

Letters to the Editor.

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The Magnetic Storm of May 13-17.

A TIME of unusually severe and protracted magnetic disturbance began on May 13, at about 13h. 10m. G.M.T., with an S.C. ("sudden commencement"). This was clearly oscillatory in D (declination), movements to west, east, and again west following in rapid succession, their extreme range being about 15'. Within about a minute of the S.C., H (horizontal force) was enhanced about 120γ. The appearance of the trace suggests a very rapid preliminary fall, but this is not clear. Immediately after the large rise a fall began in H, but the element remained above its normal value for about five hours. The disturbance following the S.C. was only moderate until nearly 20h. on May 13, when considerably larger movements appeared in H. Disturbance continued throughout May 14, but there was a comparative lull between 8h. and 16h. Subsequent, however, to 16h. disturbance became very active, and the night of May 14-15 was much more disturbed than the previous night.

The most disturbed period, on the whole, was from 0h. to 8h. on May 15. During this time the D trace was off the sheet three times, but only for a few minutes at a time, in the easterly direction, and twice on the margin or off the sheet in the westerly direction. The range actually shown was 2° 12'. In the course of an hour—4h. 25m. to 5h. 25m. on May 15—movements occurred of at least 108' E., 107' W., 94' E., and 92' W. Few, if any, of the larger D movements were absolutely unidirectional. The variations in the light intensity along the curve showed that superposed on the larger movements were incessant short-period oscillations. The H trace was similarly oscillatory, but it was beyond the limits of registration in the direction of H, diminishing from about 3h. to 7½h. on May 15; so the range shown, 650γ, was doubtless much exceeded.

In vertical force the disturbance was considerable on the night of May 13 between 21h. 45m. and midnight, but on the night of May 14-15 it was enormously greater. Assuming the scale-value to be unchanged since its last determination, the range reached 1500γ. Between 3h. 53m. and 4h. 10m. on May 15 there was a rise of 1400γ. A little later, in the course of twelve minutes, there were a fall and a rise each exceeding 950γ. These and other large movements had shorter period oscillations superposed on them. The abnormally disturbed state of vertical force lasted from 22h. on May 14 to 8h. on May 15. During most of this time the value was much depressed.

Disturbance continued over the whole of May 15 and 16 and until the early hours of May 17. There was a very highly disturbed time on May 16 between 2h. and 10h. The H trace was off the sheet for fully 1½ hours between 8h. and 10h. C. CHREE.

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May 17.

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The Reparation Act and the Cost of German Publications.

MAY I direct attention, through the columns of NATURE, to the serious position of scientific institutions in this country in respect to the operation of the German Reparation (Recovery) Act, 1921? Under this Act, of the cost of goods imported from Germany, half is taken by the Government towards the German reparation indemnity. Of course, most objects of commerce imported from Germany can be made in this country, and perhaps the Act is partly designed to assist home industries. There are, however, certain chemicals which are not at present made with sufficient purity, but this can be corrected.

The serious point is that there are German publications which in no circumstances can be conceived as likely to be published in this country. The advance of science necessitates the study of these publications as soon as possible after issue. Booksellers and publishers in Germany with whom I have communicated have informed me that they cannot afford to sell them at less than the published price. To pay the published price I have to send my cheque for actually twice the published price, viz. to pay 100 per cent. extra.

I am now informed by the Board of Trade that a committee "have given consideration to the question of the exemption of German books and periodicals, but they have not felt themselves able to make any special recommendation regarding German publications." The matter seems to me to be serious, and one which might be profitably considered by the scientific world and the societies representing it in this country.

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May 12.

Auroral Display.

A DISPLAY of the aurora borealis was observed from Pontypridd Common between 9.40 and 9.55 G.M.T. on Friday evening, May 13, the sky being quite clear of clouds.

The chief appearance was a single band of light, varying from 5° to 15° in breadth, and reaching from a little below Regulus, which appeared almost central in it, near the zenith, and thence to the horizon about east by north, where the view was limited by a hill-top with an altitude of about 15°. The band varied both in width and in intensity, the middle third of its length fading away and the ends alone remaining; then the middle grew bright again, the ends disappearing; then the full length reappeared and the whole faded away evenly. The band showed no colour and no flicker, only fairly rapid changes of intensity; its edges were undefined and its axis the most brilliant part. It was many times more brilliant than the Milky Way, and might be compared with the region of the sky round the moon as seen when the latter is hidden by holding up the hand. At the beginning there was a parallel band of similar appearance a few degrees to the south of the eastern third of the main band, and at one time when the ends were disconnected they no longer appeared to be in the same straight line. A. E. L. HUDSON.

The Colours of Primroses.

MAJOR LATHAM'S letter (NATURE, May 5, p. 301) on the coloration of primroses has attracted me, for I have been studying the genus for several years. For