sistent picture is bound to look like special pleading to people on the opposite side of the fence.

The uninformed reader may wonder what this is all about. Briefly, Zeuner is an avowed partisan of the "radiation curve" of Milankovitch as a basis for dating Pleistocene events. This curve purports to be a calculation, for any time in the past 600,000 years, of the intensity of solar radiation reaching the upper atmosphere at particular latitudes; its basis is purely astronomic, i.e., the cyclic variations in the relation between earth and sun. The effect on the earth's climate of variations in solar radiation is almost entirely unknown—there are theories aplenty, but few facts. The only empirical evidence that the Pleistocene ice sheets waxed and waned, and that deserts were alternately moist and dry, in rhythm with Milankovitch's curve, is the sequence that Zeuner and a few others think they discern in Pleistocene deposits, particularly river terraces in central Europe. This is a sequence implying not only four glacial ages, recognized by nearly all geologists, but a bipartite character for the first three and a tripartite division of the last glacial age. Evidence for the nine-part, as opposed to the four-part sequence, is totally inadequate, and the radiation curve in Professor Zeuner's hands bears all the signs of a bed of Procrustes.

It would not be profitable, however, to list the many instances in which Professor Zeuner has obviously selected the facts to fit his theory. All of us in science ride our hobbies to some extent, and if he has done so more than most, he has also produced a book that is more than usually interesting, and whose reference value is immense. With a *caveat emptor* that its chief users will probably find unnecessary, *Dating the Past* is warmly recommended.

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***Die Theoretischen Grundlagen der Analytischen Chemie.*** Gunnar Hägg; German translation by Hans Baumann. Basel, Switz.: Verlag Birkhäuser, 1950. 197 pp. Sw. fr. 18. paper; 22. bound.

Gunnar Hägg, professor of chemistry at the University of Upsala, discusses in this small, lucid book some theoretical aspects of analytical chemistry from an elementary viewpoint. As stated in the preface, the book was designed to fill the gap in the Swedish textbook literature in introductory courses in analytical chemistry. This translation is based on the fourth Swedish edition, which, according to the author, differs only little from the first edition of 1940. The book is by no means as comprehensive as its title implies, almost half of it being devoted to acid-base equilibria discussed from the Brønsted point of view. The remainder of the text deals primarily with precipitation reactions (including a chapter on colloids, adsorption, and ion exchange) and oxidation-reduction reactions. Such modern favorites as colorimetry, spectrophotometry, and polarography are not mentioned.

This reviewer found it particularly interesting that the author made special mention of his reliance on the Brønsted acid-base theory and that he found the use of these concepts pedagogically advantageous—a conclusion with which many of his American colleagues will agree. The consistent use of this concept is partly responsible for the unusual clarity and coherence of the book. Some mention should also be made of the log-log diagrams which are liberally used to demonstrate clearly the properties and meanings of mass action equations. The text has been carefully edited and well translated, and is relatively free from errors. The most serious one is probably the statement (p. 27) that ammonia is more strongly held by ion-dipole forces than water.

The book is reminiscent of a number of American texts on the freshman and sophomore level, particularly those dealing with principles of chemistry, although it is more elaborate than most with respect to acid base equilibria. Typically, analytical problems are discussed only in the last few chapters and there primarily for the purpose of illustrating principles.

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# *Scientific Book Register*

***Fossil Mammals of Africa: The Miocene Hominoidea of East Africa,*** No. 1. W. E. Le Gros Clark and L. S. B. Leakey. London: British Museum (Natural History), 1951. 117 pp. and 9 plates. £1 15/s.

***Organization and Pathology of Thought: Selected Sources.*** Trans. and commentary by David Rapaport. New York: Columbia Univ. Press, 1951. 786 pp. $10.00.

***Culture Worlds.*** Richard Joel Russell and Fred Bowerman Kniffen. New York: Macmillan, 1951. 620 pp. $6.00.

***Bernhard Eduard Fernow: A Story of North American Forestry.*** Andrew Denny Rodgers III. Princeton, N. J.: Princeton Univ. Press, 1951. 623 pp. $7.50.

***The Origin of the Earth.*** W. M. Smart. New York: Cambridge Univ. Press, 1951. 239 pp. $2.75.

***The Structure of Human Abilities.*** Philip E. Vernon. London: Methuen; New York: Wiley, 1950. 160 pp. $2.75.

***Silicate Melt Equilibria.*** Rev. ed. Wilhelm Eitel; translated from the German by J. G. Phillips and T. G. Madgwick with collaboration of R. B. Sosman. New Brunswick, N. J.: Rutgers Univ. Press, 1951. 159 pp. $5.00.

***The New Physics: Talks on Aspects of Science.*** Sir C. V. Raman. New York: Philosophical Library, 1951. 144 pp. $3.75.

***A Source Book in Animal Biology.*** Thomas S. Hall. New York-London: McGraw-Hill, 1951. 716 pp. $10.00

***Ruwenzori Expedition 1934–5: Muscidae,*** Vol. II, No. 6. F. I. Van Emden. London, England: British Museum (Natural History), 1951. Pp. 325–710, 10 plates. £2 5/s.

***Is Another World Watching?—The Riddle of the Flying Saucers.*** Gerald Heard. New York: Harper, 1951. 183 pp. $2.75.