determined, the interest in intermediate technologies, such as chromosome jumping libraries or chromosome walking, becomes more historical. The advantage of such an approach is that it provides the uninitiated with the tools to approach the literature. The book provides an up-to-date and encyclopaedic treatment of these modern technologies, most of this information being very robust. Besides, the day when the sequence of the human genome will be complete is a long way off.

A bias of the technological approach comes from not putting subjects in an adequate biological context. For example, the chapter on recombinant DNA technology would have been clearer if it had been placed in the context of bacterial genetics. From the heuristic viewpoint, such contextual information is valuable because it provides a framework for understanding the capacities and limitations of the technology. From a practical viewpoint, there is only so much the authors can discuss in depth given the limited space. In a sense, students today need to know how to use and interpret these technologies, rather than to know the intricate biology that conceived them. However, the authors might have remedied this bias by taking more advantage of the sections of further reading at the end of each chapter. A criticism along the same lines is that the references in the text often seem rather arbitrary.

The figures, tables and boxes present a large part of the information, and in general they are well designed and extremely useful. The first few chapters would have been improved by more examples of real experimental output, for example showing a human karyotype when treating cytogenetics, and showing an autoradiograph of a Southern blot when treating this hybridization method. Occasionally there is a lack of attention to detail in the legends. These weaknesses notwithstanding, the textbook can be recommended on the value of these presentation items alone.

A book such as this, which encompasses all the major modern technologies in human molecular genetics and their applications, can be used at an advanced level as a course textbook for students, or by mature investigators outside the field who are seeking an epitome of these recent advances. In many ways, it addresses the gap between introductory textbooks and the primary literature. It will no doubt contribute to the education of the young and uninitiated, as a valuable tool in formal training in human molecular genetics. There's no other textbook quite like it. □

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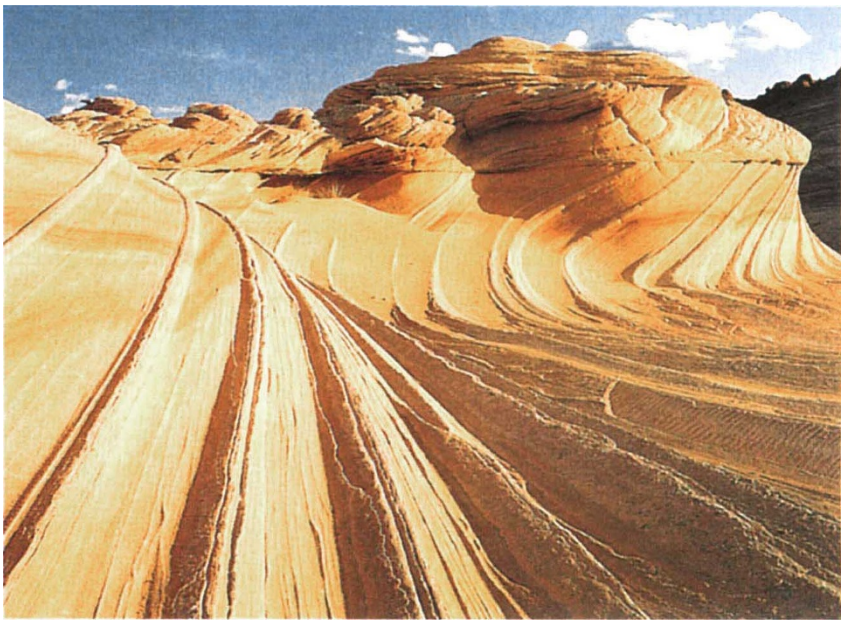

NAVAJO sandstone, Colorado Plateau, Utah, United States. The picture is taken from *Rocks and Fossils* by Arthur B. Busby III, Robert R. Coenaads, Paul Willis and David Roots, a well illustrated guidebook describing a wide range of rocks and fossils, and the sites where they can be found, as well as the history of the Earth and the forces that have shaped it. HarperCollins/Nature Company, £14.99.

Global outlooks

Hazel Rymer

Shocks and Rocks: Seismology in the Plate Tectonics Revolution. By Jack Oliver. *American Geophysical Union: 1996. Pp. 139. $28 (pbk).*

FOR those of us who came to study Earth sciences during the 1980s, it is hard to imagine a time when the theory of 'plate tectonics' did not exist. It is perfectly appropriate to describe the development of the theory during the 1960s as the great Earth-science revolution.

Before then, the Earth was seen as a sphere with a thick, inert, rocky mantle encasing a central molten, metallic core. The complex pattern of land and sea masses was believed to be essentially static. By the end of the revolution, only the core remained. The mantle had become a solid yet flowing region convecting heat from within the Earth through a thin, strong and brittle shell that was broken into a few large plates moving laterally on and with the mantle. Jack Oliver's description of the role of seismology in this revolution is a highly personal account from the perspective of the Lamont Observatory.

It was Abraham Ortelius, in 1596, who first came up with the idea that North America, South America, Eurasia and Africa were once joined together and have since drifted apart creating the modern Atlantic in the process. This insight was largely ignored for almost 400 years. What Ortelius lacked was a large body of supporting geophysical evidence and the means to communicate his ideas to a wide audience. These are themes that Oliver continually returns to.

Although earthquakes were well documented by the ancient Greeks and Chinese, it was not until the Cold War, and the need to verify adherence to the Nuclear Test Ban Treaty, that substantial funding — and data — became available for seismologists to study the deep structure of the Earth. It takes more than some new data to make a revolution though, and Oliver illustrates that good communication of results, not just the routine publication of them, is the key to making a piece of scientific work influential. Communication across the various disciplines is the key to this and future revolutions. Oliver demonstrates, with amusing anecdotes that bring the story alive, that good science requires a combination of hypothesis testing, serendipity and sound strategic and tactical thinking — as well as good fortune.

Shocks and Rocks is a thoroughly good read for scientists and interested nonscientists alike. The author uses a real case history to show the way in which science is done, and conveys the excitement of scientific discovery and insight with energy and humour. □

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