

Reclaiming Gaia Consciousness

The world we live in – at least as we experience it – is a Newtonian-Cartesian world. A universe of clockwork regularities. We can launch a probe toward a moon of Saturn and know with a great deal of certainty that after years of curving trajectory it will make a bulls-eye rendezvous with Titan. A three dimensional world of solid stuff. It's a world where nothing can be in two places at the same time and no two things can occupy the same place at the same time. A predictable world – or at least reasonably so – where the arrow of time flows in one direction and where cause always precedes effect. Ours is a world where, if we walk headlong into a wall, it's completely predictable what's going to happen: we'll smash our nose. We can make sense of this Newtonian-Cartesian universe. We can work with it.

And yet, thanks to the insights of the Einsteins and the Bohrs and the Heisenbergs, we know that at a deeper level – *at the quantum level – none of those things are true.* The deep truth is that every *thing* we know – you, me, the bench you're sitting on and the pulpit I'm standing in – everything is more nothing than something. The Buddhists positively have that right. And because everything is less solid than we think, the boundaries between things are less clear than we might think, our electrons intermingling at the margins. I remember my quantum-physics professor, Father Joe Ferenbach who purged his vocabulary of the preposition "on." If he told you to put something somewhere, he'd say, for example, "put that box "in" the table. "Huh???" you'd say; and he'd launch into a short didactic on atomic shell theory and quantum probabilities.

To take this a little further, the truth might be that nothing is really as we know it. And I'm talking physics, not metaphysics. So, I'm not talking about mental-games like "What if we're just nothing more than a computer program being run?" – a la the Matrix movies. And I'm not speculating like the English philosopher, George Berkely, who said that everything is nothing more than a projection of your own mind. To quote Berkely:

All the choir of heaven and furniture of earth - in a word, all those bodies which compose the frame of the world - have not any subsistence without a mind.
(George Berkeley)

In other words, close your eyes and everything and everyone and everyplace disappears -- literally.

No, I'm talking physics, or more precisely theoretical physics, and string theory. According to string theory, everything that we think we know is wrong. Three dimensions – or even 4, if you count time? Wrong! There's at least 11! The universe is the universe? Wrong! There is likely an infinity of universes. Score one for the Mayans! And stuff? The elements ... atoms ... you and I ... the solid things of the universe? Wrong! Everything that we supposedly can see, feel, smell and measure – all just manifestations resulting from different vibrations and harmonics of “energy strings.” So, maybe the Hindus have that one right!

And that brings me to my point – in case you've been wondering whether I have one. I have two, in fact. The first is that physics and metaphysics are ever-converging. There's even a highly-regarded international society, The Metanexus Society – based right here in Philly by the way – and a scholarly institute – The Institute of Noetic Sciences -- that sponsor and conduct research at the highest levels of scholarship exploring that zone that I mentioned in my sermon last month: *the huge and far larger territory of the possible that lies between the zones of the scientifically proven and disproven.*

My second point is the curious fact that the ancient *intuitive* insights of the Buddhists, the Mayans and the Hindus have been remarkably prescient – shown to be pretty consistent with current thinking in physics, astrophysics and cosmology. Now, it's easy to dismiss these as nothing more than three random hits among a thousand misses. Maybe. But let me make one other observation, namely that these insights arose in two settings: one, among the Maya, that is in a Western society, but pre-Newtonian/Cartesian; the others among Eastern societies where even today people, including scholars and scientists, are much more comfortable with the paradoxical and the intuitive than we post-Newtonian/Cartesian Westerners are. Though we in the West have profited greatly from our Newtonian/Cartesian inheritance, maybe we've lost something important, too.

At any rate, one issue where we can see this tension being played out in real time surrounds what has come to be known as the Gaia Hypothesis. To appreciate the Gaia issue, we have to step out of our positivistic mental framework for a minute.

To all peoples of all societies – Eastern, Western, scientific and pre-literate, modern and ancient – our “lovely blue-green planet” earth is recognized as the

source of survival. Earth provides us with our sources of food, shelter, power – indeed all the essentials of life. Now, one way of looking at this earth would be to see it as one gigantic commodity – like the biggest Wal-Mart you can imagine – with its bounty, like stocked shelves, ripe for picking over. It’s a view called “Dominionism” that is supported in the eyes of some by God himself as laid down in Genesis, saying to the first humans:

“Be fruitful and multiply, and fill the earth, and subdue it; and have dominion over the fish of the sea and over the birds of the sky and over every living thing that moves on the earth.”

You’d have to say that industrial society, led by us Westerners – “peoples of the book” – took at least that biblical commandment to heart. *(Parenthetically, under the rubric of Dominion Theology, many evangelicals assertively interpret this as a command that Christians bring all societies, around the world, under the rule of the Word of God, as they understand it.)*

It is striking, however, to see how different this view is from the views of indigenous peoples around the world. Now I’m not simply looking to draw the distinction between the exploitative practices of modern industrial societies compared with the more sustainable practices of pre- or non-industrial peoples. For one thing that comparison is too easy, and for another it’s not necessarily true. Pre-industrial societies have engaged in some ecologically harmful and non-sustainable practices themselves.

No, the distinction that I want to draw attention to is the fact that the earth of Genesis and the earth of the Newtonian/Cartesian era is a *thing* – a WHAT. But the earth of indigenous peoples has been a WHO – indeed a SHE.

