

The Living Earth

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The Global Brain Awakens

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Publisher: Global Brain Inc.

Palo Alto, CA

Phone: 1 800 UGO GLOBAL

The view of Earth from space brought with it yet another insight: the possibility that the planet as a whole could be a living being. We Earthlings might be likened to fleas who spend their whole lives on an elephant, unaware of what it really is. They chart its terrain--skin, hairs, and bumps--study its chemistry, plot its temperature changes, and classify the other animals that share its world, arriving at a reasonable perception of where they live. Then one day a few of the fleas take a huge leap and look at the elephant from a distance of a hundred feet Suddenly it dawns: "The whole thing is alive!" This is the truly awesome realization brought about by the trip to the moon. The whole planet appears to be alive--not just teeming with life but an organism in its own right.

If the idea of the Earth as a living being is initially difficult to accept, it may be due partly to our assumptions about what sort of things can and cannot be organisms. We accept a vast range of systems as living organisms, from bacteria to blue whales, but when it comes to the whole planet we might find this concept a bit difficult to grasp. Yet until the development of the microscope less than four hundred years ago, few people realized that there are living organisms within us and around us, so small that they cannot be seen with the naked eye. Today we are viewing life from the other direction, through the "macroscope" of the Earth view, and we are beginning to surmise that something as vast as our planet could also be a living organism.

This hypothesis is all the more difficult to accept because the living Earth is not an organism we can observe ordinarily outside ourselves; it is an organism of which we are an intimate part. Only when we step into space can we begin to see it as a separate being. Stuck like fleas on an elephant, we have not, until recently, had the chance to see the planet as a whole. Would a cell in our own bodies, seeing only its neighboring cells for a short period, ever guess that the whole body is a living being in its own right?

To better understand the planet as a living system, we need to go beyond the time scales of human life to the planet's own time scale, vastly greater than our own. Looked at in this way, the rhythm of day and night might be the pulse of the planet, one full cycle of every hundred thousand human heartbeats. Speeding up time appropriately, we would see the atmosphere and ocean currents swirling round the planet, circulating nutrients and carrying away waste products, much as the blood circulates nutrients and carries away waste in our own bodies.

Speeding it up a hundred million more times, we would see the vast continents sliding around, bumping into each other, pushing up great mountain chains where they collided. Fine, thread like rivers would swing first one way then another, developing huge, meandering loops as they accommodated themselves to the changes in the land. Giant forests and grasslands would move across the continents, sometimes thrusting limbs into new fertile lands and at other times withdrawing as climate and soil changed.

If we could look inside, we would see an enormous churning current of liquid rock flowing back and forth between the center of the planet and the thin crust, sometimes oozing through volcanic pores to supply the minerals essential for life. Had we senses able to detect charged particles, we would see the planet bathing not only in the light and heat of the sun but also in a solar wind of ions streaming from the sun. This wind, flowing round the Earth, would be shaped by her magnetic field into a huge, pulsating aura streaming off into space behind her for millions of miles. Changes in the Earth's fluctuating magnetic state would be visible as ripples and colors in this vast comet like aura, and the Earth herself would be but a small blue-green sphere at the head of this vast energy field.

Thus if we look at the planet in terms of its own time scales, we seem to see a level of complex activity similar to that found in a living system. Such similarities, however, do not constitute any form of proof. The question we have to ask is whether scientists could accept the planet as a single organism in the same way they accept bacteria and whales? Could the Earth actually "be" a living organism?

This no longer seems so farfetched. On the contrary, an increasingly popular scientific hypothesis suggests that the most satisfactory way of understanding the planet's chemistry, ecology, and biology is to view the planet as a single living system. The Gaia Hypothesis.