

Located in Marion, Massachusetts and founded in 1992, the Marion Institute sponsored its 2nd Bioneers by the Bay: Connecting for Change, on October 20-22, 2006 at UMASS Dartmouth. This annual gathering showcases some of the world's most innovative educators and designers. Persons demonstrating imaginative, beneficial and practical initiatives for positive individual and social change.

On Saturday, one of the Plenaries included a Gaia-logue aimed as a collaborative interchange between science represented by Lynn Margulis and Stephan Harding and the humanity's represented by John Lash. As moderator, Ian Baldwin began with a picture gathered from the "Emergent science of Gaia Theory - we are immersed in an immense ocean of sentience" (capacity to respond). Describing a late painting of Gauguin, *Stranded in Paradise*, he inquires - "Who are we, Where did we come from and Where are we going?" Ian offers brief biographies of the three contributors.

Lynn Margulis begins with *Gaia Herself - What is She?* "Some people call her an organism...she is definitely not an organism - she is vaster than that."

Lynn continues, "Gaia is a physiological system, such that aspects of the atmosphere and surface sediments are regulated by the activities of over 30 million types of interacting organisms, which are maintained by behavior, growth, metabolism and genetics. The Gaia Hypothesis comes from the International Space Program and from the English chemist, James Lovelock, the most mischievous scientist I have ever met. A major insight from the Gaia Theory is that Life is a planetary phenomenon within a 20 kilometer ring where Life exists and modulates that space contiguously."

She poses the question, "If you are an organism on the face of the earth, what makes you productive? To be productive we must derive all of our energy and matter from sunlight as photosynthesis and hydrogen, methane, sulphate and ammonia oxidation." In addressing her question further, she states, "There is not a productive person/animal on the face of the earth...we are all consumers which require constant provisions. Basically we have an energy and matter flow system at the surface of the earth which we recognize as Gaia. Her physiology depends entirely on sunlight and the oxidation of these compounds. Many of the scientific disciplines believe energy comes from organic matter - that's wrong - UV, heat, gamma rays, X-rays, radio activity, wind, wave or other mechanical sources have to be converted to the chemistry of Life before they can be used to run any living system.

Built into Gaia is the absolute necessity for the diversity of Life. Every important aspect of Life evolved in bacteria in watery environments. Bacteria and communities of bacteria were and always have been the most important components to run the Gaian system. The unit of Life on earth is the bacterial cell. Life is bacterial, Life is planetary, Life is in and on itself." Organisms living in and on each other were illustrated through a video presentation. She left us with a song about our planetmates..."Got along without you before I met you, going to get along without you now."

Ms. Margulis is a professor of Geosciences at the UMASS Amherst. Her theory of *Symbiogenesis* has resulted in many biologists rethinking Darwinian evolution by natural selection. She is acknowledged for her contribution to James E. Lovelock's Gaia concept.

Stephan Harding speaks to the Gaia-logue. "As many of us become more and more frightened by the growing planetary crisis, how can the idea of Gaia heal our distorted relationships with the world. If we look back to the scientific worldview developed during the time of Descartes, Galileo and Bacon, we find the idea that we are somehow separate and strangely alienated from the natural world. This worldview coupled with our capacity for analytic reasoning, made us feel that we could dominate, predict and control nature.

Perhaps the medicine for healing these distortions lies within the roots of our own culture. In Plato's *Timeaus* we find the exciting idea that the world is a great subjectivity - the *Psyche Cosmou*, in Latin - *Anima Mundi*, the soul of the world, in which every speck of matter is sentient, capable of experience. I use this concept to develop an animistic interpretation of James Lovelock's Gaia Theory, which postulates that the Earth is a self-regulating, life-like entity. If we are to rescue our culture, we need to rediscover our innate animistic sensibilities to help us develop an expanded science that re-unites facts with values and

quantities with qualities. As a trained scientist, I love science, but it is very dangerous tool when it becomes disconnected to wisdom.

