

present and titles of papers proposed to be presented should be communicated without delay to the Organising Committee of the Congress, R. Laboratorio Centrale di Idrobiologia, Via Tiburtina, Roma 38.

A YEAR ago the "Sanitation Supplements" issued with the *Tropical Diseases Bulletin* were discontinued and replaced by a monthly *Bulletin of Hygiene*, for the review of the literature of public health and preventive medicine, of which we have received No. 1 of vol. 2, 1927. It contains summaries and reviews of publications on all branches of public health and preventive medicine, and is intended to meet more particularly the needs of Britain overseas. The Bulletin is issued by the Bureau of Hygiene and Tropical Diseases, 23 Endsleigh Gardens, W.C.1, at the subscription price of 21s. per annum.

THE latest catalogue (No. 493) of Mr. F. Edwards, 83A High Street, W.1, is devoted to works relating to Canada and Arctic discovery. Particulars of nearly 600 volumes, maps, drawings, etc., are given. The catalogue is to be had free upon application.

WE have just received from Messrs. Bernard Quaritch, Ltd. (11 Grafton Street, London, W.1), a copy of Catalogue (No. 407) of upwards of 1900 works on zoology, geology, and palæontology. The list should be of very great interest to librarians and others, seeing that it gives particulars of important publications many of which are of extreme rarity.

Our Astronomical Column.

COMETS.—Comet Comas Sola, 1926 *f*, is still well placed in the evening sky. Several observers have noticed a short tail.

The following photographic observation is by F. J. Hargreaves, measured by G. Merton:

U.T.	R.A. 1927-0.	N. Decl.	Mag.
Mar. 23·8729	4 ^h 36 ^m 26·67 ^s	30° 27' 45·5"	12·5

It had a central condensation, 5" in diameter; ephemeris for 0^h:

	R.A.	N. Decl.	log Δ.
Apr. 14.	5 ^h 36 ^m 6 ^s	32° 41'	0·305
22.	5 59 56	33 3	0·319
30.	6 24 6	33 14	0·332

Mr. B. Strömgren has revised the orbit of Stearns's comet, using observations until Mar. 31, and obtains:

T	1927 Mar. 20·2338 U.T.
ω	10° 38'·63
Ω	214 36·67
i	87 33·38
log q	0·56631

It has the fourth largest perihelion distance known.

EPHEMERIS FOR 0^h.

	R.A.	N. Decl.
Apr. 13.	14 ^h 57 ^m 9 ^s	4° 41'
21.	14 49 59	7 42
29.	14 42 20	10 37
May 7.	14 34 31	13 18

THE DETONATING METEOR OF OCT. 2, 1926.—In a reprint from the *Meteorological Magazine* (Dec. 1926 and Jan. 1927), Mr. F. J. Whipple has detailed observations made to investigate the velocity of sound transmission from meteor observations, as it seems possible that the temperature of the air

APPLICATIONS are invited for the following appointments, on or before the dates mentioned:—
An analyst at the Building Research Station of the Department of Scientific and Industrial Research—The Director, Building Research Station, Bucknall's Lane, Garston, nr. Watford (April 25). An advisory officer on farm economics under the Board of Agriculture for Scotland—The Secretary, Board of Agriculture for Scotland, York Buildings, Queen Street, Edinburgh (April 30). A bio-chemist at the General Hospital, Birmingham—The House Governor of the Hospital (May 2). An assistant demonstrator in physics (woman) at the Royal Holloway College—The Principal, Royal Holloway College, Englefield Green, Surrey (May 7). A laboratory assistant in connexion with the Imperial Bureau of Entomology, for work relating to living insects—The Assistant Director of the Bureau, 41 Queen's Gate, S.W.7. A laboratory attendant in histology at University College—Prof. J. P. Hill, University College, Gower Street, W.C.1. A woman lecturer in geography and science at the Truro Diocesan Training College—The Principal. A lecturer in geography at St. Mary's Training College, Strawberry Hill, Middlesex—The Principal. A male laboratory assistant for a biochemical laboratory—The Wellcome Physiological Research Laboratories, Beckenham. A professor of agriculture, and lecturer in dairy bacteriology, dairy technology, dairy chemistry, dairy engineering, and dairy accountancy and economics at the University College, Cork—The Secretary.

may materially affect the rate of motion of sound waves.

The great Yorkshire meteor of Sept. 6, 1926, which gave a loud detonation, promised an opportunity for such inquiries, but unfortunately the observations were not of desirable accuracy.

Another fireball appeared on Oct. 2 moving up from south to north over the Channel, west of London, and on to Hertford. An appeal for data was made through the medium of the Air Ministry, and 700 responses were received at the Kew Observatory.

The evidence from the Yorkshire meteor convinced Mr. Whipple that the thunder-like noise was produced by the mere passage of the meteor through the air. The sharp detonation of the meteor of Oct. 2 had a similar origin. Mr. Whipple remarks that Dr. Wegener had previously formed these conclusions from his study of the fireball of April 3, 1916. "Wegener points out the analogy with the noise produced by the passage of a shell fired from a big gun. It is well known that a projectile moving through the air with a velocity exceeding that of sound makes a wave like the bow-wave from a ship. This wave when it reaches an observer is heard as a sharp crack. The crack is followed by a rumbling noise which may be attributed to the irregularities in the aerial disturbance. The nature of these ballistic waves is expounded at length in a recent work by Prof. Ernest Esclangon, the pioneer of sound-ranging."

"As the meteor of Oct. 2 was moving about 70 times as fast as sound, the ballistic wave must have taken the form of a very sharp cone, nearly a cylinder. That sound was not heard beyond the end of the meteor's track may be analogous to the fact that the ballistic wave from a shell is not heard behind the gun."