At Bruce Clarke’s suggestion, I “dipped into” *Critical Zones*, Bruno Latour’s rebranding of Gaia as a virtual exhibition from Germany. I have long been a fan of Latour and wanted to hear his *Anthropocene Lecture*. As linked here, I ended up watching it on YouTube because the CZ version had a German translator that made Latour’s lecture in English difficult to make out. On YouTube the lecture is followed by a discussion between Latour and German climate scientist Hans Joachim Schellnhuber. At one point in the discussion, Schellnhuber describes going out to a post-meeting dinner in Oxford, UK with Jürgen Grossman, former CEO of Germany’s RWE AG utility, the largest polluter in Europe. After “ten whiskies,” Grossman spoke from his heart (37:37). I had a similarly shocking conversation with a retired Standard Oil executive while I was in London for the 2016 joint meeting of the Royal Society and the British Academy, *New trends in evolutionary biology: biological, philosophical and social science perspectives*. The retired exec’s argument to me was that Earth’s oceans would act as an infinite sink for carbon dioxide and heat. Duh.

Clarke wrote the text and together with John Feldman curated a selection of [Margulis video clips](https://www.nhk.or.jp) for the *Critical Zones* online exhibition. These clips (from the NHK) speak to Margulis’s contributions to the Gaia hypothesis. It’s definitely worth checking out.
“Neo-Darwinism is taken as axiomatic,” he wrote in *What Darwin Got Wrong*, co-written with Massimo Piattelli-Palmarini, a cognitive scientist, and published in 2010. 'It goes literally unquestioned. A view that looks to contradict it, either directly or by implication, is ipso facto rejected, however plausible it may otherwise seem.' Fodor thought that the neo-Darwinists had confused the loyalty oath of modernity—nature is without conscious design, species evolve over time, the emergence of *Homo sapiens* was without meaning or telos—with blind adherence to the fallacy known as ‘natural selection.’ That species are a product of evolutionary descent was uncontroversial to Fodor, an avowed atheist; that the mechanism guiding the process was adaptation via a competition for survival—this, Fodor believed, had to be wrong."

- *Stephen Metcalf in the New Yorker magazine*  December 2017

Why does this GUY deserve an article in the New Yorker while Lynn Margulis is ignored?

**The Joy of Autopoiesis** by Jim MacAllister

I only met Lynn Margulis in late 2000. Somewhere in that last decade of her life, Lynn told me a story about visiting a colleague in hospital. Her colleague was being “kept alive” thanks to the wonders of medicine. [I apologize for forgetting his name.] He remarked to Lynn that he was no longer “autopoietic”. Lynn liked the cleverness of the comment.

I’ve pondered that remark many times since December 2018 when a downhill skiing crash left me, an expert skier, a quadriplegic. While I’m not on a ventilator 1 nonetheless have been “kept alive” by
round-the-clock caregivers. I’ve had a couple of near-death septic infections. I am no longer autopoietic. I used to suffer from depression. My suffering showed itself as anger or depression. I am typing this with one left finger. I’m grateful I can do that. Be grateful for being autopoietic, and for every little thing that the holobiont-that-is-you can do. Be grateful for everything. Change is constant and it can happen in an instant. The basis of Buddhism is the Four Noble Truths. The First Truth is that life consists of suffering, pain, and misery. The Second Truth is that this suffering is caused by selfish craving and personal desire. The Third Truth is that selfish craving and desires are optional. For most of us opting out of suffering requires becoming mindful. Giving up our selfish cravings and personal desires in favor of gratitude, love and building community is often a lifelong journey toward mindfulness. It is for me. In his book, ‘Man’s Search for Meaning,’ Viktor Frankl wrote, ‘Everything can be taken from a man [or woman] but one thing: the last of the human freedoms—to choose one’s attitude in any given set of circumstances, to choose one’s own way.’ ... Those who have a 'why' to live, can bear with almost any 'how.'

EARTH
“DGHEM”

humanity
humanities
humility
human
humus, humic acid

Margulis slides - the ancient Indo-European word “Dghem”, the root for Earth, human, humus and humility
In her lectures, Lynn Margulis would point to the ancient Indo-European word, “dghem,” the root for Earth, humus, human, and humility. She was fiesty, flamboyant, Earthy, and humble. She rocked the boat of science for fifty years. They called her “crazy, wrong, controversial. Unruly Earth Mother, Attila the Hen”. She had her “why”. She persisted.

You should have seen the other guy.

Lynn Margulis entertaining at home.
Trump (extant)

Stromatolite (3000 Ga)

Bacterial Skyscrapers
“Life is a planetary level phenomenon and the Earth has been alive for at least 3000 million years. To me the human move to take responsibility for the living Earth is laughable - the rhetoric of the powerless. The planet takes care of us, not we of it. Our self inflated moral imperative to guide a wayward Earth or heal a sick planet is evidence of our immense capacity for self-delusion. Rather, we need to protect us from ourselves.”

