

Gaia Hypothesis Encyclopedia Article

Gaia Hypothesis

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Gaia Hypothesis

The Gaia hypothesis was developed by British biochemist James Lovelock, and it incorporates two older ideas. First, the idea implicit in the ancient Greek term *Gaia*, that the earth is the mother of all life, the source of sustenance for all living beings, including humans. Second, the idea that life on earth and many of earth's physical characteristics have coevolved, changing each other reciprocally as the generations and centuries pass.

Lovelock's theory contradicts conventional wisdom, which holds "that life adapted to the planetary conditions as it and they evolved their separate ways." The Gaia hypothesis is a startling break with tradition for many, although ecologists have been teaching the **coevolution** of organisms and **habitat** for at least several decades, albeit more often on a local than a global scale.

The hypothesis also states that Gaia will persevere no matter what humans do. This is undoubtedly true, but the question remains: in what form, and with how much diversity? If humans don't change the nature and scale of some of their activities, the earth could change in ways that people may find undesirable—loss of **biodiversity**, more "weed" **species**, increased **desertification**, etc.

Many people, including Lovelock, take the Gaia hypothesis a step further and call the earth itself a living being, a long-discredited organismic analogy. Recently a respected **environmental science** textbook defined the Gaia hypothesis as a "proposal that Earth is alive and can be considered a system that operates and changes by feedbacks of information between its living and nonliving components." Similar sentences can be found quite commonly, even in the scholarly literature, but upon closer examination they are not persuasive. A furnace operates via a positive and negative feedback system—does that imply it is alive? Of course not. The important message in Lovelock's hypothesis is that the health of the earth and the health of its inhabitants are inextricably intertwined.

See Also

Balance of Nature; Biological Community; Biotic Community; Ecology; Ecosystem; Environment; Environmentalism; Evolution; Nature; Sustainable Biosphere

Resources

Books

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