SCIENCE

FRIDAY, FEBRUARY 10, 1911

CONTENTS

The American Association for the Advancement of Science:

The Relations of Isostasy to Geodesy, Geophysics and Geology: Dr. John F. Hayford 199

The Mershon Expedition to the Charity Islands, Lake Huron: Dr. Alexander G. Ruthven .......... 208

Artesian Wells of Argentina ............... 209

The Engineering Building of the University of Cincinnati .................. 210

The International School of American Archaeology and Ethnology .......... 211

Scientific Notes and News .................. 211

University and Educational News .......... 215

Discussion and Correspondence:

University Fellowships: Professor S. N. Patten, President David Starr Jordan.

Scientific Books:


Soil Productivity: Professor T. C. Chamberlin .................. 225

Notes on Meteorology and Climatology: Andrew H. Palmer .......... 227

Special Articles:


Societies and Academies:


THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

THE RELATIONS OF ISOSTASY TO GEODESY, GEOPHYSICS AND GEOLGY

Within the past ten years geodetic observations have furnished positive proof that a close approximation to the condition called isostasy exists in the earth and comparatively near its surface.

Let the depth within which isostasy is found be called the depth of compensation. Think of a prismatic column which has for its base a unit area of the horizontal surface which lies at the depth of compensation, which has for its edges vertical lines, and has for its upper limit the actual irregular surface of the earth (or the sea surface if the upper end of the column is in the ocean). The condition called isostasy is defined by saying that the masses in all such columns are equal.

Fig. 1 (p. 202) represents two such columns. Column A is under the land and column B is adjacent to it under the ocean. If the condition called isostasy exists in two such columns having equal bases they have equal masses. Note that if this is true the average density in column A must be less than the average density in column B, for the volume of column A is greater than that of column B. This may be partially expressed by the statement that each excess of mass represented by material lying above sea level is compensated for by a

1 Address of retiring vice-president of Section D (Mechanical Science and Engineering) of the American Association for the Advancement of Science, at Minneapolis, December 29, 1910, by John F. Hayford, director, College of Engineering, Northwestern University, Evanston, Ill.