

crust of the earth, and seems to bear out the views of the late D. Sharp, on the direction of slaty cleavage.

The applicability of this illustration was first suggested to me in a note from the Rev. O. Fisher, referring to my recent letter in the Magazine, on "Gravitation and Horizontal Compression," in which he observes, "I find that if you take into consideration a spherical shell, of moderate, say a few miles, thickness, and conceive it for a moment unsupported by the matter within, then the horizontal pressure upon any two sides of a cubical element of this shell will be equal to the weight of a column of rock of the same density and half the length of the earth's radius. This would be sufficient to crush any strata, and is, I believe, the force to which the elevation of mountains is due."

If you also take into consideration the effects of even the slightest inequality of local horizontal expansion, due to heat, its resolution vertically, in an arched form (bulging), would account for the fullest amount of displacement observed in the earth's crust. Take a segment of, say, only a hundred miles; an expansion of but  $\frac{1}{1000}$  part of its length would produce a vertical elevation of several hundred feet at its centre.

The late D. Sharp's observations (Quart. Journ. of the Geol. Soc., vol. iii., p. 74.) tend to show the relation between the dip of slaty cleavage to areas of elevation in its apparent radiation from the axis of upheaval. If the slightest abnormal expansion is superadded to the uniform horizontal pressure within a sphere due to gravitation, it appears probable that the direction of the force would determine the dip and direction of cleavage plains.

As Mr. Fisher informs me he has recently communicated a paper on a kindred subject to the Cambridge Philosophical Society, I forbear, till it appears in print, to do more than give the drawing of the displaced wall-coping in further illustration of the suggestion I threw out in the March number of the Magazine.      GEORGE MAW.

BENTHALL HALL, BROSELEY.  
May 2nd, 1868.

---

#### FOSSIL PALM-LEAF FROM THE EOCENE OF THE ISLE OF WIGHT.

SIR,—In Room I., Wall-case 6, of the Geological Gallery of the British Museum is a fossil Palm-leaf in a nodule to which the following label is attached:—"*Flabellaria lamanonis*, Brogn. Eocene, Isle of Wight. From Dr. Mantell's Coll<sup>n</sup>. fig<sup>d</sup> at p. 52 of Mantell's fossils of the Brit. Mus. 1851." The locality given in Dr. Mantell's book is White Cliff Bay. On the back of the specimen is written in pencil "Upper Bembridge or Lower Hempstead."

Can any of your readers state the exact locality and bed from which this specimen came, and whether any other specimens have been found in White Cliff Bay?

May 14, 1868.

W. STEPHEN MITCHELL.

---