

SECTION I

PLANETARY CONSCIOUSNESS: AN OVERVIEW

PLANET EARTH AND THE UNIVERSE

CHAPTER ONE:

An Experiential Cosmic Perspective

Weightlessness comes in abruptly.
I soared as if I were inside a soap bubble.
Like an infant in the womb of my spacecraft,
still a child of my Mother Earth.

Miroslav Hermaszevi, Polish cosmonaut¹

INTRODUCTION

In this chapter I wish to present a basic aspect of planetary consciousness: the fact that we live not simply upon the surface of the Earth, but rather *with* and *within* the Earth--a planet living² within vast interplanetary, galactic and intergalactic systems. This fundamental and simple empirical fact, far from being trite, is very relevant to human consciousness, particularly, as it is argued here, when its recognition is grounded in people's own *experience*.

Dr. Willis Harman, director of the Institute of Noetic Sciences-- founded by astronaut Edgar Mitchel (see my interview, following chapter)-- addresses this aspect in many of his writings. Since the dawn of civilization, we humans have developed ideas about our role within the whole of creation which were linked to myths and theories about Earth's place in the universe and within creation itself. During the middle ages in Europe, for example, the prevailing theoretical system for the interpretation of the heavens was deeply entrenched in the basically geocentric astronomical concepts of the Alexandrian scholar, Ptolemy. The Earth was seen as the center of the cosmos--a

firmament revolving as a vast spherical crystalline shell around the spherical Earth, with additional mechanisms supporting the sun, moon, and planets.³

This perspective was part of a theological cosmology that assumed a living world created and guided by God for man's benefit. The earth was seen as the epitome of creation, the seat of change, decay, and Christian redemption. In the thirteenth century, Thomas Aquinas combined Aristotle's comprehensive system of nature with Christian theology and ethics and thus established the conceptual framework organic to that historic epoch. These concepts were used and taught for 14 centuries in Western Christendom and had fundamental implications not only for astronomy, theology and philosophy but also for social organization.

The universe is alive and imbued with purpose; all creatures are part of a Great Chain of Being, with man between the angels and the lower animals; events are explained by divine purpose or by their function in a meaningful world.⁴

The medieval outlook changed radically in the sixteenth and seventeenth centuries with the advent of the Copernican interpretation of the universe and the subsequent Scientific Revolution.⁵ The Earth was dethroned from its seat at the center of the universe--it was rather just a planet like many others "circling a minor star at the edge of the galaxy"--and so were humans cast from the center of God's creation.⁶

This revolution represented a significant challenge to the entire system of ancient authority and became a focus of tremendous controversy in religion, philosophy, and social theory. It set the tenor of the modern mind, catalyzing a major transition in Western values. It was *heresy* on a grand scale: "What is true is what is found by scientific inquiry to be true; ultimate authority resides in observation and experiment rather than tradition."⁷ Ultimately, the "heresy" of scientific authority prevailed, and we now look back on this momentous change as an unqualified positive evolutionary step.

Dr. Willis Harman speaks of such a transformation as a true "paradigm change" in Kuhn's sense,⁸ associated with a particular new view of reality, initiating and instituting what we know today as the "scientific revolution" with its corresponding changes in basic ways of perceiving, thinking, valuing, and doing.

In our times we are witnessing a *further* expansion of our collective knowledge of our place in the universe reflected by the dramatic emergence of the concept of *the planet*, as an integrated whole, not only in astronomical terms but also in ecological, sociological, and philosophical terms. Within our "Western" historical context, this "new" emerging view can be attributed to the space flights and the landings on the moon.

The world-famous "moon shots", in 1969, opened the way for a new *experiential awareness* as they showed, for the first time, to masses of people, a direct "live" look at our One Home Planet Earth within its vast universe. Several of the people I interviewed for this work spoke of these historic events as occasioning a momentous landmark in our emerging new picture of reality. Jacques Yves Cousteau, famous explorer of another vast realm, the oceans, saw the *experience* of space, as demonstrated by the much-celebrated pictures taken from the moon, as "...the birth of a global consciousness that will help build a peaceful future for humankind."⁹

This declaration may at first appear to be not more than the sort of simplistic, sweeping over-generalizations that sociologists are traditionally trained to avoid or to hastily disclaim. Yet, at closer look, it is not surprising that an accomplishment deemed godlike since the dawn of civilization should profoundly impact our collective perception of the human spirit and the human possibility. It is a new perception based on the *direct experience* of our newly gained human capacity and of our true relationship with the universe and all of life.

This chapter explores the impact upon contemporary human consciousness of this new perspective of Earth associated with space exploration. Most pertinent to this purpose is to consider the experiences of the space explorers themselves--those who

were able to literally see and feel themselves and the Earth within the context of the Universe. With the help of technology and what Marshall McLuhan called the global "neural networks" of the communication system, masses of people all over the planet literally followed in their footsteps, and thus participated, albeit vicariously, in the experience as well.

A Personal Experience of the Planet

Russell (Rusty) Schweickart became an Astronaut in NASA in 1963, right at the end of the Mercury program.¹⁰ He served as lunar module pilot for Apollo 9, March 3-13, 1969, logging 241 hours in space. This was the third manned flight of the Apollo series and the first manned flight of the lunar module. During a 46-minute space walk (or in technical terms an "extra vehicular activity"-EVA) Schweickart tested the portable life support backpack which was subsequently used on the lunar surface explorations. On the mission with Schweickart were commander James A. McDivitt and command module pilot David R. Scott. Two flights later, using the Lunar Module and the life-supporting backpack which he had tested, the crew of Apollo 11 landed on and explored the Moon.

