Introducing the final section, Schoener makes a heroic attempt to classify the kinds of communities found in nature, using six axes relating to properties of the organisms, six relating to properties of the environment, and 10 derived from community properties. Although sometimes reminiscent of a Victorian Scots Presbyterian sermon ("and thirteenthly, bretheren"), this is an interesting attack on a central problem. Other chapters in this section focus on particular communities: among others, Roughgarden contrasts *Anolis* with barnacle communities, Buss looks at competition on hard surfaces in the sea, and Lubchenco evaluates competition versus predation in seaweed communities in New England.

The references are all collected at the end. Running to 62 pages, they constitute a valuable resource in themselves.

Overall, this book takes a very narrow view of what "community ecology" is but has the compensating advantage of pursuing that view in great depth. Community ecology here is, in effect, taken mainly to mean interactions among species. There is no account of patterns of energy flow or nutrient flow, and very little attention is given to biomass or food web patterns as such. Decomposers suffer their usual neglect, being mentioned only once (and that in passing) in Tilman's discussion of competition for resources in plant communities. Even within this concentration on countable individuals and species—as distinct from the less intuitively evident biomass or energy flow—the emphasis is more on interactions within and between species than on such things as the relative abundance of species or the length of food chains. Species relative abundance does receive interesting discussions in the chapters by Davis and by Hubbell and Foster (in their account of chance and history in the structure of tropical rainforest tree communities), and Toft discusses the interplay between food web structure and host-parasite interactions, but these are exceptions.

I think this emphasis on species interactions reflects the interests of the contributors to the book, rather than any general trend in ecological thinking. Within its domain of concentration, however, the book offers an excellent balance of new work and thoughtful synthesis. This is helped by the outstanding job of editing done by Diamond and Case, which results in the 586 pages of text by 35 authors (all but one North American) having a coherence and readability that is rare even in single-authored books.

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Memory Development

Cognitive Learning and Memory in Children. Progress in Cognitive Development Research. MICHAEL PRESSLEY and CHARLES J. BRAINERD, Eds. Springer-Verlag, New York, 1985. xiv, 250 pp. $33. Springer Series in Cognitive Development.

Basic Processes in Memory Development. Progress in Cognitive Development Research. CHARLES J. BRAINERD and MICHAEL PRESSLEY, Eds. Springer-Verlag, New York, 1985. xvi, 324 pp. $39. Springer Series in Cognitive Development.

Prior to the publication of these two volumes, it seemed that the field of memory development, which began in earnest in the late '60's and flourished during the '70's, was declining rapidly and would be largely nonexistent in 10 years. These volumes make clear that, if the field survives, future research will be characterized by a more expansive and integrative style than was recent work and by more frequent forays into subjects once considered distinct from memory development (for example, metaphor comprehension, fantasy, and spatial maps). Future work on the subject will attempt to make connections with other aspects of cognitive development as well as with historical and philosophical traditions that went unrecognized during the heyday of the '70's.

The volumes are a compilation of 14 chapters edited by two respected researchers neither of whom, it seems fair to say, has been associated with attempts to step outside of traditional memory development research in the past. At a time when the field's strength is also its weakness—that is, when increasingly fine-grained analyses of basic memory processes have reduced the scope of problems to the point where newer researchers often fail to see the importance of the problems being investigated—the editors have assembled a cast of authors all of whom display, to some degree, the sort of expansiveness in thinking mentioned above.

In an undertaking of this scale, one can point to faults: it is not clear why the volumes are titled as they are or why certain chapters appear in one volume rather than the other, two chapters are largely duplicative of their authors' comments elsewhere, the chapters are of uneven quality, though few are truly weak, and one can question why other subjects were not included.

The chapters are united by little more than their individual efforts to integrate and synthesize broad domains of cognitive developmental research. Chapters by Ackerman, Dempster, Bjorklund, and Brainerd deal with basic processes that underlie memory development; those by Anooshian and Siegel and by Reyna are concerned with the role of memory in other types of cognition, such as spatial reasoning, fantasy, and metaphor comprehension; and those by Paris, Newman and Jacobs, and Rogoff and Mistry address important cross-cultural and philosophical issues that have habitually been ignored in past treatments of this type, despite their obvious significance. Finally, chapters by Pressley *et al.* and Marx, Winne, and Walsh deal with the educational relevance of strategy training and school learning, and those by Kail, Salthouse and Kausler, Daehler and Greco, and Levin deal with methodological and statistical problems inherent in studying learning and development.

