



BLUE sky research — this cloudless digital image of Earth was built by ARC Science Simulations using US Geological Survey data collected by the NOAA-11 weather satellite. It is the highest-resolution picture so far of our planet and to do justice to the detail would require a print 20-foot-wide at *Nature's* current resolution.

A prospect of time

Euan Nisbet

The Evolving Continents, Third Edition. By Brian F. Windley. Wiley: 1995. Pp. 526. £19.99, \$32.50 (pbk).

DOES one trim the old and interplant the new, or brutally cut the whole lot down and start again? There was until quite recently in Windsor Great Park a line of once fine but now decaying oak trees where rode America's last female head of state (her administration was, incidentally, very successful, as were those of the two previous women to head the government). That was until the present ranger of the land, the Duke of Edinburgh, decided to cut down the old, hollow, blasted oaks of Queen Anne's Ride (with their associated beetle fauna) in order to replant the entire avenue for the centuries to come. The local bureaucrats, having covered large areas of the surrounding land with asphalt, roared in indignation at the tree-cutting and demanded control, amid Wodehousian scenes of dawn felling. With some sorrow for the beetles evicted from their hollow homes (there are, fortunately, other aged trunks nearby), I have much sympathy for the duke. Instead of bequeathing an eloquent but dying straggle of foliage, he will leave to the future a vigorous and rewarding prospect (which, I hope, the bureaucrats will not asphalt over for a new highway to Virginia Water: Windsor Park remains green, although the sur-

roundings are as road-ridden as the stretch from Annapolis through Maryland to Virginia).

Brian Windley has had the same problem. Since before this generation of first-year students was born, his book has been a standard text in Earth-history classes, especially those that pay due respect to the Precambrian bulk of the planet's life. The first edition, in 1977, offered a pleasing prospect, a long view from the birth of the Earth to the present. Then, in 1984, for the second edition, he cut out some of the more decayed parts, pruned and interplanted assiduously. This time, for the third edition, he has boldly chain-sawn the lot, turned the whole view around so that it now goes from modern to old, and produced what is essentially a new book.

As with all new books, it has its problems. Some of the diagrams, straight from research papers, look cheap, and some reproduce badly. In such a large new book, which must have taken a while to grow, some of the weeds are already apparent. But the 2,200 references are the oaks that make the ride through the book so valuable. Instead of an eloquent but dying straggle of verbiage, Windley presents a vigorous and rewarding prospect to the past. In all, for a senior class wishing to learn from the history of our planet, this is a useful book, laid out not with a planner's well-paved and sign-posted barrenness of the moment, but with a duke's long eye to time. □

Euan Nisbet is in the Department of Geology, Royal Holloway College, University of London, Egham, Surrey TW20 OEX, UK.

Staying out of trouble

Peter W. Lipman

Natural Hazards. By David Chapman. Oxford University Press: 1995. Pp. 174. £12.50, \$15 (pbk).

WHAT are the full spectra of natural hazards, how do they affect humans and in what ways can risk mitigation and management be effective? Paradoxically, as we become more knowledgeable about natural catastrophes and develop better strategies to lessen the damage they wreak on society, they are becoming increasingly harmful in terms of loss of life and damage to property. This is largely a result of world population growth, increased vulnerability of economically and technologically complex societies, limited resources for low-income populations and mismanagement of the environment.

In this succinct volume, David Chapman, a geographer at the University of Sydney, discusses such broad topics of global importance from a wide variety of perspectives, characterized by a deliberately Australian flavour. Treatment of biological hazards ranges from the threat of large carnivores to allergic reactions to plants, and meteorological phenomena related to storms, floods, droughts and wild fires are tackled hand in hand with geological subjects such as earthquakes, volcanoes and landslides. The focus is on frequent and rapid catastrophes. Slower hazards, such as global effects of long-term climate change or more locally important effects such as damage to buildings from swelling clays, are excluded, even though they too can have far-reaching long-term effects. In the United States, swelling clays make up the most economically damaging geological hazard, outranking more spectacular catastrophic events such as earthquakes and volcanic eruptions.

In his discussion of management models for mitigation of natural hazards, Chapman emphasizes rational approaches to decision-making based on cost-benefit analysis. But much recent experience casts doubt on whether we can assume that affected populations and civil authorities will use scientific and economic data rationally. Psychological, economic and sociological issues important in risk analysis and hazard mitigation are barely mentioned in the book. Few people are entirely rational about risk analysis; most tend to accept familiar risks more readily than similar but infrequent risks. They are more willing to accept the higher risk of car travel than plane travel, or the statistically greater