Schweickart served as backup commander for the first Skylab mission which occurred in the Spring of 1973. Following the loss of the thermal shield during the launch of the Skylab vehicle, he assumed responsibility for the development of hardware and procedures associated with erecting the emergency solar shade and deployment of the jammed solar array wing--operations which transformed Skylab from an imminent disaster to a highly successful program.

After the Skylab program, Schweickart went to NASA Headquarters in Washington, DC, as Director of User Affairs in the Office of Applications. In this position he was responsible for transferring NASA technology to the outside world and working with technology users to bring an understanding of their needs into NASA.

Schweickart was awarded the NASA Distinguished Service Medal (1969), the National Academy of Television Arts and Sciences Special Trustees Award (Emmy) in 1969 for transmitting the first live TV pictures from space and the Federation Aeronautique Internationale De La Vaux Medal (1970) for his Apollo Nine flight. In 1973 Schweickart was awarded the NASA Exceptional Service Medal for his leadership role in the Skylab rescue efforts.

Born in Neptune, NJ, in 1935, before he joined NASA Russell "Rusty" Schweickart was a research scientist at the experimental laboratory of the Massachusetts Institute of Technology (MIT) and he also served as a fighter pilot in the U.S. Air Force and the Massachusetts Air Force National Guard (from 1956 to 1963)-- logging over 4000 hours of flight time, including 3500 hours in high performance jet aircraft.

Rusty Schweickart has been justifiably highly recognized for his distinguished professional record characterized by a high level of specialization and stringently defined task performance and excellence in breakthrough, leading-edge science and technology.

The astronaut training was itself arduous and highly specialized, consisting of thousands of hours in simulations, training sessions, mock-ups, stowage reviews, checklists reviews, mission rules meetings, and so forth. ¹¹ The complexity and staggering detail of the endeavor, even after being launched into space, was overwhelming. This encouraged compartmentalization and specialization and a focus on well-practiced technical performance and left little, if any, room for leisure or creative

activity or for dealing with deep personal emotional experiences. Yet, deep, personal emotional experience is precisely what happened to "Rusty" Schweickart.

In an unplanned moment during the space walk, "Rusty" had had to remain totally still while suspended for five full minutes, in pitch-dark space as a malfunctioning camera was being repaired. For those minutes he felt simply like a human being--not a scientist or astronaut--and he found himself totally absorbing the experience. It was an experience that totally transformed his life--a direct encounter with a vast, heretofore *unknown*--not as an intellectual observation but, rather, as the direct experience of a *new relationship*.

... the unavoidable and awesome *personal relationship, suddenly realized, with all life on this amazing planet... Earth, our home...*¹²

First of all, this sense of a new relationship with Earth was grounded in the profound aesthetic experience of perceiving the beauty of our planet and all the fascinating spectacle passing below, each hour of the ten days of space flight, and the stark contrast between bright colorful home and stark black infinity. Other space explorers have appeared to be deeply moved in similar ways.

Soviet cosmonaut Oleg Makarov also became aware of the astonishing beauty of our planet in his first flight with cosmonaut, Vasili Lazarev, when hanging in the orbital module preparing to engage the nine-lens miniaturized camera to photograph a corridor across the USSR from the Black Sea to the Pamirs, to verify whether it was worth taking spectrozonal photographs of the Earth from orbit. Describing himself as a man who "does not talk much," he manages to convey this aesthetic sense, movingly and poetically, in the following excerpt:

Anyone who has seen the Earth from space knows that it is an incomparable sight. It's not just that the planet is piercingly beautiful when viewed at a distance; something about the

unexpectedness of the sight, its incompatibility with anything we have ever experienced on Earth, or known, or practiced, elicits a deep emotional response.

I was entranced when I saw the whole American continent from the Pacific to the Atlantic illuminated for a fleeting instant by an incredible sunbeam; the mirror of the Amazon basin, with its swamps and backwaters, like the bewitching eye of the continent, flashing up a friendly wink: Earth's greeting to space, the stars, a speck of dust- our space capsule.

...Only from space can you see that our planet should not be called Earth, but rather Water, with speck-like islands of dryness on which people, animals, and birds surprisingly find a place to live.

The artistic genius who painted our planet worked from a fantastic assortment on His palette and with unusually pure colors. We flew across the Crimea. It was autumn and corn was ripening in the Kuban area, the delicate yellows of the grain iridescent in a hundred shades. Fifteen minutes later we saw the soft green of the forest in Taiga, then the dark brown of the Himalayas, and once again the long stretch across the lovely sapphire ocean.¹³

The aesthetic dimension of space exploration is so outstanding, and so movingly transformative for many of those who experience it, that in 1988 Kevin W. Kelley conceived and edited an impactful coffee-table book, *The Home Planet*, the most extensive collection of photographs of Earth from space ever assembled--150 full-color photos, most of them unpublished, selected from the entire NASA and Soviet archives--providing images that capture the sheer awesome impact of seeing Earth from space. The result is truly breathtaking.

"...from overviews of deserts, jungles, ice caps, volcanoes and weather patterns, to an enormous cloud-covered sphere just outside the spaceship's porthole, to a tiny blue-white marble hanging in the inky blackness, the view from the moon."¹⁴

Together with the added narrative of quotes from astronauts and cosmonauts from 18 countries (most written especially for the project but also from news accounts, books, air-to-ground transmissions and diaries), one comes to have a deeper sense of the personal, poetic, spiritual, and sometimes funny impact of such an experience.