— Lynn Margulis, *Symbiotic Planet: A New Look at Evolution*
Large colonies of *Pectinatella magnifica* (moss animals) on downed oak in Puffers Pond, North Amherst, MA August 22, 2007
Margulis and her graduate students attempted to identify red mouth parts as bacterial symbionts.

The late Ellen Stutsman, botanist, rare plant species monitor, friend of the Margulis Lab, and our beloved volunteer cook for Environmental Evolution field trips to Harvard Forest.
Lynn Margulis 1938-2011 "Gaia Is A Tough Bitch"

Introduction  By John Brockman

“Biologist Lynn Margulis died on November 22nd. She stood out from her colleagues in that she would have extended evolutionary studies nearly four billion years back in time. Her major work was in cell evolution, in which the great event was the appearance of the eukaryotic, or nucleated, cell — the cell upon which all larger life-forms are based. Nearly forty-five years ago, she argued for its symbiotic origin: that it arose by associations of different kinds of bacteria. Her ideas were generally either ignored or ridiculed when she first proposed them; symbiosis in cell evolution is now considered one of the great scientific breakthroughs.

Margulis was also a champion of the Gaia hypothesis, an idea developed in the 1970s by the free lance British atmospheric chemist James E. Lovelock. The Gaia hypothesis states that the atmosphere and surface sediments of the planet Earth form ...”
The Rebel Physicist on the Hunt for a Better Story Than Quantum Mechanics

By Bob Henderson  -  June 25, 2020 NY Times Magazine

“Despite the theory’s advancing years, even college-educated adults tend to have only a hazy sense of what quantum mechanics says. And for good reason. Although physicists use it to predict the behavior of the fundamental particles, like electrons, that make up atoms and the photons that make up light, and in spite of its having been the basis of many of the 20th century’s signature technologies (including nuclear power, lasers and computers), the theory has confounded even the cognoscenti from its beginnings in the 1920s. That’s because, while it’s spectacular at making predictions, it doesn’t describe what’s actually happening underneath nature’s hood to make those results come about. It would be one thing to concede that science may never be able to explain, say, the subjective experiences of the human mind. But the standard take on quantum mechanics suggests something far more surprising: that a complete understanding of even the objective, physical world is beyond science’s reach, since it’s impossible to translate into words how the theory’s math relates to the world we live in.”

more
Editor’s note: This article is about a scientific “rebel”, that’s another name that Lynn Margulis was called. Physicists tried their hand at “solving” the messiness of biology. Their answer: the exclusive rules, mathematics, and assumptions of neo-Darwinism.

“... it is tempting to draw a line between Bassi’s Old World upbringing and his unfashionable views on physics. Not to mention the church, ... Bassi is a practicing Catholic and a believer in God, something he says is “unusual” but “not rare” among his colleagues at the university. Einstein called his own belief that reality could be understood “religion,” and I wondered if there’s a connection between Bassi’s religious faith and that in what has become essentially a far-right position in physics. I asked him ...

He thought for a moment.

‘Yes, it is like that,’ he said. ‘The idea that there is truth and simplicity behind phenomena, if you wish, you can relate it directly to a faith in God that is a unity that gives rise to everything.’”

Editor’s note: In the formulas of physics, in mathematics, and in logic, proofs and truth may exist. However, in science, the study of nature, the idea that there is truth and simplicity behind phenomena cannot be. Observation and measurement are subjective and relative. Natural phenomena are interconnected, and complex. Reduction (simplification, isolation, and interpretation) are strategies we use, and it may be possible to make extremely accurate and precise predictions when we simplify. Nevertheless, they are estimations.

Models of complex systems are exquisitely sensitive to initial conditions, called the butterfly effect. But where is the starting point in the stream of causes/effects we sense as an external reality?

Mars in retrograde when its orbit around the Sun is observed from Earth, an illusion that is predictable, measurable, and can be mapped.
How to Apply the National Register Criteria for Evaluation

Association with the life of an important person (Criterion B)

UNDERSTANDING CRITERION B: PERSON

Criterion B applies to properties associated with individuals whose specific contributions to history can be identified and documented. Persons "significant in our past" refers to individuals whose activities are demonstrably important within a local, State, or national historic context. The criterion is generally restricted to those properties that illustrate (rather than commemorate) a person's important achievements. (The policy regarding commemorative properties, birthplaces, and graves is explained further in Part VIII: How to Apply the Criteria Considerations.) Several steps are involved in determining whether a property is significant for its associative values under Criterion B. First, determine the importance of the individual. Second, ascertain the length and nature of his/her association with the property under study and identify the other properties associated with the individual. Third, consider the property under Criterion B as outlined below.

EXAMPLES OF PROPERTIES ASSOCIATED WITH PERSONS

Properties associated with a Significant Person:
- The home of an important merchant or labor leader.
- The studio of a significant artist.
- The business headquarters of an important industrialist

20 Triangle Street, Amherst, MA, Lynn Margulis’s home, personal office and offices of Sciencewriters, her partnership with Dorion Sagan from 1982-2011. The building is now the offices of the Emily Dickinson Museum (Amherst College).

Let us as a Margulis Community work towards getting this property listed with the National Register of Historic Places.