

SCIENCE

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MSS. intended for publication and books, etc., intended for review should be sent to Professor J. McKeen Cattell, Garrison-on-Hudson, N. Y.

THE EARTH'S CRUST¹

THE idea of the greater inequalities of the globe being approximately static equilibrium has been recognized for many years: it was expressed by Babbage and Herschel; it was included in Archdeacon Pratt's theory of compensation; and it was accepted by Fisher as one of the fundamental facts on which his theory of mountain structure rested. But in 1889 Captain C. E. Dutton presented the idea "in a modified form, in a new dress, and in greater detail"; he gave the idea orthodox baptism and a name, which seems to be necessary for the respectable life of any scientific theory. "For the condition of equilibrium of figure, to which gravitation tends to reduce a planetary body, irrespective of whether it be homogeneous or not." Dutton² proposed "the name *isostasy*." The corresponding adjective would be *isostatic*—the state of balance between the ups and downs on the earth.

For a long time geologists were forced to content themselves with the conclusion that the folding of strata is the result of the crust collapsing on a cooling and shrinking core; but Fisher pointed out that the amount of radial shrinking could not account even for the present great surface inequalities of the lithosphere, without regard to the enormous lateral shortening indicated by the folds in great mountain regions, some of which, like the Himalayan

¹ Concluding part of the address of the president of the Geological Section of the British Association for the Advancement of Science, Australia, 1914.

² Dutton, "On Some of the Greater Problems of Physical Geology," *Bull. Phil. Soc. Wash.*, XI, 53, 1889.