interests, one wonders whether we may be getting too "objective" an account. There remains an imbalance among the essays with respect to the adequacy with which different factors are considered. A balanced account does not result from the mere juxtaposition of partial viewpoints.

This volume provides a striking number of examples of theories that have successfully accounted for a significant fraction of the known phenomena, only to have to be abandoned. Darwin wrote, in defense of his own theory, that one would not expect a false theory to explain so much. Alas for the defenders of many a good-looking theory, neither history nor philosophy sanctions such an intuitive conviction.

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Invertebrate Paleobiology

The Ammonites. Their Life and Their World. ULRICH LEHMANN. Translated from the German edition (Stuttgart, 1976) by Janine Lettau. Cambridge University Press, New York, 1981. xiv, 246 pp., illus. $19.95.

In this book, somewhat updated in the translation, Lehmann draws extensively from European examples to illustrate major aspects of ammonite paleobiology. His intention is to take ammonities, superb biostratigraphic markers that they are, and view them as living creatures. The strongest portions of the book develop this theme, dealing with paleobiological topics that Lehmann personally has researched: sexual dimorphism and ammonite jaws and radulae. Lehmann expands his earlier articles into a coherent chapter on ammonite jaw shapes and the relationships between aptychi and possible modes of feeding. Aptychi are clearly shown to be part of the jaw apparatus, rather than opercula as previously thought.

The book is aimed at nonspecialists. As a researcher interested in ammonites, I felt a slight unease, stemming not from the contents but from the topics that are not covered. Ammonites are fascinating because of their peculiar evolutionary history of high speciation rates followed by spectacular extinctions and because of the extraordinary complexity of their chambered shells. Lehmann addresses both of these topics in only cursory fashion. Jurassic and Cretaceous ammonites showed some of the most spectacular expansions and declines in the fossil record. The ammonites of the Jurassic served as the basis for the pioneering efforts in biostratigraphy of the last century, by such forefathers as d'Orbigny, Quenstedt, and Oppel. The strength of Lehmann's work has been in looking at ammonites as once-living organisms. Such an approach could have been enlightening if used in an evolutionary context. Second, the great debate about the ammonite suture, whether it served as a strengthening device or an aid to buoyancy control, is not discussed. It is perhaps no accident that the increase in sutural complexity in the Ammonoidea is matched by an increase in diversity. More insights into the use of the complex septa in the living ammonite, including a discussion of the Westermann-Bayer debate, would have been welcome.

The book will be welcome to anyone wishing easier access to this baffling but fascinating group. It is easily the best summary to date in a rapidly expanding field.

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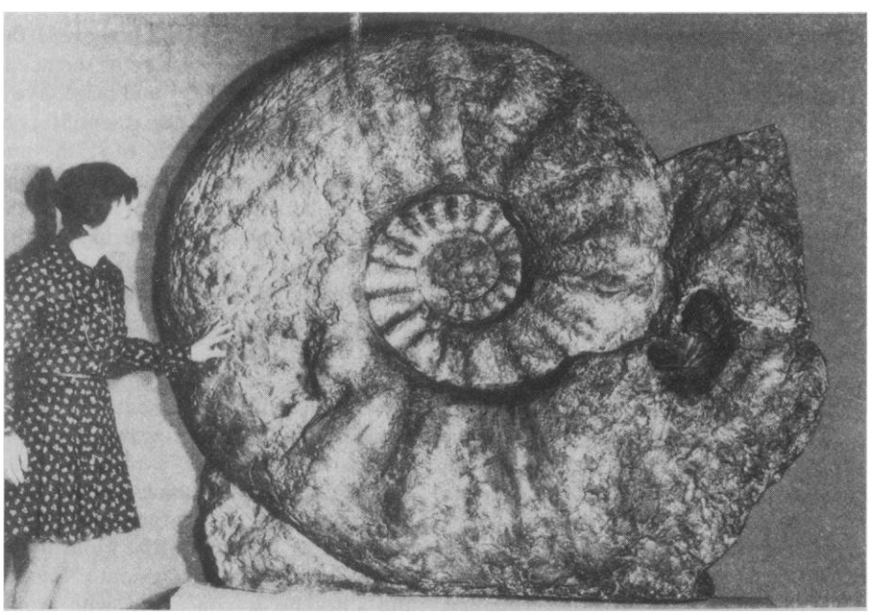

A cast of one of the largest ammonites ever found, *Parapuzosia seppenradensis* (H. Landois), Upper Cretaceous, Seppenrade near Münster in Westphalia (West Germany). Diameter 1.7 meters. [From *The Ammonites*]

Archeological Strategies

Foundations of Northeast Archaeology. Papers from a conference, Albany, N.Y., Feb. 1980. DEAN R. SNOW, Ed. Academic Press, New York, 1981. xiv, 270 pp., illus. $19.50. Studies in Archaeology.

According to editor Snow, the purpose of this volume is to explore the "range of problems, possible research strategies and possible solutions" appropriate to the archeology of northeastern North America. Though a collection of seven individually authored conference papers is probably not the ideal instrument for this purpose, the book does include some valuable and stimulating discussions of topics important to northeastern archeology.

Bruce Trigger's lead-off paper, "Prehistoric social and political organization: an Iroquoian case study," presents an extensive critical review of research concerning these topics and other aspects of Iroquoian culture and environment that bear upon them. Trigger advocates a strategy for future research that includes the refinement of chronologies, extensive (even total) excavation of sites, and more careful study of artifact distributions. This strategy will be criticized by deductivists and particularly by advocates of the "conservation ethic," but the problems he addresses are complex and his aggressive stance therefore is probably justified.

Dena Dincauze's "Paleoenvironmental reconstruction in the Northeast: the art of multidisciplinary science" is, in her words, "a multifaceted review" of an approach that has figured prominently in her teaching and research. That approach rests upon "collegiality" among