Because, indeed, as astronaut Schweickart described, such an experience is not just a visual observation but rather a visual *embrace*. It is an *embracing* of the planet and all the life upon it--life with which we are connected. Jacques Yves Cousteau, the renowned sea explorer, beautifully describes it in this way:

At the origin, the pioneers of the greatest adventure of all times were motivated by the drive to explore, by the pure spirit of conquest, by the lofty desire to open up new fields to human genius. ... From their [space explorer's] exceptional journeys, they all came back with the revelation of beauty. Beauty of the black sky, beauty and variety of our planet, beauty of the Earth seen from the Moon, girdled by a scintillating belt of equatorial thunderstorms. They all emphasize that our planet is one, that borderlines are artificial, that humankind is one single community on board spaceship Earth. They all insist that this fragile gem is at our mercy and that we must all endeavor to protect it. ...And from all the beauty they discover while crossing perpetually receding frontiers, they develop for nature and for humankind an infinite love.¹⁵

Yes, love. It is not an easily tolerated term among sociologists or historians--yet it is at the root of the most sublime human experiences. It does move people to act, for the best of life--for living beings other than their own selves--and to define themselves in terms of larger junctures and more meaningful, mutually-beneficial directions. It can transform those who discover it as it emerges from the depths of their being. This is precisely what seems to have happened to these space explorers as they discovered the beauty and fragility of our home planet Earth--of all life, its oneness and its wholeness.

Indeed, when seen from space, Earth seems to appear not only strikingly beautiful but also as tiny and truly precious--our *only* home--the home of all our history, music, poetry, art, birth, death, love, tears, joy, and play.

Cosmonaut Makarov, in his Preface to *The Home Planet*, again conveys this with moving poetry describing how, when in space,

...the impatiently awaited unearthliness quickly loses its charm...It is not the boring uniform blackness of the cosmic abyss that engages your attention but the spectacle of our small planet haloed in blue.

Like Schweickart and so many of his colleagues, he suddenly became aware of a feeling he had never had before--that he was an *inhabitant of Earth*.¹⁶

Without anticipation or preconception, these space explorers thus became *planetized*.¹⁷ They experienced a fundamental change in consciousness expressing their oneness with humanity and accepting the whole planet as their home. Just as during the middle ages it was discovered that the Earth is not the center of the solar system, the astronauts understood subjectively that no country is the center of the world.¹⁸

The emergence of such an "instant global or planetary consciousness" (as astronaut Edgar Mitchell refers to it) seems to be rather characteristic of many of those who have initially gone to the moon and viewed, for the first time, the world as a whole--as one. It appears that as they crossed countless borders and boundaries, again and again, while orbiting the Earth or watching it from the moon or from space, they became strikingly aware of the tragedy of countless thousands of people killing each other in conflict over an illusion of separation--of *imagined* lines that can be seen from their much higher vantage point, not to exist.¹⁹ In numerous cases, this experience appears to have been followed by a profound spontaneous reevaluation of life priorities.

Rusty Schweickart felt that there was no personal glory involved in such an experience. Rather, he felt his perception to be merely a natural response of the "sensing capacity of man" and was moved to bring the experience back, to the extent possible, for the benefit of all life on the Earth. There seems to be a totally organic interconnection between the profound aesthetic aspect of the experience, the sense of the *oneness* of Earth and all of life and of *belonging* with all of it, and a profound sense of responsibility for all of it.

This sense of belonging and of implied responsibility, appears to be the essence of what it means to be what is being called a *global citizen* or *planetary citizen*.²⁰ A global citizen is, first and foremost, deeply action-oriented--a *planetary activist* with insight into the interconnectedness of all of life and the values and ethics implications of such interconnectedness. Astronaut Edgar Mitchell captures the essence of this transformation often repeating, "We went as technicians, we returned as humanitarians." He sees this shift in understanding of our place in the cosmos--this "cosmic perspective," as the most important benefit of the walk on the moon, rather than the technological contribution of the feat.

Certainly, therefore, these have been profoundly significant events. In fact, so profound has been the impact upon astronauts and cosmonauts of this direct experience of Earth from space that it has fundamentally altered not only their basic sense of identity but also their life commitments and activities. Many have been motivated to work to improve many aspects of life on Earth which they had come to see in a new and different light.²¹

"Rusty" Schweickart's personal attempts to integrate his own emerging planetary consciousness can be seen in his changed professional priorities and commitments. In 1977, he joined the staff of Governor Jerry Brown of California and served in the Governor's office for two years as his Advisor for Science and Technology. In 1979, Schweickart was appointed Commissioner and Chair of the California Energy Commission where he served for over five and a half years. He now resides in northern California where he works as a visiting scientist at MIT.²² He is the president and CEO of Courier Satellite Services, Inc., a California corporation, which, in conjunction with its Russian industrial partners, is developing and deploying a constellation of low earth orbit communication satellites capable of providing low-cost data and voice communication to small terminals anywhere on Earth.

Schweickart is also well known within the network of people involved in the emergence of a planetary consciousness and at times he was actively participated in events and forums within this network. He was also actively involved in the formation of the Association of Space Explorers (ASE), described below.

