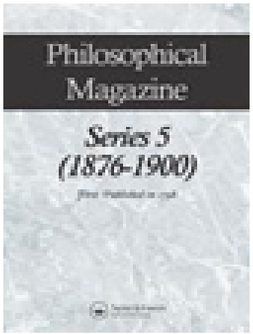

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LII. On stokesite—a new mineral from cornwall

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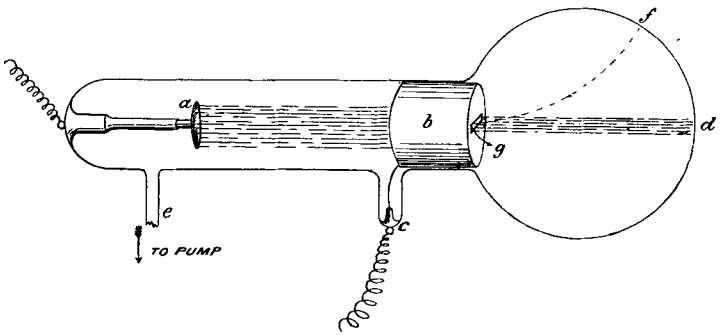
It was not possible to make the experiment at a very low pressure, the number of cells at my disposal being insufficient to produce discharge under such circumstances. When the pressure is not very low a beam of cathode rays, originally

Fig. 1.



sharp, becomes diffuse after it has gone a short distance, doubtless owing to the collision of the particles constituting the cathode stream with the surrounding gaseous particles. The deflected beam in my experiments had not quite so long a distance to go as the undeflected one before striking the glass. This I am inclined to think is the explanation of the extra sharpness of the deflected patch when the battery was used.

It is to be concluded then that the formation of the magnetic spectrum is due to a peculiarity of the induction-coil. The cathode rays produced by a battery are homogeneous.

LII. *On Stokesite—a New Mineral from Cornwall.* *By* A. Hutchinson, *M.A., Fellow of Pembroke College, Cambridge* *.

Among the specimens in the Carne collection, recently acquired for the Cambridge Mineralogical Museum, has been found a crystal whose characters prove it to belong to a new mineral species. This mineral I propose to call Stokesite in honour of Sir George Gabriel Stokes, Bart., whose jubilee as Lucasian Professor was this year celebrated by the University, and whose researches in Physical Optics have proved so valuable to mineralogists.

The specimen consisted of a single, colourless, transparent crystal about 10 millimetres long. Its crystallographic and optical characters are as follows:—

System: Prismatic.

$$a : b : c = 0{\cdot}3479 : 1 : 0{\cdot}8117.$$

Forms present: $b\ \{0\,1\,0\}$ and $v\ \{1\,2\,1\}$.

The crystal cleaves with ease parallel to the face 0 1 0, and

* Communicated by the Author.

there is a second good cleavage parallel to the possible faces which have been selected as the form {1 1 0}.

The fracture is conchoidal. The specific gravity of the crystal was determined by suspending it in methylene iodide, and has the value 3·185 at 22° C. The hardness is about that of felspar. The lustre is vitreous, but pearly on *b*. The plane of the optic axes is 0 1 0, the acute bisectrix is perpendicular to 0 0 1, and the crystal is optically positive.

By refraction through a prism bounded by two of the faces of the form *v* it was possible to obtain the value of the index of refraction, $\gamma = 1{\cdot}622$ (sodium light), of a ray vibrating parallel to the acute bisectrix. By immersing the crystal in a liquid of about the same refractive index as itself, an approximate value for the angle between the optic axes was obtained, $2V = 69\frac{1}{2}^\circ$.

Chemical examination of a portion of the crystal has shown it to be a hydrated silicate of sodium and calcium containing about 6 per cent. of oxide of tin, which seems to replace an equivalent quantity of silica.

Before the blowpipe the substance loses water, but remains infusible; it is not dissolved by concentrated hydrochloric acid.

LIII. *On the Disintegration of Platinum and Palladium Wires at High Temperatures. By* WALTER STEWART, *M.A., D.Sc., late* 1851 *Exhibition Science Scholar, University of Glasgow**.

ACCORDING to Aitken's † investigations, air which has been freed from dust has partially lost the power of forming clouds in the presence of water vapour. Prof. O. Lodge‡ found that the power is recovered after a platinum wire has been brought to a "glowing" temperature by an electric current in the dust-free air. From this it has been concluded that solid particles are projected from the wire, or that the wire suffers disintegration; and under suitable conditions a dark-coloured deposit is seen on the walls of the vessel containing the air after the glowing. Elster and Geitel § observed that in an atmosphere of hydrogen a glowing platinum wire does not disintegrate. This was confirmed by Nahrwold ‖, who determined also by direct weighing the amount of the disintegration of the glowing wire in air. Nahrwold concluded that the disintegration, if not determined,

* Communicated by Lord Kelvin.

† Aitken, "On Dust, Fog, and Clouds," Trans. R.S.E. 1883; Proc. R.S.E. 1881, vol. xi. pp. 14, 122; 'Nature,' 1883.

‡ Prof. O. Lodge, 'Nature,' vol. xxxi. p. 268 (1885).

§ Elster and Geitel, Wied. *Ann.* xxxi. p. 126 (1887).

‖ R. Nahrwold, Wied. *Ann.* xxxi. p. 467 (1887); xxxv. p. 116 (1888).