So how can we combine reason and intuition on pursuit of this more holistic approach in science? We can use scientific insights to develop journeys – shamanic if you will – into the phenomenological being of nature. For instance, we can understand the six great elements that cycle through Gaia, CHONPS, as personalities. Carbon for example, is the placid Swede of the chemical world. It loves to make alliances with other carbon atoms to make long chains of massive sugar molecules. Going deeper, we can imagine what a carbon atom might experience as it journeys through Gaia's intricate pathways of tightly coupled interaction. What is it like to be a carbon atom pulled out of the atmosphere by the life-assisted chemical weathering of granite? How does it feel to course down a river into the ocean, to be incorporated into the shell of a coccolithophorid alga and then to sink down to the bottom of the ocean? How is it to be embedded in limestone for perhaps 300 million years before being subducted beneath a continent and re-erupted into the atmosphere and carbon dioxide.

These journeys can develop in us a powerful sense of belonging to our animate Earth. This more holistic science delights in our sensory participation with the world and develops our ethical sensibilities and our deepest intuitions every bit as much as our rational intellect. Could it be that our culture has little time left if we don't develop this kind of animistic relationship to Gaia?"

Stephan Harding is the founder and director of an innovative master's level graduate program of Holistic Science at Schumacher College in Devon, England. He received his doctorate in behavioral ecology at University of Oxford and has worked closely for many years with James Lovelock – the originator of the Gaia Theory. Stephan's new book, **Animate Earth: Science, Intuition and Gaia**, is widely regarded as a highly original contribution to our understanding of Gaia.

The Gaia-logue continues with the images offered by John Lash which run like runes along the coastline, inviting a mystical communion with Gaia. "There is absolutely no contradiction at all between Gaian mysticism and science. This mystic tradition was known by the ancient pagans of Europe, the telestai - the illuminated seers of these Mysteries (whose name means, those who are aimed). This is a mysticism for exploring the intelligence of the earth and our relationship to that intelligence, as well as our role in the great life of Gaia. There is an ancient Greek verb *Muein* (to be made silent), that contains a wonderful double message about the roots of mysticism and tells us exactly what the practice is. First, to be made silent and secondly, to then speak about what made you silent." John tells us - "Go nakedly with your mind and your body into the presence of nature and be dumbfounded with awe by what you see. Temporarily surrender your personal and social identity and meet Gaia as an animal among other animals. The planetary intelligence of Gaia will come into you and she will pour Her knowledge into you and then project into the field of your consciousness what she is doing. Another key to this practice is an awareness of ecstatic cognition, for certain things can only be known in a state of ecstasy.

In my new book, **Not in His Image**, I identify the experiences and practices of the telestai that brought them into a direct knowing of Nature from which they developed a sacred narrative about Gaia. At the heart of this narrative is Sophia, the wisdom goddess...the sentient, orgasmic intelligence of our planet.

Science as well, tries to attain this intimate knowledge of the workings of Nature. I was astonished by the points of correlation between the Sophia Mythos and the Gaia Theory, as illustrated in three outstanding features. *Autopoesis* as self-ordering/organizing, *singularity* - which implies the capacity for a unique human contribution to the ecosystem and how the terrestrial atmosphere is *anomalous* relative to the rest of the planetary system (referring to the atmosphere, sea and temperature).

Ancient and contemporary texts speak of the potential we have to acquire a perceptive cognitive faculty enabling us to see matter at the molecular level. We have in our bodily instrument, as a cell in Gaia's body, the capacity to behold the molecular glory of Her body directly. We can go infinitely deep into the body of the Goddess and learn her ways. The role of this Biomysticism is to take you into the sensation of the world."

John Lash is a wide ranging mythologist and true successor of Mircea Eliade and Joseph Campbell. He is the author of 4 books. His new book, **Not in his Image**, draws much of its material as developed over the last 5 years, from the website [www.Metahistory.org](http://www.Metahistory.org), of which he is co- founder and principal author.

Sympathetic to the aim of this Gaia-logue, as signaled by Mr. Lash in his new book, is the intention “to align scientific method with authentic mystical practices.” (p.326) Embodied in our nature, if claimed, waits the experience of intimate belonging in Gaia, which may be grown and centered through our sentient immersion and reciprocal perception of and in Her. Celebrating this simpacto alliance, we can trust Gaia-Sophia to teach us what we need to learn and know.

I'm sure Lynn, Stephen, John and Ian would agree with this declaration from Wilhelm Reich in **Ether, God & Devil/Cosmic Superimposition**, "Sensation is the greatest mystery of natural science." It makes future sense!