

In large atolls, on the other hand, the periphery is small relatively to the size of the lagoon; there is less secretion and formation of coral sand by the living outer surface than is removed in solution from the lagoon, which is, in consequence, widened, deepened, and reduced to a more or less uniform appearance.

MADGE W. DRUMMOND.

Challenger Office, Villa Medusa, Boswell Road,
Edinburgh, December 6.

Positions of Birds' Nests in Hedges.

ABOUT a year ago I wrote to NATURE (December 16, 1909) giving certain facts which I had noticed with regard to the position selected by birds when building. There seemed to be good reasons for such selection, but I wanted to know whether the conditions I had noticed were local or general. The letter sent to NATURE by Mr. A. R. Horwood showed that similar conditions were found in Leicestershire, Shropshire, and Surrey. Of the information which reached me directly, one letter deserves mention.

Mr. Francis G. Cousins enlisted some of the boys of the Johnstone Schools, Durham, as observers. Out of eight nests, the positions of which are given in the terms of my letter, two only faced north, one faced north-west, four south-east, and one south. I quote the following note sent by these observers:—"In the north-east of the district, with fairly open country, the nests faced north-east, and at their rear was a vast extent of woods. In the south-east of the district the nests face south-east, with woods again at their backs and open country in front." The italics are mine. I need not labour the conclusion that birds seek sun and warmth when building their nests. In this connection it is interesting to quote an observation made by Mr. Roosevelt ("African Game Trails," p. 290). He notes that, in Guaso Nyero, just north of the equator, the weaver birds place the mouth of the nest invariably towards the north, away from the strong, prevailing winds.

J. H. TULL WALSH.

Heath House, St. Faiths, Norwich, December 11.

Tribo Luminescence of Uranium.

I HAVE not seen in recent literature any reference to the "tribo" luminescence shown by uranium salts, and by metallic uranium in particular. Having accidentally knocked over a bottle containing 2 grams of the latter substance, I was surprised to see the bottle glow with a brilliant yellowish-white light, and on shaking the bottle the luminosity could be maintained to such an extent that the label on the bottle was read with ease, and the general illumination seen easily throughout a large lecture-room. The best way to see the glow is to bring the bottle sharply down on the palm of the hand.

On repeating the experiment with compounds of uranium, the nitrate and yellow oxide show the same effect, but to a very much smaller degree, whilst the black oxide and sodium uranate do not give it.

I expect the above must be known to workers with uranium salts, but it may be useful to some of your readers to know a method by which tribo luminescence may be so easily demonstrated.

W. A. DOUGLAS RUDGE.

Grey University College, Bloemfontein, November 18.

MARKED BIRDS IN TWO SENSES.¹

(1) THE interesting brochure referred to below gives an account of the bird observatory belonging to the German Ornithological Society at Rossitten, which, already well known, is likely to become in the future of prime importance in securing data, by local observations and by the labelling of living birds,

¹ (1) "Die Vogelwarte Rossitten der Deutschen Ornithologischen Gesellschaft und das Kennzeichnen der Vögel." By Dr. J. Thienemann. Pp. 36. (Berlin: Paul Parey, 1910.)

(2) "Aigrettes and Bird Skins: the Truth about their Collection and Export." By Harold Hamel Smith. With a Foreword by Sir J. D. Rees. K.C.I.E., C.V.O., M.P. Pp. iv+138. (London: John Bale, Sons, and Danielsson, Ltd., 1910.) Price 5s.

towards the determination of many obscure questions in bird migration.

Rossitten is situated on the narrow belt of sand-dunes, lying between Cranz and Memel, which bank out the Baltic Sea from the Kurische Haff, the more northern of the two lagoons chiefly forming the seaward face of East Prussia. The station—mainly designed by Dr. Thienemann, the distinguished ornithologist—was established in January, 1901, and fitted up at the expense and under the auspices of the Ministers of Education and Agriculture. Being, therefore, a State institution, it will possess greater stability than it could have had under the private enterprise of the society alone. Dr. Thienemann is director of the station, and holds with this post that of Custos of the zoological collections of the neighbouring university in Königsberg. Ulmenhorst, the actual designation of the observatory, derives its name from the generous lord of the manor, Herr E. Ulmer, who presented, in 1907, the present buildings in a new and more favourable site, some seven kilometres from Rossitten, than the original installation. Here Dr. Thienemann and his assistants, cut off from the world, spend the dreary and stormy season of the year from October 1 to May 1. The station stands on the narrowest part of the sand-spit, whence the observers have a free and unrestricted view of the area between the seaward and the inner sandhills, and can study the birds which specially collect there under genuinely natural conditions. Previous observations made along this stretch of sand-dunes, on the movements of the hooded crow (*Corvus corax*), proved that a migration route of great importance passed along it, and that every year it was a rendezvous for flocks composed of the same individuals. The site, therefore, though peculiar and isolated, has been deliberately chosen because of its special advantages.

The chief objects of the observatory are to record the exact dates and composition of the migration flights, with the numbers and age of their component species; the direction in which the birds travel; the velocity and altitude of their passage (to be determined by the use of field telephones and box-kites), and the atmospheric conditions prevailing during its continuance, with the effect of any changes on the migratory stream. Many other cognate questions are to be inquired into, such as bird-life in relation to food supply, moulting, and colour changes in the plumage at different ages, the economical value of birds, and the most suitable means of protecting useful species. It is intended also to form extensive collections of the skins and internal parts of the birds of the Nehrung and neighbourhood for reference and systematic study. The scope of these observations as proposed to be carried out at Rossitten, if covering a somewhat wider field than, does not greatly differ from that undertaken by the committee of the British Ornithologists' Union and by other observers elsewhere. Valuable as the observations all are, however, they do not, as was pointed out in NATURE of May 26, 1910, seem likely to carry us further forward than we at present are towards the solution of the phenomena of migration, until such observatories are more numerous and widely distributed; for what is now required is to trace individual birds or flocks along every part of their route from their birthplace to their winter quarters, and back again several times. These feathered armies may change their altitude, speed, and direction, or may break up into several battalions beyond the nearest horizon of an isolated observatory, and be affected in front and in rear by weather conditions unobservable from it. Even such bird observatories are as yet few in number. There is one at Riga, one in Algiers, another in Heligoland, and the one so well known, at Budapesth, which cooperates with an observer in almost