(Many other astronauts and cosmonauts have reported similar powerful life-transforming changes, not only personally but also as a group, collectively aware of their "*shared* impression of our home planet.")²³

.. we are humans. We are not machines. We catch a glimpse of a huge swirl of clouds out the window over the middle of the Pacific Ocean, or the boot of Italy jutting down into the Mediterranean, or the brilliant blue coral reefs of the Caribbean strutting their beauty before the stars. And in the moments that each of us took away from our scheduled sleep time, or while waiting for some experiment to complete a sequence, we experienced those uniquely human qualities: awe, curiosity, wonder, joy, amazement. It is these shared human experiences, the physical and the emotional, that link us who have flown in space about this planet. Long after the mission is over it is the reflection on the personal interaction with the experience that stays alive.²⁴

The Association of Space Explorers (ASE)

In 1988, The Association of Space explorers (ASE) was founded in response to this collective awareness of shared experience. ASE is an independent, nonprofit, international professional organization of over 240 individuals (all of whom have orbited Earth at least once) from the 26 countries whose citizens have flown in space and who thereupon identify themselves as inhabitants of Earth or, in Cosmonaut Makarov's words, as a "special brotherhood of inhabitants of Earth."²⁵

ASE's official mission is to provide a forum for professional dialogue among individuals who have flown in space, to promote space science and exploration for the benefit of all, and to enhance education, foster environmental awareness, and encourage

international cooperation. It conducts conferences and lectures, produces books and films, and engages in a variety of activities toward these goals.

ASE's formative history is truly fascinating and, unfortunately, beyond the scope of this work. Briefly told, it is a story of true planetary pioneers, citizens of adversarial nations, recognized national heroes with expertise in highly specialized and classified areas, who have seen Earth from a vantage point that transcends political differences and have chosen to associate on the basis of their common feelings of personal responsibility to preserve "the only planet we have."²⁶ In spite of strong governmental opposition and bureaucratic hurdles, they assumed the commitment to overcome any predicament, disagreement, or obstacle in favor of spreading, as swiftly as possible, their vision of the Earth as one, as a whole. Such a perspective is truly revolutionary and may indeed have great significance for the future of the planet.

Interestingly, the idea of having a periodic gathering of astronauts, cosmonauts and other space explorers in some kind of private forum actually originated in 1981 by some soviet cosmonauts including Georgi Arbatov and Andrei Kokoshin²⁷ and by two prominent figures of the well known Esalen Institute (of the Big Sur area in California) namely, co-founder Michael Murphy and Jim Hickman, the first director of Esalen's USA- USSR Exchange Program. Soon thereafter, following Hickman's visit to the USSR during which he had met, through a mutual friend, Georgii Grechko, one of the Cosmonauts, ex-astronaut Rusty Schweickart was invited to attend a reception for a couple of Soviet diplomats.

At a meeting at a friend's home in Sausalito, California, the idea for a meeting with soviet cosmonaut was planted in Schweickart's mind. He wanted to get together to share the more personal, "sometimes transformative" experiences of flying in space and experiencing the home planet.²⁸ In 1982, he accompanied an Esalen-hosted group to Moscow where he met with cosmonaut Alexei Leonov and representatives of the USSR Academy of Sciences to arrange a planning meeting for an international conference

between astronauts and cosmonauts. In April 1983, Schweickart returned to Moscow with former astronauts Michael Collins (Gemini 10, Apollo 11), Edgar Mitchell (Apollo 14) and James Hickman of the Exchange Program for further discussions with cosmonauts Alexei Yeliseyev (Soyuz 4, Soyuz 5, Soyuz 8, Soyuz 10), Vitaly Sevastianov (Soyuz 9, Soyuz 18/Salyut 4), Alexei Andrei Melville of the Institute for USA and Canada Studies.

Following a working meeting of astronauts and cosmonauts, lengthy negotiations in 1983 (in Puschino near Moscow), and a final astronaut/ cosmonaut planning meeting near Paris in September 1984, the First Planetary Congress of the Association of Space Explorers opened in Cernay, France on October 2, 1985, with the participation of twenty five astronauts and cosmonauts from thirteen nations. Its theme, "The Planet, Our Home," (as well as the granting of an award to Yves Jacques Cousteau as "a person whose life is an example of consideration for all living things and for the riches of the natural world")²⁹ reflected their shared vision. This is how Schweickart describes it:

We went around the horseshoe-shaped table one at a time introducing ourselves and stating briefly why we were there. Some were shy, some awkward, some articulate... all were genuine in their desire to share their experiences and impressions and hopeful of bringing out of the gathering hope for a better future through cooperation and understanding. Many expressed the same sense of awe and reverence for the Earth that I myself felt as a result of my flight— not the inanimate Earth of statistics and measurements, but the Earth as a living entity, a being to be cherished.

And at the same time all recognized the real challenges in this complicated and turbulent world, armed to the teeth and full of conflict...But we agreed that current international issues are not our business. Our role is rather to point to the future, to the cooperative development and exploration of space and use of the supporting technologies for the well being of all people. Getting to know better our universe, our solar system, our own planet and thereby ourselves is the opportunity we see before us. And all of us shared a sense, I felt, that now is the moment, now is the time to enlarge our vision, to expand our consciousness and make space for the future.³⁰

In the end they adopted a statement of purpose and the above set of goals, issued a press statement describing the meeting and its results, laid plans for future meetings, and discussed the "nuts and bolts of incorporation and improved communications." In the beginning they also worked together with the Esalen USSR-USA exchange program to develop some educational programs (such as the Young Astronauts Council and Young Cosmonaut Corps). As of today, there has been one Congress per year, in various countries (France, Hungary, Mexico, Bulgaria, Saudi Arabia, The Netherlands, Germany, and the United States respectively).

