De artikelen, waarvan hieronder samenvattingen volgen, zijn gepubliceerd in de Nederlandsche taal in „Verslag van de gewone vergadering der Afdeeling Natuurkunde van 29 Mei 1943, Deel LII, No. 5".

The articles, of which summaries follow below, have been published in the Dutch language in „Verslag van de gewone vergadering der Afdeeling Natuurkunde" of May 29th, 1943, Vol. LII, No. 5.

Les articles dont les résumés suivent ci-dessus, ont été publiés en langue néerlandaise dans le „Verslag van de gewone vergadering der Afdeeling Natuurkunde" du 29 mai 1943, Tome LII, No. 5.

Physics. — VENING MEINESZ, F. A.: *Tensions in the earth's crust as a consequence of pole-shiftings*, p. 185.

In this paper the writer investigates the stresses brought about by a change in position of the rigid Earth's crust with regard to the axis of rotation of the Earth; the crust has been assumed to have the same thickness everywhere and to behave as an elastic body. Neglecting the bending stresses in the crust, the equations (1) give the conditions of equilibrium and (2) the relations between stresses and strain. If the vertical component s_ϱ of the crustal displacement is supposed to be known over the whole surface, we may derive the stresses and the other components of the displacements from these equations. For a rotation of the crust round an axis in the equator over an angle θ we thus obtain the formulas (8), where δ and α are polar coordinates with regard to this axis and where θ and α are counted clockwise from the north direction.

Taking as a basis the theories of HUBER-HENCKY and BYLAARD (formulas 12 and 13) for the originating of plastic deformation in elastic media, the writer has determined the resulting curves of shear over the Earth's surface. Fig. 1 gives this net for a hemisphere round the axis of the crustal rotation and fig. 2 for the whole Earth's surface. For this last figure he has assumed a clockwise rotation of the crust over 70° round a pole in the equator at 0° longitude. This last net shows a remarkable correlation to many major topographic features and also to the shearing patterns of large parts of the Earth's surface as e.g. the N and S Atlantic, the Indian Ocean and the Gulf of Aden, Africa, the Pacific etc. If this correlation is not fortuitous, and this does not appear probable, we have to suppose that the Earth's crust at some moment of its history has indeed shifted with regard to the Earth's poles and that the crust has undergone a corresponding block-shearing. We may define this shift in a more general way than has been done above.