
Radio and the Stars

This book, to quote the author, "is written to bring together recent conspicuous developments in astronomy and its related fields which may suggest a more intimate relationship between man and his cosmic environment than has perhaps been generally supposed." Beginning with the setting in space of the earth with its single satellite, the author considers its various motions, then discusses the observed evidence that latitude does not appear to remain fixed, and that the latitude of a place varies from time to time. This would tend to show that the earth is not absolutely rigid. The cause of the variations is possibly the attraction of the moon which makes our ocean tides and our relatively unsuspected earth tides. Time observations by radio show that such stations as the Naval Observatory, Washington, D. C., and the Royal Observatory, Greenwich, England, vary in their distance one from the other by as much as 63 feet. Again the moon is blamed. Whether or not the earth could lend itself to such bending leads to a consideration of the great value of the sun in our human affairs and then to the relation of sun-spots to the magnetism of the earth. The relation is close and the magnetic storms seem to be started in or by sun-spot activity. The magnetic storms effect radio reception, hence sun-spots effect radio, apparently by ionizing the upper atmosphere in the Kennelly-Heaviside layer, which reflects back our radio signals. The daily lowering and rising of this layer is the cause of night reception being better than day reception. Other agencies which influence the ionization of the night sky are considered. Going farther into space Cosmic clouds, clouds of obscuring matter, are encountered. Did they cause glaciation in the past? Geologists feel otherwise for the most part. Following Cosmic clouds are considered cosmic rays, those very penetrating rays which seem to come from outside of our own system. With a consideration of Cosmology, a sort of astronomic ecology, Dr. Stetson concludes his book.

This is a most absorbing book for the non-astronomer, physicist, or geologist, as well as the professional astronomer, because it explains with just enough detail for clearness many of the phenomena, theories and ideas which concern the earth, radio and the stars. We compliment Dr. Stetson on the handling of so much complex material in such a delightful manner.—WILLARD BERRY.

Earth, Radio and the Stars, by H. T. Stetson; xviii + 336 pp. New York, Whittlesey House (McGraw-Hill Book Co.), 1934.

On Understanding Mechanics

As is set forth in the preface, this book is a text to be used in a very elementary course in mechanics. Mathematics has been reduced to a very minimum, using only here and there the simplest algebraic relations. In the reviewer's opinion the book might be useful in a course in high-school physics or in a college course for beginners who have had no course in high-school physics. For use in high-school courses it would seem especially suitable for collateral reading.

—HAROLD H. NIELSEN.

Mechanics for Beginners, by F. Barraclough and E. J. Holmyard; viii + 214 pp. Toronto, J. M. Dent & Sons.