

Book Reviews

Nature, Gaia, Plagues, and People: Three Books on a Path to EcoHealth

In my life, I have read many books, though today I can scarcely find time to read reviews. For this essay, I was asked to reflect on three works that have especially influenced my thinking, steering it towards my current understanding of and sympathy with EcoHealth.

The first is *A Black Bear's Story* (Liers 1962), the second is the first of many books about Gaia by James Lovelock (*Gaia: a New look at Life on Earth*) (Lovelock 1979), and the third is the historian William McNeill's *Plagues and Peoples* (McNeill 1976).

A Black Bear's Story was given to me as a primary school prize in the early 1960s. It is the first substantial story I can remember reading about nature, a book illustrated by drawings of the life of four bears roaming and denning in the Lake Superior wilderness. It was politically incorrect; for example by naming the main characters and endowing them with emotions and consciousness. I particularly recall the first encounter of the male bear (Koda) with man.

Later I observed a reaction against the “anthropomorphising” of animals, but I think it may now be more accurate to discuss the “animalising” of humans (de Waal 2009). Today there is overwhelming evidence that non-human animals have emotions (as recognised by Darwin), consciousness and that several species use tools (Haslam et al. 2011). Humans have the greatest capacity for language, a particularly dextrous hand, and a comparatively long life, but there is more of a continuum between our own species and others than the great gulf that was formerly proclaimed.

I read the second book in this trio (*Gaia: a New Look at Life on Earth*) when I was a junior doctor, in the late 1980s. At that time I was completely ignorant of the great Russian

scientist Vladimir Vernadsky's book, *The Biosphere* (Vernadsky 1998 (first published 1926)), which in many ways heralds Lovelock's key ideas, and which is suggested by Jacques Grinevald (who wrote the forward to the main translation of Vernadsky into English) to have influenced Lovelock, via discussions he had with his colleague Lynn Margulis, who had read an unpublished translation circulating in the 1970s.

Lovelock's book impressed me because it stressed the connectivity of the elements of the Earth system, bringing to life the idea of Earth and its life as a complex, self-regulating, self-organised system. The Gaia Hypothesis initially attracted strident criticism from leading evolutionary scientists, including Richard Dawkins. The name “Gaia” the Greek Earth Goddess, was suggested to Lovelock by his neighbour, the Nobel Prize winning writer, William Golding, author of *The Lord of Flies*. The linking of a mythological name with a scientific concept seemed enough to alienate some scientists.

Some critics of Lovelock also claimed that he had imputed a consciousness to the Earth system, a “ghost within the machine”. However, Lovelock repeatedly explained this was a false interpretation of his concept that life processes interact in ways that produce a self-regulated system that enables life to flourish, especially by maintaining temperature and the composition of gases in the atmosphere. Ant colonies lack a controlling individual consciousness, yet function through distributed networks of shared information (Flannery 2010).

Indeed, the human mind, though intuitively seeming to have a “governor” (a “homunculus”—a little person inside) can also be considered to be more of a process through which consciousness emerges (Crick and Koch

2003)—a concept also fundamental to Buddhism, which teaches that the idea of separate individuals are, ultimately, illusory. Other links between Buddhism and Lovelock are apparent, for example “Dharma Gaia. A Harvest of Essays in Buddhism and Ecology” (Badiner 1990).

Before I had read Lovelock’s book I was familiar (both in theory and in practice, as a medical doctor) with the concept of homeostasis in the human body; a mechanism in which multiple organs interact and co-operate, including through feedbacks, in order to maintain human life over a long period. The “interior milieu” was described by the French scientist Claude Bernard in 1865; the word homeostasis was introduced by Walter Cannon in 1932 (Leopold and Perrimon 2007). This milieu is, of course, largely independent of conscious control. (Try stopping your own heart beating for 30 s by wishing.) Thus, to me, Lovelock’s central idea did not appear ridiculous, it did not require unlearning, and I remember finding it liberating to think homeostasis could apply at the world scale. Lovelock’s work sensitised to me to the concept of runaway climate change, how global warming could trigger additional warming, such as through the release of additional greenhouse gases from melting subsoil in the Arctic (Cicerone 1988).

Today, the evidence that Lovelock is broadly correct about Gaia is overwhelming (Lenton 1998). Although unlikely to receive the Nobel prize, Lovelock may end up being recognised as the one of the greatest scientists of our time, though we must hope that his latest book (Lovelock 2009), which predicts a bleak future for humanity due to climate change, proves exaggerated.

The final book which I identify as most influencing me is *Plagues and Peoples*, by William McNeill, an eminent American historian, who brilliantly links ecology, epidemiology, human health, and history. I first read this book in the mid 1990s. From it, I learned, among many other facts and principles, that nomadic tribespeople on the Central Asian steppe had taboos concerning sick marmots, a rodent the size of a housecat whose fleas can sometime transmit plague. Sluggish rodents could not be caught. If a marmot colony became sick, then custom required relocation of the human camp living nearby. McNeil also describes how Manchuria was colonised by Chinese in the 1910s, some of whom made a living from trapping marmots for their fur. Ignorant of nomadic customs, a plague outbreak soon occurred. This book also convinced me that Yellow Fever and malaria crossed into the New World with the African slave trade.

There are many other books in this genre, such as *Rats, Lice and History* (1934), *The Colombian Exchange* (1972), *The Coming Plague* (1994), and *Tuberculosis: The Greatest Story Never Told* (1992). Most recently, Paul Epstein and Dan Ferber have published *Changing Planet, Changing Health: How the Climate Crisis Threatens Our Health and What We Can Do About It*, continuing this tradition. However, *Plagues and Peoples* is the single best book of this kind that I have found. In 2000, JR McNeill’s son, wrote *Something New Under the Sun: an Environmental History of the 20th century*, also excellent.

Books may not change the world, and they may even be an endangered medium, at least in their printed form, but they still have the power to enchant, fascinate, console, and educate, often in ways that other media cannot yet do quite as well.

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