditation was particularly subtle and serene. After sitting for some time, I suddenly experienced the collapse and dissolution of every shred of who and what I thought I was. What was left was an awareness of who I really am at the core of my being. This was the Universal Self, or the One without a second, as Andrew Cohen would say. This was a remarkable day of awakening for me when my perception of the world in many ways changed completely and permanently.

It was that very night, in the dark quiet of my hotel room that the following revelation came to my awareness: *The purpose of humankind's march into the space was a purpose that was cast for us at the very dawn of our existence.* Never before had I fully contemplated that the urge to explore and expand into the cosmos was a impulse that existed within us all along, dormant waiting for the right time to be expressed.

The argument that humankind was predestined to explore and settle out space is not all that new. Even my own President George Bush said that space exploration and discovery is "a desire written in the human heart." The distinction I am making--and this ties back my original point--is that we can see this human urge to move into space as part of the natural life-cycle of the biosphere. This impulse to expand is indeed part of the design of Lovelock's Gaia.

Adriano speaks about Mother Earth being pregnant. This is not a metaphor, but the actual natural condition of the planet body. Can we speak about any life cycle without the capacity for reproduction? If we are willing to embrace James Lovelock's Gaia Hypothesis than we must recognize that this biosphere has the capacity to actively reproduce.

But in order for Gaia to reproduce there needed to have evolved within the biosphere an *agent species* with the capacity to manage the planetary resources in such a way that it could carry the Life that emerged on this planet host to other celestial host worlds. This process of life transference could not happen without such an agent. We, all of humanity, are of course that *agent species* charged with carrying out the reproduction. Maybe that's why we are so preoccupied with sex.

So you see, from this perspective, space exploration and settlement is not merely an interesting endeavor for wealthy nations. It is quite literally an *obligation* that we have to the planet that gave us our existence.

When I started to write about my insight, it was important develop a logical argument that would support the truth of the insight. I found myself asking the question, "What makes humankind so well suited to carry the seeds of life away from this planet?" In my contemplation, I have discovered six fundamental traits, or endowments, that our species possesses that are essential to our ability to build new civilizations beyond Earth. If we lacked any one of these traits, we would not be sufficiently endowed to fulfill the task of biosphere reproduction. The six endowments, which I describe in terms archetypes include: The Wanderer, The Settler, The Inventor, The Builder, The Dreamer, and The Survivor.

Before I give some detail on each endowment, I need to add some background that will help place these endowments in an evolutionary context. Here, I am speaking of the evolutionary process that has been driving the formation and creation in the universe since the Big Bang. Biological evolution, as described by Charles Darwin, is just one manifestation of the evolution process that has been on going for some 15 billion years. Eric Chaisson makes a wonderfully scientific argument for Cosmic Evolution in a number of his books.

Evolution not only occurs in the gross physical universe, but is also occurring in the more subtle realm of *consciousness*. We can easily understand, for example, that humans are more conscious, or are in a higher state of consciousness, than say a dog or cat. And we can further understand that a dog or cat is more conscious than a tree. And a tree is more conscious than a rock.

Further, the consciousness of humankind has also evolved significantly from our earliest beginnings. Most of us will also agree that our level of consciousness as a total species has advanced even in the past 100 years or so. Maybe even in the past 30.

So, I will describe describe the six endowments in the context of the evolution of consciousness. But before I do that, I have one more piece to add to this evolutionary puzzle that informs our understanding of the six endowments. That is the two characteristics of evolution to *expand outward* and to *increase in complexity*. From the moment of the Big Bang, matter in the universe has been perpetually expanding; and at the same time that material has been organizing itself into increasingly complex forms, which ultimately became the galaxies, stars, planets and biological life.

These two dimensions, expansion and complexity, creates a resonance within which all of creation is possible. They are in effect the Yin-Yang poles between which the universe is balanced.

Our six endowments can be organized as emerging in evolving stages along either the expansion or complexity track. The emergence of each endowment corresponds to a general evolutionary leap in our consciousness. The six endowments group naturally into three pairs, with one aspect of each pair aligning more closely with the expansion dimension and the other aligning more closely with the complexity dimension.

Now that I have properly placed our six endowments into an evolutionary context—or completely confused you beyond all hope—let's take a closer look at each one of our endowments. As I mentioned earlier, each endowment must have critical relevance to the fulfillment of humankind's obligation as the reproductive agent of our biosphere.

