Gaia by James Lovelock
**** out of five stars

The World According to Gaia

Like Rachel Carson's Silent Spring, which gave an inchoate environmental movement in the early 1960s a scientifically grounded focal point and passionate call to arms, Lovelock's book nudged the movement forward by offering an innovative perspective. Unfortunately, it is neither as compelling in its arguments nor has it aged as well as Carson's classic. Lovelock's book is not science (though Carson may well have been selective in the presentation of some of her science in order to bolster her argument), but rather a plausible but likely untestable hypothesis resting upon a set of scientific data.

Lovelock starts at the very beginning - a very good place to start - by reviewing the earth's early *aeons* (billions of years). He suggests that after our planet's climate had stabilized, life was "an almost utterly improbable event with almost infinite possibilities of happening. So it did." With respect to the early, stabilized physical environment, he postulates that "the evolution of an active control system, however rudimentary, may have been the first indication that Gaia had emerged from the complex of parts." He continues, "the history of the earth's climate is one of the more compelling arguments in favour of Gaia's existence," an early example of his ascription of natural cycles and feedback loops to a grander design or motive.

The following chapters examine the self-regulation of different environmental systems, including the atmosphere and the sea, as well as the challenge of pollution. Lovelock inevitably concludes that, not only do we live on a very special planet, but that it is no accident that it is so robustly self-regulating.

Lovelock's book is grounded in science, with plenty of charts and explanations, but unlike Carson's alarming 'cause and effect' call to action in Silent Spring, it feels more like scientific deism – some sort of grand design. It's no surprise that amongst the scientists taking issue with his claim is the renowned Oxford zoologist, Richard Dawkins, whose more recent work includes The God Delusion, and whose early work in The Selfish Gene begs direct comparison to Gaia.

The Selfish Gene proposes that it is not biological organisms (including humans) that act so as to maximize the prospect of passing along their genes, but rather it is the genes that direct behavior and cause actions that maximize their own replications – an inverted perspective of traditional biological theory. Both Dawkins' and Lovelock's books feature hypotheses that are similarly untestable, but in the case of genetic transmission there is no debate that is the very essence of life, and that it is only the perspective that is novel. In Gaia's case, the perspective is novel, but the proposition that Earth is a living, self-regulating organism is both untestable and a leap of faith.

A second weakness is evident in reading Gaia almost 40 years after its initial publication. In this era of climate change and the strong possibility that humans are tilting the balance beyond Earth's ability to self-repair, the book's environmental focus may be too descriptive, and its message too anemic as a call to arms.

Still, despite the two criticisms outlined above, Gaia is a worthwhile read. It is an important book in positioning how we consider our impact on Earth, and should be read by all with a strong interest in the environment.