birth in quick succession of civilization in Egypt, India, and China. The sharp contrast between the precivilized and the civilized worlds from our vantage point is neatly drawn by Seton Lloyd. "The clear historical character of this later period, the evidence of political development and religious thought, the sequence of royal names and the battles or treaties associated with them, all serve by contrast to emphasize the drab impersonality of the 'archaeological' ages which preceded it, where the biography of a nation can be written only in terms of broken pottery and the discarded belongings of its most humble artisans. Yet, even in this obscure half-light of 'material cultures' and 'racial criteria', . . . brief moments of illumination do intermittently occur" (page 185).

Illuminating, Brief Moments

The pictorial parts of *The Dawn of Civilization* provide an assemblage of many such "brief moments of illumination" in our knowledge. The sum total of the 940 illustrations underlines the astonishing richness of the human imagination, faced with a multitude of environments and varying amounts of knowledge, in its ability to represent in material form the world of reality as well as the equally important world of dreams. Most philosophers would probably agree that while the birth of civilization is important, the birth of imagination and the consequent world of thought is even more fundamental to the human condition. Regretfully, the early stages of this obviously rich landscape of the mind are largely lost to us. Yet, even so, from the multitude and complexity of the objects set before us in this volume something of its quality and meaning may be inferred. The anthropologist, Loren Eiseley, describes this "dream world" in one of his essays. "It was a weird multiheaded universe, going on, unseen and immaterial save as its thoughts smoldered in the eyes of hunters huddled by night fires, or were translated into pictures upon cave walls, or were expressed in the trappings of myth or ritual. The Eden of the eternal present that the animal world had known for ages was shattered. . . . Through the human mind, time and darkness, good and evil, would enter and possess the world."

Earth's Yesterday

History of the Earth. An introduction to historical geology. Bernhard Kummel. Freeman, San Francisco, Calif., 1961. xiv + 610 pp. Illus. $8.75.

Has the geology instructor ever been confronted by so many new textbooks on historical geology? Moore's *Introduction to Historical Geology* (1958), the veteran among the five, is still valuable. Distribution maps, correlation charts, the wealth of photographs and diagrams, and the mature treatment of the material make it a good classroom and a good reference book. To my mind, Dunbar's *Historical Geology* (1960) is too simple and easy, largely because it avoids the interesting problems. Stokes' *Essentials of Earth History* (1960) is very strong on the organic side, with excellent chapters on evolution, migration, and similar subjects. Clark and Stearn's *Geological Evolution of North America* (1960) is the first truly regional text published in some 30 years; the diagrams alone make it tempting.

As a traditional text, Kummel's book has unusually full introductory chapters as well as an excellent treatment of the Paleozoic, Mesozoic, and Cenozoic eras of North America and of the life of those eras. But what is new and different in Kummel?

This is the first textbook to give the history of all continents, rather than just that of North America. Now we have an over-all view. No longer are we trapped in the Appalachian geosyncline—we see what is happening at the same time in other parts of the world. Nor are we misled into thinking that the Triassic is all red and nonmarine; Tethyan history is enlightening. The Cenozoic of the Alps, the Himalayas, and the Philippines is treated briefly but exceedingly well. These chapters are valuable both for current study and for permanent reference.

Also completely new is the chapter "Gondwana formations." Discussion ranges widely, from rock type to glaciation, from *Glossopteris* flora to paleomagnetism. The chapter is a marvel of condensation and completeness and an outstanding example of what a "problem chapter" should be.

Throughout the text the unifying theme is "evolution and interrelations of mobile and immobile belts." Local detail is held to a bare minimum, and attention is focused first on geosynclines and then on stable areas. This is not new, but it is clearly and consistently worked out.

Also, the author has brought in a wealth of new material or has revitalized the familiar. Examples are: the history of the ammonoids (pages 215–16 and 287–92); geographic range of fossil reefs (pages 296–97); Pleistocene climates (pages 468–78); and the extended account of the evolution of man (pages 483–505).

Not everything in the book meets with my approval. I think the author has gone completely overboard in favor of "tectonism"; I wonder why there are eugeosynclines on only the maps of North America. I regret that we are told nothing about the "how" of oil in the Middle East. Also, the next edition must have more extensive bibliographies, especially for students. I can find out what "G. G. Simpson, 1953" refers to (in Fig. 14-36, page 465), but a first-year student, or even a more advanced one, needs encouragement to look up anything.

Which book to choose? If you are already using a familiar, straightforward text, without complications, you may want to stick to it. If you want a challenging, somewhat difficult text, one that everywhere shows the intelligence and learning of its author, a complex book with many facets, then you must consider Kummel's volume.

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Sherborn's Index Extended

An Index to the Genera and Species of the Foraminifera, 1890–1950. George Vanderbilt Foundation, Stanford University, Stanford, Calif., 1961. 393 pp. $10; unbound, $9.

This volume, which is similar in style to the annual indexes published by Hans Thalmann for many years, provides students of the Foraminifera with an invaluable tool, for it covers all newly proposed generic and specific names that appeared in the literature between 1890 and 1950.

In 1955 the Smithsonian Institution reprinted Charles Davies Sherborn's *An Index to the Genera and Species of the Foraminifera.* Sherborn's volume, long