continuous, with some variations of intensity, between dawn and sunset on February 27 and 28, 1942. It extended over the whole receiver tuning range of about 4–6 metres. It was not observed by any site at night, and there has been no recurrence since February 28, 1942.

The main evidence that the disturbance was caused by electromagnetic radiations of solar origin was obtained by the bearings and elevations measured independently by the receiving sets, sited in widely separated parts of Great Britain (for example, Hull, Bristol, Southampton, Yarmouth). The operators determined the bearings according to the normal practice for finding the direction of a source of interference. It was found that the bearings moved throughout the day and were always within a few degrees of that of the sun. The most striking results came from two sites, about 150 miles apart, where the elevation was also measured. These sites were able to follow the source continuously in bearing and elevation, and observation through the equipment telescope revealed that they were looking directly at the sun.

Precise measurements of the intensity of the radiation were not made, but all reports indicate that its magnitude on the display cathode ray tubes was several times normal noise-level. From the known receiver noise and aerial characteristics, and by making an allowance for cosmic noise, it can therefore be shown that the noise-power received from the sun on this occasion was of the order of $10^{-13}$ watts per square metre per megacycle band-width. This unusual intensity, of the order of $10^5$ times that corresponding to the calculated black-body radiation, appears to have been associated with the occurrence of a big solar flare reported to be in a central position on February 28, 1942.

J. S. Hey.

Ministry of Supply,
London. Oct. 17.

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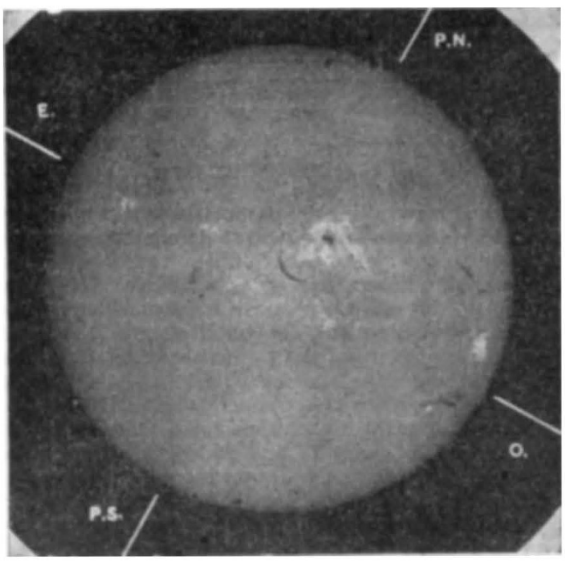
Sir Edward Appleton's recent communication[1] and Mr. Hey's letter above on the solar radiation observed on February 26–28, 1942, suggest that the following chronicles of events may be of interest.




Spectroheliogram in $Ha_{2,3}$, Meudon Observatory, March 1, 1942, 0838 U.T.

On February 21 a magnificent limb eruption or flare was observed at Meudon, as the active centre shown in the accompanying spectroheliogram was crossing the east limb. During the following week, solar flares were observed from this same centre as follows:

| Date | U.T. | Observatory | Intensity |
|---|---|---|---|
| Feb. 27 | 1052–1114 | Sherborne | 1 |
| Feb. 28 | 0235–0257 | Kodaikanal | 2 |
| | 1100 | Arcetri | 3 |
| | 1200–1530 | Sherborne, Greenwich | 3 |
| March 1 | 1020–1055 | Zurich | 2 |

A sudden fade-out occurred on February 28 at 1200 lasting on some circuits until 2000. On March 1 at 0727 a great magnetic storm broke out with extreme suddenness. One of the special features of this storm was a series of twenty-seven giant pulsations in $H$ and $V$ lasting from 1505 to 1708[2].

The radio noise reported by Mr. Hey was the earliest of the terrestrial phenomena observed, preceding the fade-out and the magnetic storm. Similar observations will be looked for with much interest.

F. J. M. Stratton.

Solar Physics Observatory,
Cambridge. Nov. 3.

[1] *Nature*, **156**, 534 (1945).
[2] *Observatory*, **64**, 263 (1942).

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## *Rh* Gene Frequencies in Britain

The genetics of the Rhesus factor have turned out to be so complex and our understanding of it has advanced so rapidly that it is difficult for many to arrive at a clear picture of the situation now substantially established. The notation has been frequently changed, and we feel that only a notation which designates unambiguously the antibodies, the genes or gene-complexes, and the antigens with which these antibodies react can avoid widespread confusion. In Table 1 we set out such a notation suggested by Fisher[1] which has been in use in this laboratory for about eighteen months. Six of the gene designations here adopted are due to Wiener[2], but for the antibodies his notation seems arbitrary. While Cappell's names[3] such as anti-$C$, anti-$D$, anti-$E$ and anti-$c$ are unambiguous, Wiener's do not seem satisfactory since, for example, the 85 per cent reacting serum is called anti-$Rh_0$, whereas besides $Rh_0$ it reacts with the genes $Rh_1$, $Rh_2$ and $Rh_z$. In the designations here used, on the contrary, $\Delta$ or anti-$D$ indicates that the serum reacts with an elementary antigen $D$ present equally in the gene complexes of $Rh_0$, $Rh_1$, $Rh_2$ and $Rh_z$, as shown in Table 1. (For the remainder of this communication the $h$ will be omitted from $Rh$.)

The red blood cells of 927 Cambridge transfusion donors have been tested for agglutination with the four types of anti-$Rh$ sera called $\Gamma$, $\Delta$, H and $\gamma$ in this notation. The sample was selected only in that the majority of the bloods were Group $O$ or Group $A$. Tests on an unselected series of students not included in this total suggest that the distribution of the $Rh$ groups is independent of the $ABO$ groups.

| $\Gamma$ $\Delta$ H $\gamma$ | Total | per cent | Most frequent genotype in group |
|---|---|---|---|
| − + + + | 113 | 12·19 | $R_2r$ |
| + + + + | 126 | 13·59 | $R_1R_2$ |
| + + − + | 326 | 35·17 | $R_1r$ |
| − − − + | 137 | 14·78 | $rr$ |
| + + − − | 183 | 19·74 | $R_1R_1$ |
| − − + + | 12 | 1·29 | $R''r$ |
| − + − + | 23 | 2·48 | $R_0r$ |
| + − − + | 6 | 0·65 | $R'r$ |
| + + + − | 1 | 0·11 | $R_1R_2$ |
| + − + + | 0 | | $R'R''$ |
| + − − − | 0 | | $R'R'$ |
| + − + − | 0 | | $(R_y)R'$ |