In our first pairing, we are the Wanderer and the Settler. These are the traits closest to our less evolved cousins in the animal kingdom. As the Wanderer, an expansion trait, humans have a desire to want to know what's on the other side of the hill or mountain or ocean. Hostile terrain has never stopped us, though it has been a motivator at times to move on. Even the expanse of the ocean did not intimidate the earliest explorers. Now that any untouched land is protected, surveyed or otherwise partitioned, the only way our desire to wander can be adequately satisfied is by looking upward. The true Wanderers among us yearn to go to the Moon and Mars and beyond.

As the Settler, we are always looking for a 'good spot' to rest and make a home. This is a complexity trait that has a need for stability and security that can only be achieved by settling down in one location. As the settler, at first in caves and huts and later in towns and cities, we have been very successful at building barriers that separate us from the many threats in the natural world. Though this tendency has desensitized us to the environment—which has created an imbalance that we must now correct—it also has served to prepare us to build cities away from Earth that will protect us from the unforgiving conditions in space.

Next, we are the Inventor and the Builder. With these more evolved endowments, humankind truly achieves dominion over the rest of nature. As the Inventor, we wander in the abstract confines of our own mind ever looking for unique ways to understand and utilize the resources of our environment, primarily for our own productivity, comfort and pleasure. Each invention led to other inventions, and over millennia this endowment has brought us to the point where our understanding and ability to manipulate the physical world is nearly limitless. The Inventor has taken us to the Moon and back, and is now poised to bring us into space permanently.

The complexity companion to the Inventor is the Builder, or artisan. Once the new tools and new ways of doing things have been discovered and developed

through invention, they are ready to be replicated. It is by reproducing invention that systems become complex. The light bulb is a marvel as much for its simplicity as for its function. Put into universal use, however, the electric light represents enormous complexity. The builder will take the prototype space habitat, refine and replicate it thousands of times throughout the solar system.

The last pair of human endowments is the Dreamer and the Survivor. The Dreamer turns the Inventor from a problem solver to a visionary. The Dreamer enables people to envision potential futures based on real or imagined conditions. We celebrate the Dreamers who act on their dreams and are successful. The Dreamer endowment is most responsible for advanced civilization we live in today. It is only with the Dreamer endowment that we will be able to envision a multi-planet existence that we will one day live into.

With the Survivor endowment, we have the ability to conduct intense environmental assessment with the purpose of threat avoidance. Like the Dreamer, The Survivor has enormous capacity to envision all possible future, but in the case of the Survivor the visioning is oriented toward protection and preservation of a given population or even the species as a whole. The Survivor realizes that we had better take decisive action or there will be dire consequences. As we become ever more aware of the dangers that threaten human existence—from asteroid impact to bio-terrorism to disease to global climate change—we sense the survival imperative to do something before it's too late. In addition to the preventive measures we can take on Earth, the Survivor recognizes the need to diversify the population into space to guard against the real possibility that some planetary catastrophe might result in a total loss of human life. Ultimately, space settlement as insurance against extinction will be one of the most powerful motivators for expanding into space.

In walking through these human endowments, I hope I have conveyed some sense that not only has these six endowments enabled humankind to flourish through the ages, they embody precisely the traits necessary to carry life to other planetary shores.

This is all very good news, isn't it? If we embrace the perspective I've described than we can feel more confident that expansion into space is wonderfully part of a grand universal design. We can feel confident that human emergence into space is as natural as... having babies.

So, what is the matter than? Why don't we already have a colony on the Moon and outposts on Mars? Or at least be well on our way to constructing such places? The technology was available more than 40 years ago. We were landing people on the Moon 35 years ago. What is going on?

If we opened this for general discussion we could no doubt generate many good reasons for this sluggishness in opening the space frontier. There are political reasons, technical, social, and so on.

And our lack of success in the area of human space development is not for lack of effort. Many very intelligent and resourceful people—many are in this room today—have been working diligently in one area or another to advance this cause. We are currently in an era of great expectation once again with regard to returning to the Moon and going to Mars, as well as the advent of the space tourism era.

As exciting as are the projects on the drawing board, they are still a very long way off from anything like creating new branches of civilization beyond Earth. I don't feel we have a full appreciation for the sheer complexity of what creating the new civilization will involve. True emergence into the cosmos I believe will require a level of complexity, cooperation and intention that we have not yet demonstrate.

The clue to what is needed is in the model we created a few minutes ago.