The evidence presented in several chapters suggests that memory processes cannot be adequately studied in the disembedded laboratory contexts that have characterized the majority of work on the subject. Contexts vary in the effectiveness with which they recruit mnemonic strategies, foster motivation, and shape one's perception of the particular memory task at hand. One of the many important messages of these volumes is that the exclusive reliance upon laboratory contexts is likely to result in misleading models of memory development.

The expansive vision of the future of memory development research presented in these volumes should serve as a tonic to the spirits of researchers who have been concerned about whether their work was relevant.

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The Australian Phanerozoic

Phanerozoic Earth History of Australia. J. J. VEEVERS, Ed. Clarendon (Oxford University Press), New York, 1984. xvi, 418 pp., illus. $75. Oxford Geological Sciences Series, 2.

This book is intended as a modernization of earlier books on the tectonic history of the Australian region. The authors assume that Australia's evolution since the late Precambrian can be described in terms of the same plate tectonic processes that are shaping the earth's surface today. In effect, a conceptual filter has been applied to a vast body of field data, a point that readers should bear in mind. That does not detract from the book's value in my opinion, since there are almost 51 pages of references that give readers skeptical of given interpreta-

tions an excellent guide to the relevant literature. The book benefits from the inclusion of a large body of marine geological and geophysical data assembled over the past 20 years. These data were not available for the 1968 book by Brown, Campbell, and Crook that covers similar subjects.

The volume contains contributions by the editor and 13 other scientists, most of whom are colleagues of his. The book is divided into five major sections, each of which is further divided into subsections. The logic behind the book's structure is not always apparent, and the reader can become lost when similar subjects and figures appear in different parts of the book. Section 1 performs the valuable service of defining the geological time scale used throughout the book. Section 2 is intended to deal with Australia's global setting, both now and in the past, but "regional" seems to me more accurate than "global." A summary by Embleton of paleomagnetic data is valuable for providing an absolute frame of reference for the region's paleogeography. In addition, there are summaries of past climates and environments by Williams and by Quilty and of paleobiogeography by Talent. Section 3, on the structure of the Australian lithosphere, is rather skimpy, mainly because available deep crustal seismic data are treated briefly. A short contribution by Wass outlines an important controversy over the seismic and petrologic definitions of the crust-mantle boundary in eastern Australia. Section 4, entitled Morphotectonics of the Australian Platform and Margins, describes in detail the relations among topography, tectonic activity, and volcanism that are observed in several morphotectonic provinces of Australia. The discussion of the evolution of the eastern Australian highlands contains some controversial statements concerning possible links between periods of uplift of the highlands, enhanced volcanic activity, and increases in global sea level. Section 5 describes the evolution of the Australian region in terms of four tectonic regimes that span the Late Precambrian to the present. Section 6 provides a visual summary by means of key paleogeographic figures from preceding sections.

The book tries to deal with both regional and thematic subjects. The authors are more successful when providing a qualitative account of the region's tectonic history as interpreted from the cited data sources than when dealing with major thematic subjects such as the physical processes associated with rifting. The East African rift analogue of Australia's rifted margins cited in section 4 does not do justice to quantitative thermomechanical models of passive continental margin and sedimentary basin development that have been examined over the past several years. I am surprised that New Zealand geology is not considered, as it was in the book by Brown, Campbell, and Crook. The present authors consider New Zealand to lie "down dip" from Australia. This view is problematic, because the team undertaking the southwest Pacific basement correlation program found correlations between the Lower Paleozoic of both areas, and the Mesozoic reconstruction of the two land masses is not in dispute.

A highlight of global interest to emerge from the book is that although the eastern margin of Australia was associated with plate convergence and island arc activity from mid-Cambrian to mid-Cretaceous time very little evidence has been obtained for accretion of exotic or allochthonous terranes in the manner described for western North America. Even though the Paleozoic history of eastern Australia is punctuated by regional orogenic movements, compressional deformation, and the relocation of the presumed convergent plate boundary, these events so far cannot be clearly linked to the arrival of buoyant material at trenches that faced the Pacific Ocean.

In general, the book is a worthy successor to the earlier books on Australia's tectonic history. The 246 figures in the book are mostly time-space stratigraphic diagrams and maps showing geology or paleogeography, and it is commendable that the authors use the same map projection throughout the book.

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