latest evidence from geodesy, gravity anomalies, and seismology, to the effect that the floors of ocean beds have never been terrestrial continents. The old naïve hypotheses of land bridges, made "to order," as easily as "a cook does pancakes" to quote Darwin's unbeatable remark, have been superseded by the now real possibility that continental blocks have shifted over the underlying layers. By means of studies on remanent magnetism in rocks, P. M. S. Blackett has proved that this has occurred with changes in latitude, but there is still no physical evidence that there have been changes in longitude, which would have been involved in the separation of North America from Europe and of South America from Africa. Paleobiogeography states unequivocally that there can be no question of contact between these continents since the Triassic.

Readers of *Tempo and Mode in Evolution, The Meaning of Evolution,* and *The Major Factors of Evolution* will find in this book the same crystal clarity of exposition, in thought-sequence and in language. They will realize that those great books represent a distillation of the quintessence of meticulous research, in the field and in the laboratory. The present book brings the reader a stage closer to the field and the bench and gives a more intimate insight into how the conclusions have been arrived at. Throughout, the indomitable and inimitable buoyancy (may I spell it "boyancy"?) of the author's spirit protrudes and sustains interest and curiosity, and, among the excellent diagrams, those labeled "Whence? When? What?" and "How to make a living in the Eocene (or now)" show that the author has enjoyed writing these essays almost as much as the reader will enjoy reading them.

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Astronomy

The Planet Uranus: A History of Observation, Theory, and Discovery. A. F. O'D. Alexander. Elsevier, New York, 1965. 316 pp. Illus. $12.75.

The Planet Uranus, by A. F. O'D. Alexander, is an excellent, descriptive treatise on the planet and its satellites. Compilation of this volume must have involved a tremendous amount of painstaking research on references from many countries. The book includes considerable obscure material of much value, which otherwise, in time, would probably be lost. In places the reading may become a bit tedious, but the organization of such a mass of significant material would impose a problem. It may surprise many astronomers to learn that so much difficult observational work was bestowed on the planet Uranus in the 19th century.

The aspects of Uranus and its system of satellites was more of a challenge than many investigators could meet. In the first place, Uranus was seen 22 times as a star before its nonstellar nature was recognized: ". . . the most amazing fact is that Lemonnier should have recorded Uranus as stars (in Aries) six times in nine days, four of them on consecutive days, without suspecting that he was confronted by a moving planet, 12 years before Herschel discovered it" (p. 89). It is also surprising that for so long a time Herschel considered his new-found body to be a comet, when the simple pattern of the Earth's parallactic motion indicated a distance far beyond the limit of visibility of any comet.

Uranus itself had many surprises in store. A few decades after its discovery, its orbital motion became intolerable, and this led to the discovery of Neptune, the eighth planet. Its satellites were faint, and astronomers strained to search for them. It had such a high tilt in its axis that its rotation was retrograde. It was unique in color. Its high albedo led to suspicions of self-luminosity. The markings on its disk were hard to see. Its angular size and polar flattening were difficult to measure. Lastly its spectrum contained strange, heavy absorptions.

Those who read the book should certainly read the preface first. The contents are divided into 27 chapters with appropriate titles and subtitles. Fifteen chapters contain a short "running abstract" which is very helpful to the reader. There are two full pages of bibliography and a 16-page well-organized index. The sources of material are well documented. Five pages are used to give the full titles of references cited and their abbreviations as used in the book. Ten beautifully reproduced plates and 20 diagrams are found in the book.

The book is particularly timely because Uranus will be in perihelion in 1966, and the plane of its equator will be edgewise to our view. This will permit astronomers to make the most effective measurements of polar flattening and spectrographic determination of its period of rotation in 84 years, because the other edgewise view will be two astronomical units further away. It is apparent that such measurements with the largest telescopes are urgent. It will also be the best time to watch for spots and belts. Many tables and statistics to aid the observer are given in the last chapter.

The Planet Uranus deserves a place in the personal library of every planetary astronomer (both amateur and professional) and in every observatory and university library.

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Protoanthropological Literature

Readings in Early Anthropology. J. S. Slotkin, Ed. Aldine, Chicago, 1965. xvi + 530 pp. $9.75.

In its compiler's view, this book is "simply a collection of odds and ends . . . . In no sense is it a history of early anthropology. . . . Instead . . . I have merely collected materials in reference to some of my personal interests, with little or no regard to its cultural context. Also, there are serious gaps." Nonetheless, as Sol Tax remarks in his foreword, this collection of readings is "important for historians of anthropology." This is so largely because, in abstracting and annotating the early literature, the late Professor J. S. Slotkin, who compiled this volume for his own understanding, concentrated on the main branches and questions of modern anthropology—namely, linguistics, physical anthropology, archeology, ethnology ("a study of the historical relations between cultures"), ethnography, and social anthropology ("the comparative study of cultures"). In the masterly essay that introduces the compilation and furnishes a general overview, Slotkin uses this framework to review the growth and convergence of anthropological thought and knowledge in Western Europe during the interval between the 12th to the 18th centuries.

Briefly, we have here a collection of excerpts from the early protoanthropological literature, unusual and perhaps unequalled in its range, qual-