

CORRESPONDENCE

Lightning Balls

SIR,—I know of two instances of fireballs (the Yorkshire term for ball lightning). (1) A fireball came out of a fire-grate and flashed across the room to enter a radio, immediately putting it out of action. On later examination the valves were found to be damaged. (2) The second instance happened in the same street but was seen from outdoors. A fireball was seen to enter the chimney of a house. I do not know what was seen in the house on this occasion but electrical equipment was again found to be damaged after the incident.

As electrical equipment was damaged both times it is most unlikely that there was optical illusion, as suggested by Argyle¹. In any case, Argyle's mathematics are wrong. If the number of persons reporting ball lightning observations is 44% of the number reporting observation of ordinary lightning impact, this cannot be understood by assuming that about half of all strokes to ground

generate a luminosity ball at impact. If half the strokes to ground generate a ball, the number of ball reports would be about the same as that of ordinary lightning reports. In its simplest terms, if A equals B , then A is 100% of B . Not 44%.

Perhaps we should look at eyewitness accounts with less scepticism and more thought. We are told: (1) that ball lightning enters buildings and aircraft—it does not simply strike; (2) that fireballs may bounce several times on hitting the ground; (3) that they damage electrical equipment.

Fork lightning discharges to ground on impact. It would seem that ball lightning cannot discharge so easily, hence its bouncing behaviour on hitting level ground; hence also its tendency to earth through electrical equipment. The stable electrical configuration of most matter may cause it to be less attractive to ball lightning than is the "electron stream" offered by working electrical equipment.

Another cause for this apparent diffi-

culty in discharging might be assumed from the shape of ball lightning. Its "ballness" could indicate a relative stability due to some centre-point of attraction within the ball itself. I am not qualified to comment on whether such nuclear attractant might consist of matter or anti-matter², but I think it highly probable that it exists. It is also possible that what ends its journey as ball lightning may have begun its journey as fork lightning, which found and coalesced around material particles on the way down.

Yours faithfully,

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¹ Argyle, E., *Nature*, 230, 179 (1971).

² Ashby, D. E. T. F., and Whitehead, C., *Nature*, 230, 180 (1971).

Announcements

University News

Professor D. N. S. Kerr has been appointed to the chair of medicine and headship of the Department of Medicine in the University of Newcastle upon Tyne.

Dr I. J. Maddox has been appointed to the chair of pure mathematics and Dr M. P. Haggard to the chair of psychology, in the Queen's University of Belfast. The title of honorary professor has been conferred on Dr G. F. Adams (geriatrics), Dr M. G. Nelson (haematology) and Dr J. Frank Partridge (cardiology).

Appointments

Dr T. L. V. Ulbricht, formerly managing director and director of research of Twyford Laboratories Ltd, has been appointed head of the newly formed Planning Section of the Agricultural Research Council, which will be concerned with the formulation of forward policy.

Dr J. D. Hood, a member of the MRC external scientific staff, has been appointed director of the Hearing and Balance Unit, recently established by the Medical Research Council.

Miscellaneous

The following have been elected fellows of the Australian Academy of Science: Professor G. Burnstock, University of

Melbourne; Dr W. Compston, Australian National University; Dr L. T. Evans, CSIRO Division of Plant Industry; Professor F. Gibson, Australian National University; Dr A. K. Head, CSIRO Division of Tribophysics; Professor G. A. Horridge, Australian National University; Professor L. E. Lyons, University of Queensland; Professor R. L. Martin, University of Melbourne; Professor G. E. Wall, University of Sydney; Dr D. E. Weiss, CSIRO Division of Applied Chemistry.

The new Chemical Society awards, each sponsored by an industrial company, have now been announced. The award for industrial chemistry, sponsored by Imperial Chemical Industries, has been made to Professor R. C. Pitkethly; for kinetics and mechanism, sponsored by Shell Research, to Professor J. C. Polanyi; for main group element chemistry, sponsored by Albright and Wilson, to Professor M. F. Lappert; for natural product chemistry, sponsored by Roche Products, to Professor D. H. R. Barton; for organometallic chemistry, sponsored by Monsanto Chemicals, to Professor J. Chatt; for structural chemistry, sponsored by the British Petroleum Company, to Professor A. Carrington; for theoretical chemistry and spectroscopy, sponsored by Varian Associates, to Professor A. D. Buckingham. Nominations for the 1971 awards, which will be made in the fields of chemical analysis and instrumentation, macromolecules and poly-

mers, medicinal chemistry, surface and colloid chemistry, synthetic organic chemistry, thermodynamics and electrochemistry and transition metal chemistry, are now invited. Further details can be obtained from Dr John F. Gibson, The Chemical Society, Burlington House, London W.1V 0BN.

International Meetings

June 25, **Current Topics in Cancer Therapy**, Paris (Professor E. H. Cooper, Department of Experimental Pathology and Cancer Research, University of Leeds, Leeds 2).

July 5-9, **Animal Behaviour**, Durban (Mr D. R. Masson, CSIR, PO Box 1, Congella, Natal).

July 14-16, **Modern Industrial Inorganic Chemistry**, Kingston upon Thames (Dr I. L. Stephenson, School of Chemical Science and Technology, Kingston Polytechnic, Penrhyn Road, Kingston upon Thames, Surrey).

July 25-30, **International Congress of Pure and Applied Chemistry**, Boston (Secretariat, c/o American Chemical Society, 1155 Sixteenth Street, NW, Washington DC 20036, USA).

July 26, **Mechanism and Regulation of DNA Replication**, Aspen, Colorado (Dr A. R. Kolber, Division of Infectious Diseases, Washington University School of Medicine, Saint Louis, Missouri 63110, USA).