

### Letters to the Editor.

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#### The Future of the Meteorological Office.

IN the note on Mr. C. J. P. Cave's presidential address to the Royal Meteorological Society (NATURE, January 31, p. 168) Mr. Cave is quoted as saying: "It is true that there is the Meteorological Office, but its position at the present time is an unfortunate one; its future is uncertain. In the past the Meteorological Office was directly under the Meteorological Committee, which administered a Government grant. Soon after the War, the Office was placed under the Air Ministry. It seems a grave anomaly that the Meteorological Office, which deals with problems of the greatest importance to many Government departments and to many public bodies, should be solely under the direction of the Air Ministry, more especially when there is in the Department of Scientific and Industrial Research a very suitable body under which it might have been placed."

Although I am sure Mr. Cave would not wish this to be taken as anything more than his own personal opinion, I must ask you to allow me to say that I do not share it. Far from the Meteorological Office being in an unfortunate position, it is fortunate in being able to command, under the Air Ministry, many facilities which no other Government department could give. The well-organised wireless service of the Air Ministry, with its powerful station at Kidbrooke, is available for the exchange of those wireless messages on which national and international meteorology now depends. Aeroplanes are placed at our disposal to obtain observations from the upper air, and this would be quite impossible if we were not closely connected with the Royal Air Force and the Royal Aircraft Establishment at South Farnborough.

I do not understand what Mr. Cave means when he says "its future is uncertain." It is true that the Meteorological Committee formerly administered a Government grant, but that grant was only 20,000*l.* before the War, while the meteorological expenditure now borne on Air Votes is more than 100,000*l.* The Air Ministry necessarily exercises financial supervision over this expenditure, but I have no reason whatever to complain of the result. In so far as the Treasury intervenes, this is an inevitable concomitant of the appropriation of money from public funds and is applicable to all voted services alike, whether administrative or scientific.

Flying, especially civil flying, is so dependent on a good meteorological service that if the Meteorological Office were not under the Air Ministry, there would have to be a separate meteorological service for aviation. Only those who have had to organise the existing complicated meteorological service for aviation with its thirteen stations on aerodromes and hourly messages along the Croydon-Continental routes can realise the close connexion necessary between the Meteorological and other departments of the Air Ministry.

Because the Meteorological Office deals with problems of the greatest importance to many Government departments and to many public bodies, the Meteorological Committee has been retained to advise the Air Council on matters relating to the Meteorological Office. This Committee, on which there are representatives of the Royal Society, the Royal

Society of Edinburgh and six Government departments, is by no means without influence on the policy of the Meteorological Office. The Committee takes special interest in the scientific work of the Office, and one representative of the Royal Society is ex-officio vice-chairman. This alone would be a guarantee that the scientific work is well maintained. As a matter of fact, we have more staff engaged on purely scientific work than ever before, and I am proud of the number of papers which are published yearly by my splendid scientific staff.

After four years' experience as Director of the Meteorological Office under the Air Ministry, I am convinced that we could not do our work so well under any other department of Government, and I should be very sorry to have to return to a grant-in-aid.

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February 5.

#### High Energy $\gamma$ -Ray from Thorium Disintegration Products.

IN the light of the standard measurements of the  $\beta$ -ray spectra of radium-B and -C by Ellis and Skinner (Roy. Soc. Proc., A, vol. 105, p. 60, 1924) it was thought advisable to remeasure the spectra of thorium-B, -C, and -D. This has been done, using the now well-known focussing method, and the results will be published in due course. The purpose of this letter is to direct attention to two lines of high energy, namely, 2.55 and 2.62 million volts, with a possible third of slightly greater energy. The detection of these lines has been made possible by the preparation of thorium-B sources of greater strength than usual. There is no doubt of their existence, as they appear very clearly and sharply on the photographic plate. What is most remarkable is the fact that these lines correspond to the conversion of a  $\gamma$ -ray of energy 2.64 million volts in the K and L levels of an atom of atomic number 82 or 83, despite the fact that their energy is some twenty-eight times as great as that of the K level of an atom of that atomic number. This shows that the quantum relations hold for these high energy values in exactly the same way as they have been shown to do for the lower ones. From an examination of the plates, it is seen that these lines lie beyond the region of the continuous background, and this fact may be of importance in atomic theories. Another point of interest is that there appear to be no lines between these and those of an energy of about 0.8 million volts. D. H. BLACK.

Cavendish Laboratory, Cambridge,  
January 17.

#### Touch and Sight v. The Microscope in Wool Classing and Sorting.

NOT only do the fleeces from distinct breeds of sheep vary very considerably, but also, almost without exception, each individual fleece is made up of from three to seven or eight "qualities" of fibre.

To the non-technical reader the term "quality" is something of a mystery, so it will be well clearly to define this term before proceeding further. This term has no reference to the "fibre-stuff," but refers principally to the fibre diameter. Thus, if  $q$  = quality number and  $d$  = fibre diameter in the fraction of an