ASE considers it important to provide its members with opportunities to communicate their unique perspective of Earth to help stimulate humanity's acceptance of responsibility for the future of our planet, the hope that

...all the peoples of the Earth can understand [how tiny and fragile Earth is], and treat this Earth as the home in which they were born, the home in which they live, and the home where their children and grandchildren will live after them. (Leonov)

To this effect, ASE has been engaged in a myriad of activities among which we can name, as examples, the publication of the above-mentioned international best-seller *The Home Planet* in hard and soft cover, participation in the United Nations Earth Day 1990 ceremony, leading partnership in the "Arbor project" international conservation forest, and sponsorship of environmental films and videos.³¹

The involvement of the Esalen Institute, at Big Sur, California, through its co-founder Michael Murphy, Jim Hickman and its Soviet-American Exchange Program is not coincidental³². During the late 1980s (a time of growing hostility between the governments of the USSR and the USA) this program, founded in 1977, had more signed

agreements and more separate exchanges with Soviet institutions than any other organization in America, except the U.S. government. They had five major signed agreements: with the Soviet Ministry of Health, the Soviet ministry of publishing, the Latvian Sports Committee, the Bitsa Olympic Center, and two with the Soviet Writer's Union. Esalen was the first private organization with which these entities had ever signed a formal agreement.

This was consistent with Murphy's pioneering role in the so-called "citizen diplomacy" or "track two diplomacy", which encouraged personal, direct encounters among peoples and citizens (rather than bureaucrats), as a way for people to become acquainted and assume responsibility for their shared destiny. Furthermore, this contributed to the fostering of key "human potential" concepts such as tolerance and appreciation of differences.

When I interviewed Michael Murphy in the late 1980s, he suggested that Esalen's Soviet-American program played an equally significant role as pioneer in the development of citizen diplomacy with the Soviets in the 1980s just as the Institute had pioneered the growth of the human potential movement in the 1960s. Esalen's Soviet-American Exchange program has held annual conferences on citizen diplomacy and, at the conference of 1982, Joseph Montville coined the now-popular term, "track two diplomacy". The exchange program also promoted and directly participated in the exchange of individual Soviet and American guests--leaders in the scientific, artistic and political communities, who have a significant personal or professional commitment to exploring the relationship between human development, changing human values, and international accord.

In November of 1986, staff members, Jim Garrison and Dulce Murphy, along with board member, Harriett Crosby, accompanied John Naisbitt, author of *Megatrends*, Patricia Aburdene (with whom Naisbitt wrote *Re-inventing the Corporation*), and Jay Ogilvy (co-author of *Seven Tomorrows* and Director of the Lifestyles and Values

program at SRI), to Moscow for a series of meetings with their Soviet counterparts.³³ These meetings and dialogues were seminal to the development of new projects such as the Astronaut/ Cosmonaut Dialogues, ASE's formation and, most impressively, the live satellite link-ups.

Esalen's exchange program also pioneered the first two "space bridges" ever-- namely the first two-way live satellite link-ups ever produced between American and Soviet audiences. It was the first communication of this kind ever achieved by the exchange program in conjunction with UNUSON Corporation for Television and Radio (Gosteleradio), and it spawned dozens of others, including Phil Donahue's "People's Summit."³⁴ The Program also facilitated the second live link-up between Gosteleradio and the second "US" Festival in May 1983. This involved panel discussions among academicians, astronauts, and politicians, as well as live band interactions. As a result of this breakthrough, the field of live satellite link-ups or "spacebridges" between Soviets and Americans was created.

On September 11, 1986, the Exchange Program organized its third spacebridge, entitled "Chernobyl and Three Mile Island: Implications for Cooperation in an Interdependent World" in collaboration with the American Association for the Advancement of Science, Internews, Gosteleradio, and numerous volunteer supporters. As the first public discussion between Soviet and American scientists since the accident at Chernobyl, the spacebridge offered an historic opportunity for the Soviets and Americans to come together with a sense of shared responsibility for nuclear technology and our energy future. This spacebridge was the most ambitious yet undertaken. In terms of content, it was the first one to focus on a politically-controversial subject-- certainly a risky topic for the Soviets to discuss publicly.

The spacebridge also broke ground in technical areas. The satellite signal connected five cities actively, and the signal was downlinked to another 20 cities in 18 states across the United States. The spacebridge was watched by people across 17 time

zones--from Fairbanks, Alaska, to Gainesville, Florida, and from Leningrad on the Baltic Sea to Vladivostok on the Pacific Coast.

In October, 1986, Gosteleradio aired a one and one half-hour edited version of the spacebridge on Soviet national television. A similar documentary has been prepared in the United States by Internews and by Search for Common Ground for airing in public television. As a follow up to the Chernobyl spacebridge, Esalen sponsored a delegation of American energy experts who traveled for ten days in Moscow and Leningrad as guests of the USSR Academy of Sciences and Mir Publishers to meet with their Soviet colleagues.³⁵

A Cosmic Perspective

Some space explorers also suggest that, organic to their "instant planetization", with its profound sense of belonging grounded in a moving aesthetic experience, there is still, perhaps, an even deeper dimension. Captain Edgar Mitchell (the pilot of the Apollo 14 Lunar Module in 1971 and the sixth man to leave his footprint on the moon, a backup pilot in the Apollo 10 and Apollo 16 moon missions, a Ph.D. in aeronautics and astronautics from MIT, and a US Navy Captain and test pilot from 1958 to 1972), was as pragmatic a test pilot, engineer, and scientist as anyone in his field before flying into space. Yet, as he watched, breathtaken, the Earth floating in the vastness of space, he experienced something totally new and unexpected:

