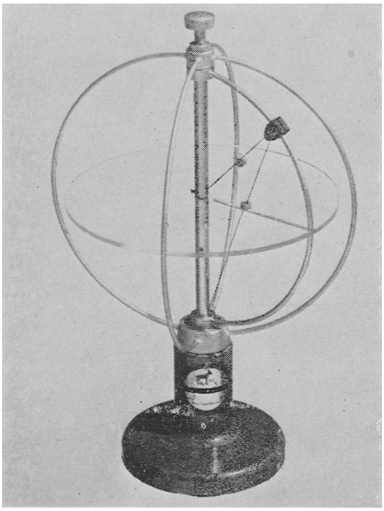
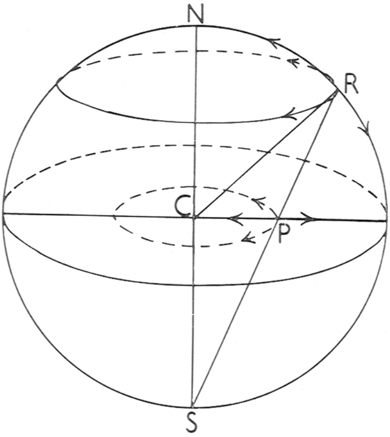
SHORT COMMUNICATIONS

A model to illustrate the principle of the stereographic projection

A MODEL has been devised in order to help in teaching the method of stereographic projection, particularly to those students who have difficulty in visualizing three-dimensional concepts. Static models can readily be made, but the one described here allows continuous variation of the position of the face normal and of its stereographic representation. It should help to fix in mind the relationship between face, normal, and stereographic pole, and should help students to avoid some of the common errors that are made in early exercises on stereographic constructions.





FIGS. 1 and 2: FIG. 1 (left). The 'Stereomodel'. FIG. 2 (right). Diagram to illustrate the function of the 'stereomodel'. The model allows the pole *R*, which is adjustable in latitude and longitude, to be moved continuously over the surface of approximately a half of a sphere, and the point *P* follows correspondingly over the plane of projection.

The function of the model (fig. 1) is described in terms of the illustration in fig. 2. It allows the pole *R*, which is adjustable in latitude and longitude, to be moved continuously over the surface of approximately a half of a sphere, and the point *P* follows correspondingly over the plane of projection.

The model consists of a framework of two vertical circles (0° and 90° longitude), fixed to a heavy base. A vertical semicircle, of slightly smaller radius, is fixed to a vertical spindle, which allows it to rotate about the N–S axis. Also fixed to the spindle, and rotating with it, is a horizontal perspex disc, slotted along the radius that is in the plane of the semicircle. A small clamp device is free to slide on the semicircle from near 0° to near 90° latitude. A string is tied at the centre of the sphere and then passes over a bar in the clamp and down through the slotted perspex into the hollow column of the model's stand. Threaded on to the string are a small card representing the crystal plane and a small ring or bead, representing the stereographic pole, lying on the perspex sheet. The string is kept taut and is free to change its visible length by virtue of a lead weight on the end of it inside the base column.

The model will be manufactured shortly by Cutrock Engineering Co. Ltd., 35 Ballards Lane, London, N.3.

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Thermal decomposition of dolomite and ankerite

THE thermal decomposition of dolomite has been studied by many workers. According to Bäckström (1924), the transformation takes place as $CaMg(CO_3)_2 \rightarrow CaCO_3 + MgO + CO_2$ and then $CaCO_3 \rightarrow CaO + CO_2$. Graf and Goldsmith (1955) expressed the first reaction more rigorously by $CaMg(CO_3)_2 \rightarrow CaMg_{1-x}(CO_3)_{2-x} + xMgO + xCO_2$. Single crystal X-ray diffraction study of dolomite crystals, heated to 600°–800° C, by Wilsdorf and Haul (1951) showed that a dolomite crystal transformed into calcite crystallites oriented with respect to the original lattice with an irregular distribution of MgO. D.t.a. curves of dolomite have been obtained by Cuthbert and Rowland, 1947, by Beck, 1950, by Kulp *et al.*, 1957, and by Bradley *et al.*, 1953. From their observations they concluded that the endothermic peak at 800° C was due to the breakdown of the $MgCO_3$ component and the next endothermic peak at 940° C was due to the dissociation of the $CaCO_3$.