

POINCARÉ'S COSMOGONIC HYPOTHESES.

Prof. H. Poincaré has just published an important book¹ which treats the interesting problem of the origin of the world according to the scientific views of modern philosophers and naturalists. Professor Poincaré in the first chapter discusses Kant's hypothesis and subjects it to a critical analysis. The second chapter is devoted to La Place; the third analyzes La Place's hypothesis and discusses the work of La Roche, especially the theory of the stability of rings and the formation of satellites. Subdivisions of this third chapter treat the hypothesis of a uniform notation, the rings of Saturn, the rupture of rings according to La Place and the formation of planets and satellites, and the author sums up the objections to the theory of La Place.

The fourth chapter is devoted to the hypothesis of H. Faye, according to which the earth is much older than the sun. Chapter five discusses the hypothesis of du Ligondès who claims that Kant's hypothesis stand in contradiction to the principle of the gases. The sixth chapter treats the hypothesis of Prof. T. J. J. See, which will be of special interest to American readers because he is a native American and is the astronomer of the Naval Observatory, Mare Island, California. This chapter together with the thirteenth is reproduced in an English translation on another page of this issue. The seventh chapter discusses the theory of Sir George Howard Darwin, his theory of tides, especially the internal tides of the earth, the accelerative influence of cooling down, and his hypothesis of the formation of the moon. The eighth chapter treats the theory of solar and terrestrial heat, as well as the adiabatic equilibrium of a perfect gas.

Chapter nine treats of the theory of Sir Norman Lockyer, Chapter ten of Schuster and Chapter eleven of Arrhenius's theories; Chapter twelve compares the mass of the Milky Way with a gaseous mass. Its substance is comparable to the radiant matter of Krookes, rather than to a true gas. He then treats possible causes of the flattening of the Milky Way and concludes with a consideration of the star clusters of Kapteyn and Schiaparelli.

In the thirteenth chapter our author returns to Professor See and discusses his view of the formation of the nebular spirals; and the last chapter is devoted to the hypothesis of Emile Belot. P. C.

¹ *Leçons sur les hypothèses cosmogoniques.* Paris: Hermann, 1911. Price 12 francs.