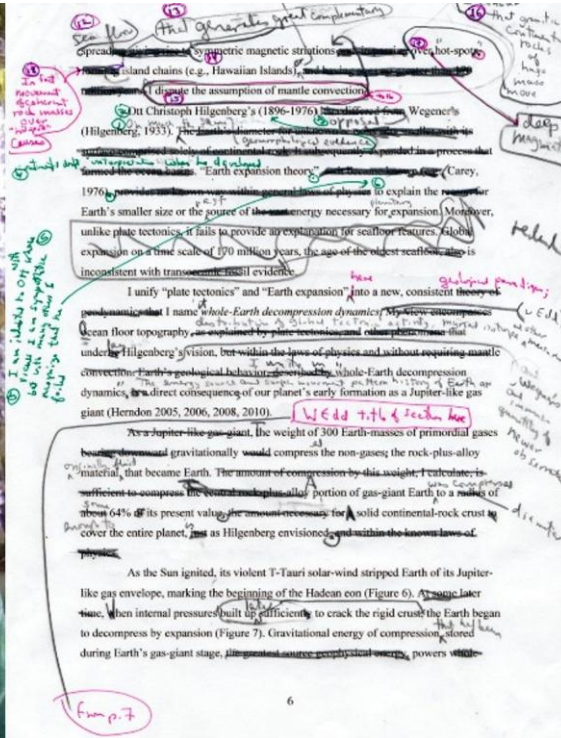


Tribute to Editor Lynn Margulis

Lynn Margulis (March 5, 1938 – November 22, 2011) was renowned and appreciated throughout the world as one of the foremost evolutionary biologists. She originated the “serial endosymbiotic theory” that offered a startling new view of evolution and posed a new explanation for the origin of nuclei-containing cells. Her seminal paper on the subject was rejected or lost by 15 journals until it was published in 1966 by the *Journal of Theoretical Biology*, under her married name Lynn Sagan (Mrs. Carl Sagan). Even after publication, there was scorn and rejection by the scientific community. But finally, through hard work, imaginative science, extensive writings, and emerging laboratory confirmation, she became prominent. Among her many accolades, she was awarded the 1999 National Medal of Science from U. S. President William J. Clinton and was invited to have her documents permanently archived in the U. S. Library of Congress. So how, one might ask, did Lynn Margulis come to edit the present work?



Lynn Margulis, Eastman Professor, Balliol College, Oxford University (2009)

Lynn Margulis, a prodigious writer since youth, harbored the belief that science should be explained in an understandable way to all interested persons. She put that belief into practice with numerous publications, including a series of books co-authored with her son, Dorion Sagan. Her scientific approach was to envision the Earth as a whole, rather than as unrelated segments spread among various scientific specialties. That philosophy attracted her to my work. She suggested that, if I would write a manuscript, she would edit it. So, I agreed, without fully understanding what I was getting into.

Decades before, as a post-doctoral apprentice to Nobel Laureate Harold C. Urey and Hans E. Suess, I learned to make important scientific discoveries and to describe them

precisely in the scientific literature. I write well; over the years, editors have only made minor wordage suggestions. But then along came Lynn Margulis. Numerous drafts and re-writes. Sometimes her corrections resembled a Jackson Pollack painting (image above). Occasionally, scribbled in the margins, would be a special jewel, like her remark, “May be the most important paper I have ever edited because it covers Earth-sized phenomena over 4,000,000,000 years. That’s a “Big Picture” to consider (& quantitatively!!)”

While making the subject of my work understandable to a great many people, Lynn Margulis helped me to see clearly its context and to broaden my scientific outlook. So now, enjoy understanding *Indivisible Earth: Consequences of Earth’s Early Formation as a Jupiter-like Gas Giant*.

Preface

In this book I describe a new indivisible geoscience paradigm that begins with and is the consequence of our planet’s early formation as a Jupiter-like gas giant and which permits deduction of: (1) Earth’s internal composition and highly-reduced oxidation state; (2) Core formation without whole-planet melting; (3) Powerful new internal energy sources, protoplanetary energy of compression and georeactor nuclear fission energy; (4) Mechanism for heat emplacement at the base of the crust; (5) Georeactor geomagnetic field generation, and; (6) Decompression-driven geodynamics that accounts for the myriad of observations attributed to plate tectonics without requiring physically-impossible mantle convection. How then does this development stand within the logical framework and context of previous ideas?

In the *Origin of Continents and Oceans*, Alfred Wegener, the father of “continental drift theory”, the forerunner of “plate tectonics”, stated: “The determination and proof of relative continental displacements, as shown by the previous chapters, have proceeded purely empirically, that is, by means of the totality of geodetic, geophysical, geological, biological and paleoclimatic data, but without making any assumptions about the origin of these processes. This is the inductive method, one which the natural sciences are forced to employ in the vast majority of cases. The formulation of the laws of falling bodies and of the planetary orbits was first determined purely inductively, by observation; only then did Newton appear and show how to derive these laws deductively from the one formula of universal gravitation. This is the normal scientific procedure, repeated time and again. The Newton of drift theory has not yet appeared.” During the entire period of development of plate tectonics, the planetesimal theory dominated scientific thinking, the idea that planets form from dust grains that collided and stuck together, becoming progressively larger bodies, and finally planets. In that framework, geoscience progressed inductively, just as Wegener described. But there was confusion; the pieces did not seem to fit or work together. And, there was no logical and causally related understanding, for example, as to why about 41% of Earth’s surface consists of continental rock, while the balance is ocean-floor basalt. Neither proponents of “continental drift” nor “plate tectonics” ever anticipated Earth’s early formation as a Jupiter-like gas giant. But I did; consequently, I am able to deduce internal Earth’s composition, energy sources, and the nature of Earth’s structure and her behavior, which I share in this book.