

## LETTERS TO THE EDITORS

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IN THE PRESENT CIRCUMSTANCES, PROOFS OF "LETTERS" WILL NOT BE SUBMITTED TO CORRESPONDENTS OUTSIDE GREAT BRITAIN.

NOTES ON POINTS IN SOME OF THIS WEEK'S LETTERS APPEAR ON P. 1094. CORRESPONDENTS ARE INVITED TO ATTACH SIMILAR SUMMARIES TO THEIR COMMUNICATIONS.

## Scientific and Technical Literature and Information

I HAVE read with interest the editorial in NATURE of November 25, 1939, concerning the need for a centre of documentation with the purpose of supplying original papers to scientific institutions and to libraries. Further aims of such a centre might be to prepare abstracts and translations, to set up complete documentation indexes and to take the role of a link between research institutes.

The difficulties pointed out in the editorial have been met with in France, too. I have the pleasure of announcing that a body similar to that suggested in NATURE has just been brought into existence in this country, under the auspices of the "Centre National de la Recherche Scientifique" which is an autonomous Department of the Ministère de l'Éducation Nationale. This "Service de Documentation" undertakes the following tasks:

- (1) to receive and to keep all scientific periodicals which are considered to be of importance for complete documentation covering the fields of chemistry, physics, applied chemistry, technical physics, biochemistry, and some branches of biology;
- (2) to abstract these periodicals in the form of very short summaries including title, reference, and a few lines intended to locate accurately the contents of each paper;
- (3) to edit and to publish a printed bulletin, to appear twice a month, and to supply it to the institutions concerned;
- (4) to reproduce on microfilm single original papers wanted by laboratories and research institutes; to supply positive copies of such microfilms; to keep the negatives;
- (5) to establish several card indexes of the abstracts, by authors, by subject matter and so forth, so as to facilitate quick compilation of complete dossiers on a given subject, whenever asked for;
- (6) on request, to supply translations of papers published in unusual languages.

This "Service de Documentation" was created on November 16, 1939, and it is hoped that the first bulletin may appear within a few weeks. The Service is to act in close collaboration with French scientific societies, especially those which have been publishing scientific abstracts.

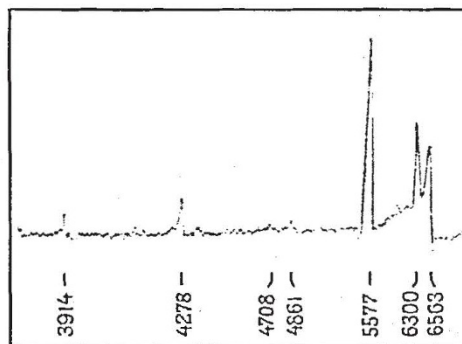
I shall be very glad to get in touch with people dealing with the same problem in Great Britain, in view of possible collaboration in this matter between our two allied countries.

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## Hydrogen Showers in the Auroral Region

PREVIOUS investigations have shown that the hydrogen lines are usually absent from spectrograms of the auroral luminescence. Even when the stronger lines and bands are much over-exposed and also very faint lines appear, there may still be no trace of the H-lines visible on the spectrogram<sup>1,2,3,4</sup>. This does not mean, however, that hydrogen may not occasionally appear in these regions. On the contrary, some years ago I gave, for the luminous night clouds, an explanation<sup>5</sup> based on the assumption that showers of hydrogen, coming from the sun, entered into the atmosphere and combined with oxygen, for example, in the atomic or ozone state, to form water vapour. At the altitude of the luminous night clouds (80 km.), the atmospheric pressure might be sufficiently great for the water vapour to condense and produce clouds of ice needles.



During an auroral display on October 18 this year, we obtained at Oslo auroral spectrograms indicating the existence of such hydrogen showers. In the region of long waves, two spectrograms from auroral arcs showed the green line (5577) and the red one (6300) with considerable density. The 1st positive group, however, was scarcely visible; but far in the red end and well separated from the line (6300), a strong line appeared with a wave-length (6560) which within the limit of error coincides with  $H_{\alpha}$  (6563). Now this coincidence might be accidental, but on the first of our spectrograms (exposure from 19.15–20.13 M.E.T.) where the spectrum appeared with greatest density, another line appeared for which we found the wave-length 4860, which within the limit of error coincides with  $H_{\beta}$  (4861).

This line, which is usually absent in the auroral spectrum, now appeared with a density twice that of the negative band 4708 and about two thirds that of the strong band 4278. A spectrophotogram of the spectrum is shown in the accompanying reproduction.