... In a peak experience, the presence of divinity became almost palpable and I *knew* that life in the universe was not just an accident based on random processes. This knowledge came to me directly- noetically. It was not a matter of discursive reasoning or logical abstraction. It was an experiential cognition. It was knowledge gained through private subjective awareness, but it was- and still is- every bit as real as the objective data upon which, say, the navigational program or the communications systems were based. Clearly, the

universe had meaning and direction. It was not perceptible by the sensory organs, but it was there, nevertheless- an unseen dimension behind the visible creation that gives it an intelligent design and that gives life purpose.³⁶

What Mitchell felt at that moment was a profound sense of awe. He suddenly realized that energy is omnipresent in the universe, and that energy equals consciousness, and the universe revealed itself as dynamic and evolving--not static, fixed, or absolute, its nature "to be discovered," as science proclaimed. Indeed, he felt that we are actually involved--actively involved--in a universe that appears to be self-organizing in ways that modern science has yet to understand. Thus, in "one timeless moment" Captain Mitchell felt at odds with the scientific framework that, until then, had been the foundation of his life and perceptions. This feeling was exacerbated by the fact that his newly acquired understanding was grounded in intuition, i.e., in an *experiential* cognition, implying a literal *shift in perception*, drawing him into his own deep sense of inner knowing.³⁷

So profound was the impact of this dawning view of life and the universe, and the ensuing reconsideration of scientific assumptions which had so guided his whole worldview and career, that Edgar Mitchell decided that the real next frontier of human exploration must be the human mind. He determined, to his own surprise, to devote his life to the "neglected science of human consciousness". In 1973, he founded the Institute of Noetic Sciences (IONS), now in Marin County in the city of Sausalito, California. It is an impressive organization pioneering in the field of consciousness studies, devoted to "expanding knowledge of the nature and potentials of the mind and applying that knowledge to the advancement of health and well being for humankind and the planet."³⁸ Even today, as a successful businessman and consultant, Edgar Mitchell continues his involvement with inner exploration and his research of issues affecting the well being of our planet.

Commentary

It is difficult to verbalize, and even more difficult to rationally explain, to any full extent, the deeply experiential state of consciousness that Edgar Mitchell experienced in his flight to the moon, and the sources of his newly gained information. He attempts to describe it as a "flood of information" coming to him simply as a "gut feeling" suggesting the mind's ability to know itself far beyond ordinary experience--to reach into new dimensions of knowledge.³⁹ Yet, as the popular expression "gut feeling" implies, such experience does not appear to be rare. On the contrary, in his compelling book on the topic, *Higher Creativity: Liberating the Unconscious for Breakthrough Insights* (1984), Dr. Willis Harman says that such experiences seem to be commonplace and that these insights can affect one's daily existence, one's professional circumstances or even one's social and spiritual life. Expressed in such diverse terms as "creativity," "inspiration," "poetic imagination," "intuition," "mediumship," and "revelation" (or, in more recent years, in the semi-popular term "channeling"), such intuitive experience has been recognized, if not always duly attributed, to be the source of many great creations of the human mind. In fact, Dr. Harman provides a wealth of examples from the chronicles of science, showing that history is full of cases of breakthrough discoveries or insights alleged to have come from "beyond" the realm of conscious rationality.⁴⁰

The purpose of such experience, which in Dr. Harman's view represents what William James called "a noetic sense of truth," is *not to supersede fact but to supplement it*. This "noetic sense of truth" closely resembles what Morris Berman in *The Reenchantment of the World* (1981) calls "participating consciousness"--a

consciousness of *belonging*. It involves merger, or identification with, one's surroundings. It bespeaks a psychic wholeness that has long passed from the scene since the Scientific Revolution and the progressive disenchantment seen by Berman as characteristic of the modern epoch.⁴¹

Such a view captures the experience described by many space explorers of "becoming inhabitants of Earth", and of the Earth as "the home planet", and suggests what may be called a mystical state. Indeed, when in space, Edgar Mitchell felt an almost palpable "glimpse of divinity." This did not strike him as an unnatural or supernatural phenomenon, but rather as simply an indication of "very large gaps in our knowledge of what is natural."⁴²

Dr. Mitchell advocates a "creative altruism" which promotes values that encourage "self-responsibility for caring for others, and the attempt to perceive the highest natural order of things." Concrete examples of collective actions that reflect this sense of responsibility and caring include the promoting of ecological awareness and conscious consumption (such as decreasing the alarming overconsumption of non-renewable resources, particularly in the Western hemisphere), the creation of alternative technologies (such as solar energy) that are not dependent on these limited and diminishing resources, the exploration and affirmation of the commonalities of all humans, the rejection of the anthropocentricity fostered by our Western religious dogmas and even by science, and encouragement of the recognition that we all are part of a whole, integrated and interactive life process.⁴³

Yet, to foster and nourish a capacity and inclination for altruism and caring, and a commitment to reflect on Earth the inspiration and implication of this view-from-space where "everything is free from fear and hate, untainted by greed or prejudice" is, to say the least, no easy task. It is no easy task for space explorers, and certainly no easy task for any of us raised in our highly individualistic, materialistic society with its rewards for competition and high achievement. Edgar Mitchell is very aware of the need

to undertake a parallel *personal transformation* as part of our responsibility for the planet--the need to look for deeper resources *within ourselves* and so to change our internal image of reality, to find a truer perspective and sense of meaning and to come to grips with our individual and collective responsibility for the planet. With great eloquence he describes this needed change as follows:

... there have always been a few pioneers who have viewed the urge to explore- to seek the unknown- from a different perspective. They have always known (or at least suspected) that physical conquest was only part of the picture. They have realized that ultimately the greatest challenge is to conquer ourselves- that wild and unruly, fearful and fearsome part of humankind that causes us to destroy what we conquer, hurt what we love, discard the prize when we have won it. The greatest challenge for conquest is not out there- it is right here inside us; it is our own ego which needs the greatest attention, requires the greatest effort if it is to be controlled and understood...

