Mr. MURCHISON spoke of the universality of the cause which produced the Till &c. of Scotland, its operation over Russia &c., and referred to the agency of drift and floating ice.

Dr. BUCKLAND did not explain all diluvial phenomena by the operation of glaciers; he allowed the existence of raised bars and beaches, of currents, of floating and drift-ice, but contended that glaciers alone would account for many phenomena observable in Scotland, &c. He discussed the possibility of a glacier descending from Shap Fell, crossing the valley of the Eden, and passing over Stainmoor; and of repeated *débâcles* spreading the detritus still further.

William Hopkins, who 'led the way in applying mathematical and mechanical knowledge to geology,' did not at first appreciate the new views on glaciation. In a paper read in June 1842, he remarked that the glacial theory, 'in its application to the transport of blocks across Stainmoor, involves such obvious mechanical absurdities that the author considers it totally unworthy of the attention of the Society.' He added, however: 'He is quite prepared to believe in the possible extension of glaciers beyond the boundaries to which they now extend, wherever such greater extension can be accounted for consistently with the conclusions of collateral branches of physical science.' ¹

In the following year he made 'some new experiments on the movements of ice, which have considerably modified his former views, and seem to prove that glaciers *may* act as a transporting power on planes of very small inclination.'² At a later period, when president of the Society, Hopkins gave a clear view of the state of the glacial theory, admitting that he had considerably modified his views, and that almost all geologists 'now agree in the opinion that both floating and terrestrial ice have played their part to a greater or less extent in the transport of erratic blocks.'³

James David Forbes (1809-68), who had joined the Geological Society in 1831, became distinguished for his

¹ Proc. Geol. Soc. iii. pp. 762, 765; iv. p. 90.

² Sedgwick, 'Geology of the Lake District,' 1843, p. 14; see also Hopkins, Trans. Cambr. Phil. Soc. viii. p. 50.

³ Address to Geol. Soc. 1852.