

such lasting renown with scarcely a single publication to his name.

Mr Carter does rather overdo the detail (did we really need to have in print a list of the species caught by Banks's fishing parties?) and the decision to omit all references was an unhappy one. I remain unpersuaded by the author's excuse that the nature of the text makes these superfluous. Although we are assured that the source material is detailed in a companion volume, that comes from a different stable and is enough of a separate enterprise not to have been sent out for review concurrently (see footnote on previous page). Inclusion of that extra matter would no

doubt have made for a greater bulk than could be contained within a single pair of covers, but the requirements of scholarship ought not to be overridden by conveniences of production, particularly in the case of a volume that appears under such august sponsorship.

That defect is a serious one. But, all in all, here is a book that henceforward will put the work of Banksian specialists on an altogether different footing. □

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Gloom — or boom?

Norman Myers

The Cassandra Conference: Resources and the Human Predicament. Edited by Paul R. Ehrlich and John P. Holdren. Texas A & M University Press, Drawer C, College Station, Texas 77843. 1988. Pp.330. Hbk \$32.50; pbk \$14.95.

CASSANDRA, daughter of King Priam of Troy, was empowered with the capacity of prophecy by the god Apollo, provided she slept with him. Cassandra didn't deliver, and Apollo imposed a curse on her: her prophecies, though accurate, would be spurned as beyond belief. Hence her warnings about the Trojan horse went unheeded.

So the title of this book is not so perverse as it might seem, despite the modern connotation of Cassandra as a mere doomsayer. The contents seek to demonstrate how far we are indeed paying a price for ignoring warnings about threats to the environment. It further shows how we can still change course towards ecological accord with the biosphere, generating all manner of positive payoffs. So persuasive are the prescriptions for a rehabilitated future, that the book could well have been subtitled *Environmental Gloom — Or Boom?*

The organizers of the Cassandra conference brought together a number of leading American analysts who, for a decade or more, have been telling of a series of interrelated threats to our biosphere. Especially useful is the upgrading of earlier arguments, deploying the latest data. The thematic treatments are rigorous throughout, and there is plenty of discussion of opposing opinions, notably those of Julian Simon and the late Herman Kahn.

Garrett Hardin opens with an assessment of the population predicament. Steve Schneider looks at climate change and its links with food production. David Pimentel appraises industrial agriculture,

and related topics such as topsoil and water stocks, while Anne Ehrlich examines agriculture in the Third World. Dan Luten deals with energy, Peter Raven with tropical rainforests, John Harte with acid rain and Cheryl Holdren with toxic substances. George Woodwell considers biotic services and the human estate. Ehrlich himself rehearses the putative phenomenon of nuclear winter, while Holdren presents some innovative and hard-nosed strategies to avoid nuclear war.

This list might evoke a reaction of "Here we go again. . . . What's new?". There is lots new: the book is far from a predictable account of what is going amiss. On the population front, for example, we encounter not only the usual dismal figures (and let's note that when we discount the remarkable achievement of China, the growth rate in the Third World is still 2.4 per cent per year, with no decline recorded for several years). We also find there is much scope to cut back on fertility rates, as witness the accomplishments of South Korea, Taiwan, Java, Thailand, Kerala State in India, Cuba, and urban communities in Colombia and Mexico — countries with a wide range of economic performance, political systems and cultures. The United Nation's median projection postulates establishment of 'replacement fertility' by the year 2025, leading to an ultimate total world population of well over 10 billion people. Were all developing countries to match the fertility declines of the countries cited, the two-child family could be attained by the year 2005 (a formidable but not impossible challenge), reducing the eventual total to 8 billion. Were many more countries to lose ground, as is currently the case with the Philippines, several Muslim countries and most of black Africa, the date would be deferred till 2045, with an eventual total of well over 12 billion. Thus a gap of 40 years would make a difference of more than 4 billion people.

There is similar potential for breakthroughs in the energy field. Since 1979 and the second oil shock, which was

followed by an outburst of energy conservation, the United States has expanded its economy by more than 30 per cent while consuming less energy overall. Many more energy-saving technologies remain to be mobilized. The most abundantly available response to energy shortages is that which is cheapest, most widely available and least exploited — simple saving of energy. Yet following the third oil shock of recently reduced prices, the energy-conserving momentum of the early 1980s is being lost.

All of the book's contributors devote a good part of their chapters to a prescriptive analysis of how we can reduce or avert the more severe environmental problems. For instance, Schneider sub-titles his chapter "Signs of Hope, Despair, and Opportunity". In addition there is a chapter by a World Bank economist, Herman Daly, on the steady-state economy (not necessarily the same as the no-growth economy), and how it could be established.

In an epilogue, Ehrlich and Holdren emphasize that just as the problems are interactive, so our responses should be interrelated. A solution to one problem will work only if parallel solutions are addressing many, if not most (and sometimes all), of the other problems as well. The most salient instance is overpopulation, which both contributes to poverty and reflects it. Just as human poverty and environmental impoverishment compound one another, so together they compound the chances of international conflict and nuclear war; and financial resources spent on armaments and other military dispositions are no longer available to restore forests, rehabilitate watersheds, replenish soil fertility, reduce pollution, produce more food and so forth. Which of the funding options will purchase more real and enduring security? □

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New in paperback

- *The Extraterrestrial Life Debate 1750–1900: The Idea of a Plurality of Worlds from Kant to Lowell* by Michael J. Crowe. Publisher is Cambridge University Press, price is £15, \$22.95. For review see *Nature* 325, 117 (1987).
- *Odd Perceptions* by Richard L. Gregory. Publisher is Routledge, price is £8.95. For review see *Nature* 325, 206 (1987).
- *Origins: A Skeptic's Guide to the Creation of Life on Earth* by Robert Shapiro. Publisher is Penguin, price is £5.95. For review see *Nature* 320, 646 (1986).
- *The Discovery of Insulin* by Michael Bliss. Publisher is Faber/Chicago University Press, price is £6.95, \$10.95. For review see *Nature* 303, 261 (1983).
- *Bird of Passage: Recollections of a Physicist* by Rudolf Peierls. Publisher is Princeton University Press, price is \$12.50, £7. For review see *Nature* 320, 660 (1986).