Ultimately, one must come to understand that the frontier of the inner world can only be explored by oneself and across the span of existence, such an exploration is, finally, "the only game in town." 44

We need to arrive at a deeper and broader perception of ourselves and of our individual responsibility for the planet, he concludes. We need a "consciousness revolution," a "holistic approach" to understanding the planet and life upon it. This, in Mitchell's view, is to be achieved through spiritual discipline and esoteric practice along with rational and worldly action. Only such an integration of endeavor can, in his view, provide the understanding, consciousness, and will needed to solve the ills of our planet.⁴⁵ Neither contemporary Western religious dogma, so removed from direct experience (with its mandate to "conquer, subdue and populate the Earth!") nor contemporary science, omitting consideration of personal and social values, can provide our much-needed global awareness and sense of global responsibility. Yet, with our contemporary technology we have assumed the awesome responsibility of stewardship of

the Earth. It is a time when the future of the Earth is in human hands, and that in itself implies a need, greater than at any other time in human history, for a deeper awareness--a deeper sense both of self and of interconnectedness.

The experience and subsequent endeavors of the space explorers represent the emergence of a new, actively-expressed relationship between humankind and Earth as well as with all life. Thus they have been presented here as vehicles of transformation. The very direct experience of our world as it appears from space makes obvious the basic, fundamental interconnectedness--beyond socio-cultural, economic, or political divisions--of all humans on Earth. Such a revelation implies that the Earth itself--the natural environment in which we are born, which sustains our life, and in which we die, is organically linked and bound to our "selves"--to our consciousness and to our very existence. Ecology, consciousness and social organization thus truly overlap revealing our fundamental interconnectedness not only with all humans but also with the natural environment and, indeed, with all life on Earth (and beyond). In Joseph Campbell's words:

After the astronauts touched the moon, a synthesis of science and spirit emerged--a shift from a geocentric to a heliocentric view. The new discoveries of science dovetail with the ancient ones by enabling us to recognize in the whole universe a magnificent reflection of our most inward nature so that we are indeed its ears, its eyes, its thinking and its speech--or in theological terms, God's eyes, God's ears, God's thinking and God's word.

We are at this moment participating in one of the greatest leaps of the human spirit to a knowledge not only of outside nature, but also of our own deep inward mystery. 46

There is emerging an awareness of Planet Earth as an integrated, interconnecting living being within which all of life shares a collective and interactive experience that, at this juncture of human history, is truly transformational.

¹ From Kevin W. Kelly, ed., *The Home Planet*. (New York: Addison- Wesley Co.; Moscow: Mir Publishers. 1988).

² a concept now known as *Gaia* .

³ Willis Harman, Ph.D., *Global Mind Change. The Promise of the Last Years of the Twentieth Century*. (Ca.: Knowledge Systems, Inc, published in cooperation with the Institute of Noetic Sciences, 1988), Ch. 1, p. 4-6 .

⁴ Ibid., p. 8 .

⁵ Nicolas Copernicus was a canon and lawyer at the cathedral of Frauenberg, the northernmost Catholic diocese in Poland, who devoted most of his time to astronomical studies. A competent Greek scholar, Copernicus found in some ancient Greek writings a heliocentric model in which the apparent motions of the Sun, Moon, and planets were accounted for by imagining the Earth to rotate daily on its axis, and to revolve around the stationary Sun once a year. After three decades of gestation Copernicus' landmark book, *On The Revolution of the Celestial Spheres*, was published in 1543, the year of his death, and by the end of the century it was well distributed in both Protestant and Catholic countries of Western Europe. See Ibid, and also Capra, Fritjof. *The Turning Point. Science, Society, and the Rising Culture*. (Toronto, New York, London, Sydney, Auckland: Bantam Books,1983).

⁶ Capra, op. cit, p 54 .

⁷ Harman, op. cit., p.7.

⁸ Harman, loc. cit.

⁹ Jacques- Yves Cousteau, "Foreword", *The Home Planet* , op. cit.

¹⁰ Association of Space Explorers- USA (statement of purpose), p. 4.

¹¹ As it has been poignantly portrayed in Philip Kaufman's movie about project Mercury, *The Right Stuff*, and also in Schweickart's Preface to *The Home Planet* , op. cit.

¹² Russell L. Schweickart, "Preface", *The Home Planet* , op. cit.

¹³ Oleg Makarov, "Preface", *The Home Planet* , op. cit.

¹⁴ Dio Urmilla Neff, "The Vision That Inspires... The Home Planet", *Noetic Sciences Review*. (Summer 1988), pp. 12- 19.

¹⁵ Cousteau, op. cit.

¹⁶ Makarov, op. cit.

¹⁷ Term used by Donald Keys, UN consultant and President of Planetary Citizens, a truly leading-edge pioneering planetary organization. See *Earth at Omega: The Passage to Planetization*. (Branden Publishing Co., Inc. 1985).

18 *Ibid.*, pp. 6-7.

19 Astronaut Edgar Mitchell, described similar aspects of his experience as follows :
"In space, there is total silence- no smell, no sound, no color. Color comes from earth, where you can see 16 sunsets and sunrises a day, or where you can see all the seasons, all the storms, where there are no frontiers, no boundaries and no separate countries or races. In space, time and space shift in their relation to the Earth- where the Earth is as small as a marble and can be blotted out with your thumb and looks so delicate and fragile it could crumble in your fingers." *Letter from the President*, IONS.

