August. In the Greenland Sea ice was less than usual, and parts of the coast of Greenland had periods of accessibility. Twice during May the East Greenland pack touched the north-west coast of Iceland. In Davis Strait the amount of ice was rather less than usual; but its late culmination was an unusual feature. There seems to be no data available for Bering Strait and the Beaufort Sea. In the North Atlantic there was an abnormally easterly distribution of icebergs; very few bergs followed the less important western branch of the Labrador current that flows along the Avalon Peninsula of Newfoundland. But the total amount of ice in the Newfoundland area was about the usual.

Fair Isle Bird Observatory

LYING directly between Orkney and Shetland, Fair Isle has been well known as a bird migration station since Dr. Eagle Clark began his observations there in 1905. Since the Second World War, and largely through the efforts of George Waterston, Ian Pitman and Arthur Duncan, the Fair Isle Bird Observatory Trust has been formed in order to develop the use of the island as one of Europe's premier bird observatories. Already a full-time director has been appointed and a certain amount of equipment installed; but much more support will be needed before the natural ornithological advantages of the island can be investigated. Copies of an attractive booklet describing the Fair Isle Bird Observatory can be obtained from 48 Castle Street, Edinburgh.

Kangaroos

THE ordinary person probably regards the kangaroo as the most characteristic of the native animals of Australia, and the Macropodidæ is the family with the largest number of species and contains the largest animals. Considerable work has been done on this group; but nevertheless the review of the family given by G. H. H. Tate (*Bull. Amer. Mus. Nat. Hist.*, **91**; 1948) is timely. The review falls into two parts, one on the anatomy and phylogeny, and the other on the taxonomy. It is suggested that phylogenetically two basal stocks, the subfamilies Potoroinæ and Macropodinæ, can be recognized; but the relationship between them is not clear. Some authorities have gone so far as to suggest that each has arisen independently from a phalangeroid stock. It seems clear that no division of the recent phalangerids could have given rise to either subfamily. Within the groups the author gives reasonable phylogenetic lines. To the four generally recognized subfamilies, the author adds a fifth for the reception of certain extinct species, the Palorchestinæ. He recognizes and defines 107 distinct forms falling into 22 genera. A considerable literature has grown up around the question of the specific identification of the kangaroo recorded by Captain Cook, and, after a review of this and other evidence, the author concludes that the animal in question is *Macropus canguru canguru*, a north-eastern subspecies, the south-eastern equivalent of which is *Macropus canguru major*.

Radar Training Devices

AT a meeting of the radio section of the Institution of Electrical Engineers on November 2, Mr. G. W. A. Dummer presented a paper entitled "Aids to Training —The Design of Radar Synthetic Training Devices for the R.A.F.". In this paper, the author describes how, during the War, work was conducted by the Trainer Design Group at the Telecommunications Research Establishment, in the development of equipment used by the Royal Air Force for training operators, navigators and controllers in radar techniques. With the introduction of each new radar system, a simple synthetic trainer was designed concurrently. As operational experience was gained on the equipment, a more complex crew trainer was developed; this provided accurate presentation of a moving synthetic target or targets, and complete operational practice with a record of the trainee's errors. Approximately seventy different types of trainers were developed for the various radar systems, varying in scope from the provision of simple synthetic echoes to a complex device such as the reproduction on the ground of a complete night-fighter interception in the air. The fundamental principles necessary for the control of synthetic targets in two and three dimensions are discussed in the paper, the presentation of which was illustrated by an extended cinematograph film. With the end of the War the urgent necessity for training devices declined, and comparatively few trainers are being designed at the present time. In the discussion at the meeting, however, various speakers pointed out the need of this type of equipment for training the crews and operators of civil aviation services.

Distance of Canopus

MR. O. R. WALKEY has investigated the distance of Canopus (α Carinæ) by a new line of approach (*J. Brit. Ast. Assoc.*, **58**, No. 6; 1948). The results obtained for this star vary considerably, some of the derived parallaxes being more than five times those of others. Mr. Walkey approaches the problem from the secular parallax of the star, a star's proper motion being frequently a fair criterion of its distance, and the radial velocity of Canopus provides a clue in the present case. Accepting results he has obtained for the apex of the solar motion (*Mon. Not. Roy. Ast. Soc.*, **106**, No. 4; 1946) and also for the velocity of the sun, the antapex of this motion, R.A. 90·2°, Dec. −28·7°, is just 24° north of Canopus, and as the recessional radial velocity of the star is 20·8 km./sec., we may regard it as stationary within the velocity framework. The proper motion of Canopus in R.A. is given as $0{\cdot}0020^s \pm 0{\cdot}0012^s$ in G.C., and the large probable error in R.A. should, Mr. Walkey thinks, warrant the simplicity of considering the motion in declination alone in the investigation. This is $0{\cdot}017'' + 0{\cdot}0015''$ towards the solar antapex, and applying the correction for galactic rotation it becomes $0{\cdot}0126'' \pm 0{\cdot}0015''$. If this represents the crosswise reflex of the sun's motion from the antapex, the absolute parallax of Canopus is $0{\cdot}0071'' \pm 0{\cdot}00009''$. Adopting a final parallax of $0{\cdot}007''$ or a distance of 450 light-years, the absolute magnitude of the star is −6·6. It is significant that this distance finds confirmation in Charlier's determination of the distance of the centre of the brighter *B*-type stars lying in Carina (*Medd. Lund.*, Series ii, **14**; 1916. **34**; 1926). The revised and higher luminosity basis, of one magnitude brighter than that used by Charlier for the given *B* stars, places their centre at a distance represented by a parallax of $0{\cdot}0072''$.

International Union of Biological Sciences

THE programme of symposia, organised with the help of Unesco by the International Union of Biological Sciences, started in November 1947 with a symposium on trace elements in plant physiology.