Breeding of Touracos in England.

TOURACOS, of the species first to be made known to science (*Turacus persa*), were bred in England last year by Capt. H. S. Stokes, who gives an account of his success in the *Avicultural Magazine* for January (p. 3). The birds, which had made more than one unsuccessful attempt to breed before, hatched a young one in mid-July, which they brooded in turns, the cock taking the day shift, as with pigeons. As with these birds, too, the young was fed by regurgitation, and remained on the nest for some time; but here the resemblance ceased, for it was downy and left the nest and fed itself before it was fledged, with wing-feathers, however, developed, but showing white instead of the characteristic red on the primaries of this bird and its near allies in the touraco family. It was not until the bird was nearly full-grown that this red appeared by a gradual change in the colour of the feathers; this would seem to indicate that the characteristic copper-containing pigment, turacin, cannot be secreted by the young touraco until the demands of bodily growth have been practically met; and apropos of this red colour, it may be mentioned that in old stuffed specimens of touracos long exposed to light it becomes purple. The only species of the family bred here previously is *T. macrorhynchus*, a much less familiar bird; but it often happens in aviculture that the rarer species breed best.

Luminosity of Fire-Flies.

WE have received a communication from Mr. Edward T. Dixon, of Billy Dun, Half Way Tree, Jamaica, regarding the luminosity of fire-flies in Jamaica. He mentions having observed large numbers of a species of fire-fly emitting flashes of light in rhythmic unison, a feature, it may be added, that has been noted in other lands. In the Jamaican species the flashes were emitted at intervals of just under three seconds duration. Mr. Dixon mentions having seen half an acre or more of a grass field lit up brilliantly by the flashes of fire-flies so that the shrubs and hedges were revealed. During the intervals between the flashes nothing was visible in the prevailing darkness. Little is known regarding the phenomenon, and experimental observations with reference to the co-ordination of light emission by these insects might prove of great interest.

Centenary of the *Nautical Magazine*.

THE *Nautical Magazine* this year commemorates its centenary, and the January issue is therefore devoted mainly to a review of the progress of nautical matters during the last hundred years. The journal was founded in 1832, and edited for thirty-eight years, by Commander (afterwards Rear-Admiral) A. B. Becher, an officer who served for many years under Beaufort, the hydrographer to the Navy. The original prospectus of the magazine stated that its contents would be arranged under the four heads, hydrography, voyages, navigation, and nautical miscellany, while on his retirement Becher said that the aim of the magazine had been "to aid anything which might contribute to the seamen's benefit". Many eminent men of science have contributed to its pages. The names of Sir John Franklin, Lieut. Henry Raper, Sir W. Snow Harris, Lieut. M. F. Maury, James Glaisher, Sir William Thomson (afterwards Lord Kelvin), and Lord Brassey are all to be found among the contributors of the first half of the magazine's career, while in more recent times articles have appeared signed by distinguished officers of both the Royal Navy and the Mercantile Marine. Recognised all over the world as the magazine of the merchant service, the *Nautical Magazine* has faithfully reflected all the aspects of maritime affairs, the scope and interest of which are well illustrated by the series of articles on navigation, ships, education, meteorology, and other subjects in the centenary number.

Road Traffic Signalling.

WE learn from *Roads and Road Construction* for January that upwards of five hundred million pounds has been spent in roads and road construction during the past ten years. It is also stated that the work has neither been scientifically considered nor directed in relation to those chiefly concerned. The special aspect of road traffic signalling was considered at the Institution of Civil Engineers on Dec. 9. In opening the meeting, Major Aldington laid stress on the importance of extending the automatic signalling system to highways. This would expedite the movement of traffic and so would lead to economies. In the London area alone, £450,000 is spent annually in the provision of police to regulate the traffic at the points of intersection of roads. The provision of facilities for round-about working and electric signalling would be a boon to drivers and would materially reduce the number of accidents. The discussion largely centred round the visual signal system adopted in Oxford Street. Some of the speakers suggested that the amber light should be regarded as the signal for pedestrians. Much was said in favour of a gyratory system being adopted in Oxford Circus. It was stated that the abolition of right-angled turns would be certain to make the traffic more fluid. It is also common knowledge that the traffic up Harewood Place, across Oxford Street, is often prevented from moving at certain times of the day, although the green lights are showing, by the crowds of pedestrians in Oxford Street. A model for the automatic control of signals at crossings was shown to the meeting, the signals being operated by the traffic.

Steam Research in Europe and America.

UNDER this title, Dr. Ing. Max Jakob last May delivered a course of four lectures under the auspices of the University of London. Constituting as they did a valuable up-to-date review of the experimental work of recent years, the lectures have been prepared for publication since being delivered, and have been printed *in extenso* in *Engineering* in eight sections during July-Dec. 1931. The first lecture dealt with the fundamental thermodynamical properties of water and steam, including the mechanical and thermometric direct measurements of pressure, temperature, and volume; the second with the calorimetric, direct measurements of sensible and latent heat contents; the third with the optical measurements by which attempts have been made to determine the specific