

Southern isolation

Barry Cox

Discoverers of the Lost World.

By George Gaylord Simpson.

Yale University Press: 1984. Pp.222.

\$32.50, £23.50.

Ancient Australia, 3rd Edn.

Revised by Rudolf Oskar Brunnschweiler.

Angus & Robertson: 1984. Pp.342. £20.

BOTH of these books concern studies of the history of southern continents that were isolated for much of the past 100 million years.

In *Discoverers of the Lost World*, G.G. Simpson recounts the history of the discovery and study of the unusual mammals that evolved in South America. These had a particular significance in the development of the theory of evolution. The great bones of the giant ground-sloth first convinced Cuvier of the reality of extinction, while, over a century later, Darwin's discovery of extinct fossil relatives of living South American mammals was one of the first observations that led him to consider the possibility of evolutionary descent involving gradual modification.

Though Simpson describes these early discoveries in South America, his book is mainly concerned with those who spent a significant part of their scientific energies in searching for and working on its fossil mammal faunas. After the Danes, Lund and Winge, the first South Americans to take an interest in the fossils were the Ameghino brothers of Argentina, born in the mid-nineteenth century. The studies themselves were carried out by the elder brother, Florentino, but the hard and lonely work of collecting in the great empty spaces of Patagonia was the responsibility

of Carlos Ameghino. Florentino is remembered both for his quaint habit of naming new genera by combining the first and family names of other scientists (*Henricosbornia*, *Thomashuxleya*), and also for his stubborn belief that all the mammals of the world (including man) were derived from the fossil marsupials of Patagonia.

Despite the early involvement of the Ameghinos, the collection of the mammal faunas of the continent was for long dominated by such North Americans as Hatcher, Scott, Riggs, Patterson and Stirton. Only in the past 40 years have South Americans, Paula Couto for example, started again to take over that role.

It is certainly useful to have this compilation of historical studies, for a knowledge of history not only adds to our understanding of the past but gives us an extra perspective on the present. At the same time, I feel that the degree of detail is sometimes obsessive. Is it really significant that Darwin noted the latitude of Puerto Deseado at 47°S when in reality it is closer to 48°S? And is it always necessary to note the trivial spelling mistakes in the writings of nineteenth-century scientists? Similarly, Simpson's knowledge of language and pronunciation leads him to an excessive amount of parenthetical information on this aspect. I would also have liked a map (or maps) showing the general locations of some, at least, of the many sites mentioned, and some of Scott's excellent restorations of South American mammals would have appropriately adorned the text. So while I'm glad that the book exists, I didn't particularly enjoy it.

Ancient Australia is the second revision by R.O. Brunnschweiler of Laseron's original work of 1954. The original book was intended for laymen, and for amateur naturalists and geologists, but Brunnschweiler has broadened this aim to include professional scientists.

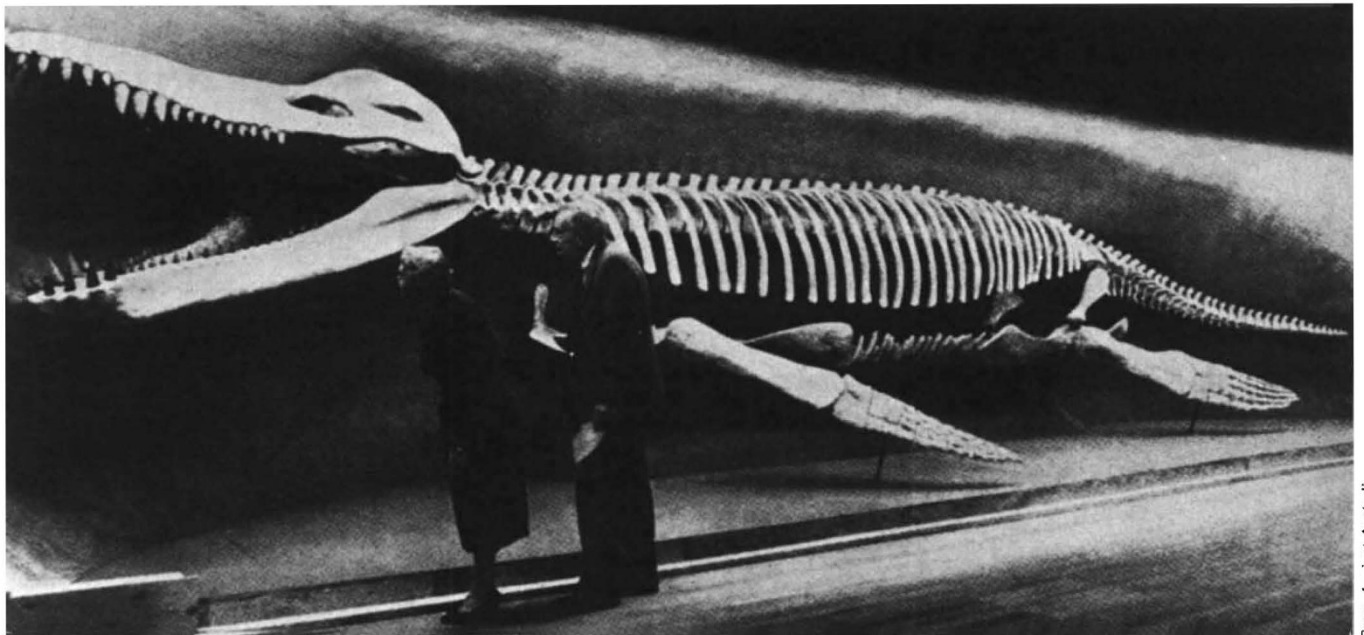
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Apart from about 40 pages on the principles of geology, the nature of fossils and the variety of life, the book is made up of a series of chapters, each dealing with a single unit of geological time, from the Precambrian Eons to the Cenozoic Era. Each chapter commences with a map of Australia that shows the distribution of land, sea and lake, and then outlines the major basins of deposition, the various marine and non-marine formations, and the plant and animal fossils.

My main impression of the book is that it has been inadequately modernized. For example, the maps of Australia all show it as adjacent to the East Indies archipelago, and never as part of a Pangaea or Gondwanaland supercontinent. Similarly, the text refers to an Australian connection in the Triassic to New Caledonia and New Zealand "via a great arc of land around the Coral Sea", and states that the migration route for Triassic animals "must have been long and devious". Another example is the reference to the appearance of *Glossopteris* in "such widely separated lands" as Antarctica, South Africa, India and South America, and acceptance of the presence of *Glossopteris* in the northern continents.

The transformation from a stable-Earth to a plate-tectonic approach perhaps demanded a more radical re-working than the author was prepared to make. Nevertheless, its absence provides so old-fashioned a framework, lacking any of the fruitful integration of changing geography, latitude, climate, fauna and flora, that it greatly reduces the book's value to a palaeontologist or naturalist. □

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Biting back — *Kronosaurus queenslandicus*, an extinct marine reptile 12.6 m long, found in Queensland and housed in the zoological museum at Harvard University. Examining the skeleton are A.S. Romer and Nelda Wright, Romer's research assistant.