Book Review: *James Lovelock: In Search of Gaia* By John Gribbin and Mary Gribbin

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My book review editor asked me what might be relevant to the Great Plains in a biography of James Lovelock, a book I’d suggested as worth reviewing in Great Plains Research. I assured him that much in it either is or should be relevant to the Great Plains and to science researchers working on studies of aspects of the Great Plains.

James Ephraim Lovelock, born on July 26, 1919, of fairly humble origins, did not do well in school, partly because he was dyslexic. In spite of this and other health problems over the years, he went on to earn a PhD in medicine from the University of London in 1946 and to be elected a Fellow of the Royal Society in 1974. He was also made a Companion of Honour and a Commander of the Order of the British Empire, awarded the Wollaston Medal by the Geological Society of London, and elected Fellow of the Society of Cryobiology.

Lovelock was lucky to have grown up during times when he could find or have easy access to chemicals and other scientific materials and equipment difficult for a youth to get today. This access aided him in creating and testing the efficacy of many scientific inventions throughout his professional life.

During his career Lovelock did pioneering work on chromatography, including inventing the electron capture detector for gas chromatography, a device used to document the widespread dissemination of DDT and PCBs in the environment and CFCs (chlorofluorocarbons) in the atmosphere. This work as well as changes he and other researchers measured in the atmosphere’s composition over time helped lead him to his widely published research in print today.

Lovelock is perhaps best known for the Gaia hypothesis, enunciated in the 1970s and now accepted as a theory by many researchers. This basic idea, designated “Gaia” at the suggestion of Lovelock’s friend, novelist William Golding, holds that the Earth functions like a living organism able to regulate its temperature and chemistry and keep them at a comfortable steady state for itself. The living and nonliving parts of the Earth interact with one another in complex feedback loops to modify the environment in ways that keep it suitable for life. This isn’t a new idea; it has been around since at least the time of James Hutton, the Scottish geologist, in the 1790s in one form or another, but Lovelock and others devised successful experiments to test the concept. Biogeochemical cycles were a part of my own geological training in the 1950s and 60s. These cycles fit into the theory quite well.

Designating this theory “Gaia” got Lovelock into trouble with some of his detractors, who found it a bit too unscientific. Testing of the theory is still ongoing by many researchers who think it sound, but under such less controversial terms as “Earth System Science” or “Geo-physiology.”

We humans are embarked on both witting and unwitting experiments altering our world in ways both known and unknown that we would probably be unwilling to fund by taxation even on a far more modest scale. We kill off species of organisms; pollute the atmosphere, waters, soils, and ourselves; and modify ecosystems. We rarely, if ever, think about the conditions that humans will be forced to live under after a few more generations beyond the time of our grandchildren. James Lovelock has written papers and books since the 1970s that clearly show us how the world works and what is likely to happen to it in the not-too-distant future as a result of our experiments. What we are doing affects the whole Earth, the Great Plains.
Plains included, and will have a profound impact on us and on future generations.

This carefully crafted book outlines the history of ideas on global change along with Lovelock’s life and contributions. It is well written, accessible to educated readers with a general science background, and mostly free of typographical errors. I recommend it highly. R.F. Diffendal, Jr., Conservation and Survey Division, School of Natural Resources, University of Nebraska–Lincoln.