20 Avon Mattison, co-founder of the exemplary planetary organization *Pathways to Peace* described such a concept in our interview as "one who has realized or is in the process of realizing, because I think it is a continual process, that one is part of an interconnected whole... one who keeps the entire planet as the frame of reference. Keeps the global perspective present while simultaneously being focused on one's local and community and personal issues. So it's a both/and perspective. "

21 Keys, *loc. cit.*

22 Association of Space Explorers- USA, *loc. cit.*

23 Russell L. Schweickart, "Cosmonauts, Astronauts Found Global Organization". Association for Space Explorers, USA. (Shortened version of an article published by Russell L. Schweickart, *Newsletter*, Institute of Noetic Sciences, Winter, 1985-86)

24 Schweickart, "Preface", *loc. cit.*

25 Makarov, "Preface", *loc. cit.*

26 *Ibid.*

27 *Ibid.*

28 Rusty Schweickart, in " ASE: A Short History " (loose pages).

29 Makarov, "Preface", *loc. cit.*

30 Schweickart (1985-86), *op.cit.*

31 Association of Space Explorers- USA, *loc. cit.*

32 A small self-described college located in an outstanding natural setting in the Big Sur coast of California, from its beginnings (in 1962) Esalen has been associated with the beginnings of the so- called "Human potential movement", with an emphasis on an emerging more holistic and positive view of human beings than those of the then prevailing psychoanalytical and behavioristic approaches. It was a potent forum for meeting of leading-edge thinkers and the development of innovative ideas in philosophy, psychology and society reframing modern insights about human functioning to emphasize health and development rather than sickness and conflict(as portrayed in the views of people like Abraham Maslow, Frank Barron, Carl Rogers,

Rollo May, R.D. Laing and others). Among its well known early participants were also people like Aldous Huxley, an English novelist turned California visionary, who already in 1960 was going about the college campuses talking on a subject he called "human potentialities" and, like Gerald Heard, provided insights and language about humanity's untapped potentials for creativity and goodness and was interested in research into all the methods for actualizing human potentialities that have been discovered so far. People such as Gregory Bateson, Arnold Toynbee, Buckminster Fuller, Willis Harman and George Leonard were proposing holistic models of the interaction between individuals and societies. Others (like Fritz Perls, Virginia Satir, Alexander Lowen, Ida Rolf and Moshe Feldenkrais) invented or synthesized in those days major therapeutic approaches and helped create a new somatic education that emphasized a holistic view of people and were deeply grounded in experience. The recognition of the value of experience as a locus of authority, of appreciation of differences among people and cultures, with the ensuing tolerance of ambiguities, of a notion of self actualization based upon an expansion of consciousness towards increasing authenticity, cooperation, empathy and harmony among people- all these were among the basic tenets of the emerging "human potential movement."

33 Esalen Institute International Exchange Program (1986). Soviet-American Exchange Program. *Prospectus* (1987), p. 5.

34 Murphy's fundraising letter.

35 Esalen Institute International Exchange program(1986), *op. cit.*, p.3.

The contemporary state of dislocation, hunger and local wars in many areas of what was formerly the USSR does however raise fundamental questions about any generalized support for social change along civil or human rights in foreign countries, particularly when there is a lack of a sophisticated understanding of that country's fundamental issues of economic and social justice. The unquestionable need to explore these issues is, in my view, fundamental to a mature planetary consciousness.

36 Edgar Mitchell, "Higher Creativity", *Newsletter*. (Ca.: Institute of Noetic Sciences, Fall 1984), Volume 12:3. p.11.

37 Dr. Harman refers to such a shift (from outer locus of authority to inner) as typical of the emerging "global mind change" that is characteristic of an holistic expansion of awareness.

38 Mitchell chose the word Noetic-- from the Greeks "nous" meaning mind, intelligence, understanding-- to encompass the methods by which we gain knowledge: the reasoning processes of the intellect, the perception of our experiences through the senses, and the intuitive, spiritual or inner ways we have of knowing. (*Noetic Sciences Review*, Winter 1987, p. 31).

Plotinus, in the third century, was already aware of "noetic knowledge" and its central place in the world of thought which he saw as one of three degrees of knowledge, associated with illumination by way intuition, as " absolute knowledge founded on the identity of the mind knowing with the object known." (W. Harman, *IONS newsletter*, Fall 1984, Volume 12:3, p. 11).

39 Jill Fairchild, "MOONSTRUCK: Reflections of a Spiritual Astronaut", *W, W's Men* , (February 5-12, 1990). p.8.

40 Willis Harman, Ph.D., and Howard Rheingold. *Higher Creativity. Liberating the Unconscious for Breakthrough Insights*. An Institute of Noetic Sciences Book. (Los Angeles: J.P. Tarcher, Inc., 1984).

41 Morris Berman, *The Reenchantment of the World*. (Cornell University Press: 1981).

42 The work of IONS is highly committed to fill those "gaps of ignorance" and reconcile the tension and conflict between science and religion.

43 *Science of Mind*. (September 1990) p.25.

44 Edgar D. Mitchell, "The Greatest Challenge. Letter from the Chairman", *Institute of Noetic Sciences, Newsletter*, Volume 7, Number 1, (Summer 1979), p.3.

45 *Science of Mind*, op.cit., p. 24 .

46 Fairchild, . loc.cit.