

and the often extreme policy recommendations that followed — the British Green Party famously announced that the United Kingdom's population would have to fall by a third if it was to survive the next millennium — inevitably invited a backlash.

Andrew Rowell describes this reaction from the perspective of someone deeply entrenched in the environmental movement. The book is the result of a two-year investigation, commissioned by Greenpeace, into the activities of the "anti-environmental movement". Rowell claims this is a coalition of right-wing organizations, big business and governments, whose primary objective is to subvert the environmental movement.

That subversion is happening, argues Rowell, through a process of verbal subjugation, whereby the 'anti-environmentalists' refer to themselves as the 'true environmentalists', while calling the 'true' environmentalists religious fanatics, Communists, Nazis or elitists. To justify such name-calling, the 'anti-environmentalists' employ 'counter-scientists' and publish 'counter-science' books that dispute claims made by 'true' environmentalists.

Rowell is right to criticize those who make scientifically unjustified statements about the future state of the world, such as Edward Krug, who has written that "[if] global warming occurs to the extent that the doomsday models predict, it will be of great benefit to the world". Such statements imply a level of understanding of the global climate that we simply do not have at the moment.

But Rowell undermines his own valiant effort to condemn these nonscientific claims by littering the book with statements of dubious validity such as, "global warming is actually occurring and it is caused by man-made emissions", and meaningless babble, such as: "hardly any business activity is sustainable" and "truth has been stretched to its limits".

Most disturbing, perhaps, is Rowell's dogmatic view that alleged environmental problems, such as man-made global warming, should be seen as fact, not theory. That is true counter-science — it is contra-scientia, against knowledge, for it denies even the possibility that at some point an alternative theory might be found that would better explain the data. As Hans-Georg Gadamer has pointed out,

"the more honestly and rigorously science understands itself, the more mistrustful it has become toward all promises of unity and claims of final validity".

Scientific theories remain theories, rather than 'truths' or 'facts', because no theory has yet been found that perfectly fits all data. So the possibility always exists that an alternative, better, theory might be found.

These progressions in science from one theory or set of theories to another were described by Thomas Kuhn as shifts in the scientific community's paradigms. For Rowell, however, "paradigm shift means scapegoating the environmental movement [and] greenwashing by industry". That is to say, the attempt to redress the balance of the scientific debate by introducing alternative theories is merely an attempt to undermine the dogma of the 'true' environmental movement.

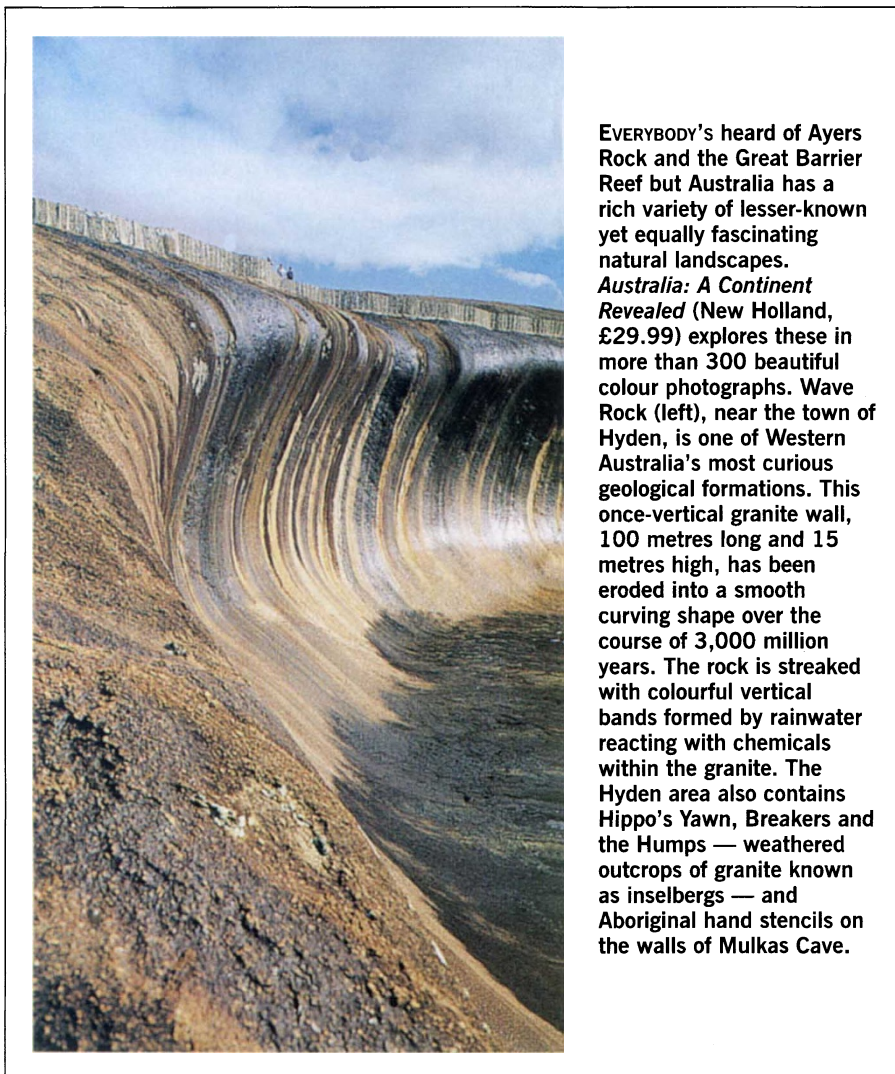
In Rowell's system, any shift in the public perception of environmental problems away from the conceptualization presented by "true" environmentalists would represent a "watering down of the scientific case for action". But, as Paul Feyerabend has pointed out, "theories cannot be justified and their excellence cannot be shown without reference to other theories". So what if the people proposing these alternative theories are funded by big business? It is the science that matters, not the paymasters. If an alternative theory fits the data better than the theory supported by the environmentalists, then this alternative theory should be preferred.

Karl Popper wrote that "from a biological or an evolutionary point of view science, or progress in science, may be regarded as a means used by the human species to adapt itself to the environment: to invade new environmental niches, and even to invent new environmental niches". But for science to progress, so that we may adapt ourselves to the future state of the world, scientists must be free to criticize each other's work.

The 'consensus' that Rowell demands would preclude criticism and hinder the creative process — it would kill off the very spirit of science.

What a tragedy it would be if, like Philolaus and Aristarchus, the originators of heliocentrism, the scientists currently proposing alternative explanations of environmental phenomena turn out to be correct but, because of the demand for consensus and the destruction of criticism, their ideas are lost, only to be rediscovered a millennium or so later by the inhabitants of a world impoverished by centuries of policies based on poor science. □

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EVERYBODY'S heard of Ayers Rock and the Great Barrier Reef but Australia has a rich variety of lesser-known yet equally fascinating natural landscapes. *Australia: A Continent Revealed* (New Holland, £29.99) explores these in more than 300 beautiful colour photographs. Wave Rock (left), near the town of Hyden, is one of Western Australia's most curious geological formations. This once-vertical granite wall, 100 metres long and 15 metres high, has been eroded into a smooth curving shape over the course of 3,000 million years. The rock is streaked with colourful vertical bands formed by rainwater reacting with chemicals within the granite. The Hyden area also contains Hippo's Yawn, Breakers and the Humps — weathered outcrops of granite known as inselbergs — and Aboriginal hand stencils on the walls of Mulkas Cave.