To the Australian Aboriginals her name is **Eingana**, the creator and the mother of all water, animals, and humans. Eingana holds a sinew that is attached to every living thing; if she lets go of one, the attached creature dies. To American Indians she was known by many dialect-names. Among the Algonquins, who roamed these eastern areas, she was known as **Nakomis**, the Grandmother, who lives beneath the clouds and from whom is derived the Water of Life, who at her bosom feeds plants, animals and men" **Pachamama** is the name by which she is revered by the indigenous people of the Andes. Pachamama, by the way, is usually translated as "Mother Earth" but a more literal translation would be "Mother Universe" (in Quechua mama = mother / pacha = world/space-time/universe). Those Maya and Inca – really tuned in to issues of time and space!

In our Graeco-Roman tradition we have something similar in the words *Terra Mater* and *Tellus Mater* both meaning "Mother Earth" in Latin. Western mythologists, looking at our own Greek and Roman myths, tend to regard these phrases, these names, as being metaphorical. And modern ethno-historians and mythologists tend to project the same point of view on the aboriginal peoples, suggesting that they don't really imply a belief that the earth is a living person. But there are, in fact, narratives with indigenous respondents who express exactly that belief. And, as a matter of fact, there is a challenge to the assumption that our own Greek and Roman ancestors used the terms only metaphorically. Some linguists studying the Indo-European languages believe that the word *Terra* refers to the element earth (one of the four basic elements of earth, air, water, and fire); but the word *Tellus* refers to the living, guardian deity of Earth and by extension the planet earth itself.

So, do aboriginals relate to the earth as being a living being? Some say no; I believe, yes.

One thing is for sure, our own ancestors and other aboriginal people treated the earth *as if* she were alive and life-giving and life-sustaining. We can see that in their ceremonies that honored and thanked her for her nurturing generosity. Now before moving on, let me mention one last linguistic reference: for the Latin *Terra* or *Tellus* the Greek equivalent is *Gaia*. And the *Gaia hypothesis* may just be the latest convergence of the intuitive or metaphysics with the experimental or physics.

Dr James Lovelock is a chemist and physician -- a scientist, author, researcher, environmentalist, and futurist who lives in England. Lovelock was elected a Fellow of the Royal Society in 1974 president of the Marine Biological Association (MBA) from 1986 to 1990, ... an Honorary Fellow of Oxford since 1994. He became a Commander of the British Empire in 1990, and a Companion of Honour in 2003. In other words, *not a crackpot!*

In early 1961, Lovelock was engaged by NASA to develop sensitive instruments for the analysis of extraterrestrial atmospheres and planetary surfaces. Working on the Viking program, Lovelock became interested in the Martian atmosphere, reasoning that if there were life forms on Mars, they would be obliged to make use of the atmosphere (and, thus, alter it). However, the atmosphere was found to be in a stable condition, with very little oxygen, methane, or hydrogen, but with an overwhelming abundance of carbon dioxide. To Lovelock, the stark contrast between the stable Martian atmosphere and Earth's chemically-dynamic biosphere strongly indicated the absence of life on Mars. And sure enough,

when they were finally launched to Mars, the Viking probes searched unsuccessfully for extant life there.

That stark difference between the equilibrium of the Martian atmosphere and the dis-equilibrium of the Terran atmosphere led to Lovelock's formulating and popularizing the **Gaia Hypothesis**.

Too complex to detail here, The Gaia hypothesis proposes that the biosphere and the physical components of the Earth (atmosphere, cryosphere, hydrosphere and lithosphere) are coupled together to form a complex interacting system. This system, he suggested, acts in a fashion that preserves climatic and biogeochemical conditions on Earth that are suitable for living organisms. The hypothesis is frequently described as viewing the *Earth as a single organism*.

Until 1975 the hypothesis was almost totally ignored. Then an article in the New Scientist, and a popular book length version of the theory began to attract attention. The theory was then attacked by many mainstream biologists -- among them the evolutionary biologist Richard Dawkins, of recent renown for his powerful attacks against creationism and so-called intelligent design.

Since then, though, Gaia Theory has been refined and criticism is becoming more and more muted. The Gaia Hypothesis today posits that our planet behaves as a *physiological* system in certain ways and when it comes to these *physiological* processes, "*the earth's surface is best regarded as alive.*"

A modified Gaia hypothesis is now considered within ecological science called *geo-physiology* or Earth System Science, which takes into account the interactions between the oceans, the geosphere, the atmosphere and the biota – that's us, folks. And earlier this very year, at Bennett Lecture for the Anniversary of Geology, the keynote speaker flatly stated, "as a theory, Gaia is now winning."

A win for the Gaia Hypothesis is a win for the earth itself. For the philosophy and politics embedded in Gaia Hypothesis stand in bold opposition to Dominionism. And it tells a cautionary tale. Gaia is intrinsically supportive of life and no matter how we treat her, she will continue to support life. But not necessarily our life. And so all of the science is now telling us to join in fellowship with our "primitive" forebears, treating Gaia with honor, love and thanks for all she has given and continues to give us.

And so I invite you all today in this season of harvest to join together with Bernadette Lloyd-Sobolow in a ceremony of honor and thanks to Gaia.