

Book review

THE REVENGE OF GAIA: WHY THE EARTH IS FIGHTING BACK — AND HOW WE CAN STILL SAVE HUMANITY JAMES LOVELOCK

Allen Lane, 2006

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James Lovelock, the renowned scientist who first introduced us to Gaia, the concept of the earth as a self-regulating system, has now written, *The revenge of Gaia*, in which he describes how, after millennia of humankind exploiting the earth without counting the cost, the earth is fighting back. It makes extremely uncomfortable reading. For those of us who have always strongly, instinctively and rationally felt that on no account must we ever go down the nuclear route to meet our energy needs, it is a particularly difficult read. He says that, to survive, we have no choice.

Lovelock writes passionately and well and his language is rich in metaphor, something which, he acknowledges, many scientists find irritating. Gaia behaves like the other mythic goddesses, Khali and Nemesis; she acts as a mother who is nurturing but ruthlessly cruel towards transgressors, even when they are her progeny. Her primary obligation is to the living earth, humankind comes second. She is struggling to keep the earth cool for all her diverse forms of life against the inexorable rise in the sun's heat. At this crisis point neither business as usual or sustainable development are useful policies. They are like expecting a lung cancer victim to be cured by stopping smoking; many of Lovelock's metaphors are medical. 'Both measures deny the existence of the Earth's disease, the fever brought on by a plague of people'.

Many of Lovelock's metaphors are medical. He speaks to us as doctors, and also as spiritual beings ... 'Important concepts like God and Gaia are not comprehensible in the limited space of our conscious minds'. He describes us as

tribal carnivores apparently oblivious to the global heating (as opposed to mere warming) which we have caused. He also refers to us as 'planetary physicians' who have reneged on the Hippocratic Oath, 'first do no harm'. The threats of flooding and desertification are real and imminent. Combustion and the accumulation of carbon dioxide are the major hazards to the planet. In general practice we are familiar with many positive 'c' words, 'care', 'compassion', 'collaboration' and 'connection'. Lovelock's 'c' words are his 'three deadly c's', 'combustion', 'cattle' and 'chainsaws'. We should use them all as little as possible.

Farmland acts as the skin of the planet and is a precious resource. We have a false sense of our ability to manage it. 'We are no more capable to be the stewards or developers of the Earth than are goats to be gardeners'. Organic farming is a luxury we cannot afford. We need to make maximum use of the land we have with minimal transport and carbon dioxide production. Synthetically produced food using carbon compounds sequestered from power station effluent is one option. He believes that the Green movement is in denial about the irreversibility of climate change and that many of their policies are positively harmful. Hostility to nuclear power is an example.

Lovelock does not see nuclear power as a panacea but as a temporary solution, which we have available now and which is less harmful to the planet than existing alternatives. In the public consciousness cancer and radiation are firmly linked. What tends to be ignored are the cancer-inducing risks of the life-giving gas, oxygen. Thirty per cent of us will develop cancer and a contribution to the process of carcinogenesis is from the fiercely reactive radical products of oxidation which can cause DNA damage and the growth of cancer cells. Oxygen and carbon dioxide, not radiation, are the real and pervasive threats to life. Lovelock has famously offered to have a container of nuclear waste products buried in his

garden as a demonstration of their safety. He believes that, until such time that we have developed a combination of clean energy from renewables, fusion (the energy from hydrogen combustion) and burning fossil fuel under conditions where the carbon dioxide effluent is safely sequestered, we are obliged to use nuclear fission energy as a temporary measure. He offers a further medical analogy, that of a haemorrhage being stemmed by a paramedic until the patient reaches hospital.

The time has come when all of us must 'plan a retreat from the unsustainable place where we have reached through the inappropriate use of technology'. Appropriate technological fixes which he describes appear to teeter on the brink of science fiction; large sunshades placed between the earth and the sun, the production of artificial clouds, the use of sulphuric acid aerosols to bounce heat rays away from the earth.

But the situation is so dire that all measures need to be considered and all assumptions need to be scientifically challenged. Undoubtedly this book is successful in doing that. Lovelock describes the process by which people have become convinced that 'anything nuclear is evil' as cognitive dissonance summed up in the phrase, 'don't confuse me with facts, my mind is made up'. The over-riding sense I was left with at the end of this book was of the precious beauty of the Earth and the sadness of its plight. And of the responsibility we all share to participate in an informed debate about our country's and our planet's energy future. Next month we are holding a public meeting on nuclear power with our Green MSP, Chris Ballance. With several of us having read this book, the discussion promises to be lively.

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