In order to be able to manage the complexity, we need to function at a higher level of consciousness. In other words, there is still another level of consciousness that we need to achieve a species that is necessary for us to fully cope with the demand and opportunities that abound in the Solar System and beyond.

More specifically, we are missing one last endowment that is associated with that higher consciousness. And this *seventh endowment* is only just now emerging in the world.

That we are lacking anything on a conscious level is very hard for most of us to consider because we feel that as a species we are complete. Globally speaking we know we need to straighten out our act a bit, but essentially, we arrogantly assume that we have already arrived at the end out of evolution, both physically and most assuredly in terms of our consciousness.

As consciousness continues to evolve, many are experiencing rise of the seventh endowment, which is the capacity for *Conscious Evolution*.

Though people in the space community may have some sense that they are making a difference to the future of space development, the vast majority of those involved are completely *unconscious* to the evolutionary process they are already engaged in.

Remaining unconsciously involved in evolution profoundly favors a terrestrial centric view, which is the dominant position. Concepts such as space

colonization are simply beyond the realm of possibility for most people--as we in this room are all too painfully aware.

Being unconscious to the evolutionary process has been fine up until now, but we risk losing everything unless we begin to actively and consciously engage in that process. Why? Because, as I said, the complexity in the world has gotten to a level where we are losing our ability to cope with and manage the speed-of-light changes we experience everyday. In this discussion I am speaking mainly about the complexity of space colonies, but unfortunately the same goes for nearly every aspect of civilization we live in. Though a leap to higher consciousness is necessary to fully engage the space movement, generally speaking that same leap is necessary just so we can restore some social and environmental balance in the world.

Barbara Marx Hubbard has written:

“We are an integral part of the evolutionary journey. In our genes are all generations of experience. In our genius is the code of conscious evolution. In our awakening lies the pattern of the planetary transition from our current phase to the next phase. Our mind is designed to know the design of evolution toward higher consciousness and freedom.”

What I am saying about conscious evolution might be compared to a child first coming out of the womb. In an instant that child must breath on its own and eat on its own. The child can no longer rely on nourishment and oxygen he received through the umbilical cord. In the same way, we can no longer expect to be a non-participant in our own evolution.

But what is this higher state of consciousness I am referring to and how can anyone actually attain it? This state is essentially the awakened state of mind that most religious traditions point to, particularly in the east. Fundamentally, as Andrew Cohen says, the transition to the awakened condition is one where we care more for the whole than for the self.

Awakening in the way I'm speaking is very challenging. The good news is that events on the planet are creating tension around the potential for broad awakening, so it may actually be easier now than in the past to reach this new level. But, ultimately achieving any degree of enlightenment is as it has always been—it requires the sincere intention of the seeker. So I may say that world is waking up to some degree, but enlightenment is still a journey for the individual. The real exciting part comes when groups of people can come together on this higher plane.

If you are interest in such a possibility one place to start is contemplate on the model and perspective offered today about the nature of the evolution of consciousness to see that there is indeed a next phase, and cultivate a sincere

desire to want to get there. A meditation practice is also an important element in the awakening process. If this is something that resonates with you I encourage you to contact me.

If what I am suggesting really is not the way you see the human place in the universe, let me just suggest that you hold in your mind the broadest possible context for your actions in the space arena—a context that stretches across a hundred years. And, then consider how your actions will make a difference in creating the best possible future for life on Earth and in space. If you can live from that perspective, you will be very close to achieving just what I am otherwise suggesting.

I should mention before I conclude that I have joined forces with Barbara Marx Hubbard, a futurist, visionary and spiritual leader in her own right. Together, we spearheaded an effort in the U.S. to create opportunities for individuals involved in creating a positive future to come together for the purpose of deepening their connection to their purpose and finding new synergies and ways for action. We have gone so far as to form a coalition group called the Council for a Positive Future that is joined by the National Space Society, the Space Frontier Society and the Mars Society. We are currently investigating organizing an interdisciplinary gathering in mid 2007.

I know that there are many wonderful new developments in the space arena that you will be speaking on today, and I look forward to hearing them. So here is one point I will add on a more upbeat note. The dawn of the space age itself has been a powerful catalyst for moving consciousness toward a new global perspective. Your efforts are inspiring people and are contributing to the potentiality of an awakening world. But take heart that there are yet much greater rewards sooner if we are willing to live our personal missions more closely aligned with universal principles.

Thank you.