

January 21st, 1920.

Mr. G. W. LAMPLUGH, F.R.S., President,  
in the Chair.

David Buttle, M.I.Mech.E., Iquique (Chile); Charles Panzetta Chatwin, University Lecturer in Paleontology, Geological Department of the University of Liverpool; James Davies, 11 Newport Road, Tre Thomas, Bedwas, Cardiff; Walter Gilbert Langford, M.Sc., Vailala Oilfields (Papua); Edward Merrick, M.Sc., 66 Rothbury Terrace, Newcastle-upon-Tyne; Florence Annie Pitts, Bankside, Cliftonville, Dorking (Surrey); Pierre Pruvost, D.ès-Sc., Maître de Conférences de Géologie at the University of Lille, 159 Rue Brûle-Maison, Lille (France); Mrs. Eleanor Mary Reid, B.Sc., F.L.S., Pinewood, Milford-on-Sea (Hampshire); Howard James Walker, M.I.M.E., Mining Engineer, 8 Park Avenue, Southport (Lancashire); and Alfred Kingsley Wells, Assistant Lecturer & Demonstrator in Geology at King's College (University of London), Holmsdale, Buckhurst Hill (Essex), were elected Fellows of the Society.

The List of Donations to the Library was read.

Mr. RICHARD DIXON OLDHAM, F.R.S., V.P.G.S., gave a demonstration on a Model to Illustrate the Hypothesis of a somewhat Rigid Crust resting on a somewhat Yielding Substratum, as applied to the Problem of the Origin of Mountain-Ranges.

He remarked that geodetic measurements in the Himalayas, the Pamirs, and the Andes show that in each case there are systematic departures from equilibrium, in the form of parallel zones in which the surface-level stands alternately above and below the level of equilibrium, the differences being very considerable, and amounting to the equivalent of somewhat over 2000 feet thickness of rock of average density. These zones run parallel to the direction of the axis of greatest elevation of the range, and are explicable by an hypothesis that the elevation of the ranges was due to direct uplift produced by changes in volume of the material underlying the crust, if this material be supposed to possess a certain limited amount of compressibility or plasticity and the crust to have a certain amount of rigidity, which would offer resistance to an exact adjustment of the uplift of the surface to the varying amount of uplifting force developed in the material below the crust.

The model is designed to visualize the consequences of such an hypothesis. It consists of two strips of spring steel, supported at regular intervals by connecting links to a series of blocks capable of vertical movement. For one strip these links are of fixed length, representing a condition in which surface-elevation will be exactly equivalent to the magnitude of the uplifting force. For

the other the links have a limited possibility of variation in length, representing a condition where the rigidity of the crust is given a certain possibility of influence on the resulting elevation of the surface. On giving differences in height to the elevating blocks, to represent the varying amount of uplifting force supposed to exist under the mountain-range, it is found that the two strips do not run at the same level, but the second runs alternately higher and lower than the first, just as geodetic measurements have shown is the case in the great ranges of mountains. The model is of no value as evidence in favour of the hypothesis which it was designed to illustrate, but is regarded as of some interest in visualizing the consequences of an hypothesis which seems worthy of closer investigation than it has yet received.

February 4th, 1920.

Mr. G. W. LAMPLUGH, F.R.S., President,  
in the Chair.

Francis Alleyne Marr, D.S.O., Geologist to the Burma Oil Company, c/o Messrs. Scott & Co., Rangoon (Burma); and the Rev. Benjamin Oriel, B.A., B.Sc., 26 Parkside, Eltham, S.E. 9, were elected Fellows of the Society.

The List of Donations to the Library was read.

The following communication was read:—

‘Geological Sections through the Andes of Peru and Bolivia: II—From the Port of Mollendo to the Inambari River.’ By James Archibald Douglas, M.A., B.Sc., F.G.S.

Rock-specimens and lantern-slides were exhibited by Mr. J. A. Douglas, in illustration of his paper.

Flints showing artificially-made bulbs of percussion were exhibited by Dr. John Switzer Owens, F.G.S.