

CORRESPONDENCE

BIRDS AND RADAR

EDITOR OF THE AUK:—How birds find their way on migration or during homing experiments has long been a mystery. Numerous theories, none completely satisfactory, have been postulated, as discussed by Griffin [Quarterly Review of Biology, 19 (1): 15–31]. One hypothesis is that birds possess some sort of magnetic-sensitive receptors which orient the bird with respect to the earth's magnetic field. The existence of such receptors has not been demonstrated, and their usefulness, even if present, is questionable. Supporting this theory are reports of homing pigeons becoming confused and appearing to lack normal orientation when in the vicinity of broadcasting stations. However, after reviewing the literature, Griffin concluded that there are "no statistically significant data supporting such opinions."

In March, 1946, the writer attended a talk on the subject of radar by Mr. W. H. Doherty, radio development engineer of the Bell Telephone Laboratories. Mr. Doherty mentioned that during wartime research in radar development he had noticed that when a radar transmitter was directed at a flock of flying birds the birds appeared to become confused, with the flock often breaking up and the birds wandering aimlessly. Single birds also seemed to be disturbed. Mr. Doherty pointed out to the writer that commercial broadcasts are continuous emissions of electromagnetic waves in the frequency range of one megacycle, whereas the radar emission was in the frequency range of 10,000 megacycles and consisted of a series of pulses at the rate of 2,000 pulses per second, each pulse of approximately one microsecond duration.

These preliminary observations are brought to the attention of ornithologists to elicit information on this subject from persons associated with radar during the war, and to stimulate experimentation by those who have access to radar equipment at the present time.—HUSTACE H. POOR, *Linnaean Society of New York, American Museum of Natural History, New York 24, New York.*

SMYTHIES'S 'BIRDS OF BURMA'

THE EDITOR OF THE AUK:—Some account of the present status of Smythies's 'Birds of Burma,' edited by Smith and Garthwaite, published in Rangoon by the American Baptist Mission Press in 1940 (*cf.* Auk, 60: 292, 1943), might be of interest here.

I arrived in Rangoon early in June, 1945, and immediately set about searching for any available copies of the edition. The building of the American Baptist Mission Press has been badly damaged in the fire during the attack on Rangoon by the Japanese early in 1942. The machinery and the stocks of books and paper had been looted. Through Dr. Condict, one of the heads of the Mission, I made contact with Burmans and Karens who had been employed by the Press and learned that in any case the stock of 'Birds of Burma' had been virtually exhausted by the time the Japanese arrived, as it had been sold at a number of benefits for the War Fund, just prior to the occupation. Thus the books were dispersed generally into the hands of Europeans and a few Burmans residing in Burma. Naturally, when the Europeans evacuated Burma they took food and clothing rather than books if they went overland, and only a relatively small number were evacuated by sea. European homes were almost universally looted after the Japanese occupation, so that it is doubtful if very many copies have withstood climate, cockroaches, and other hazards attendant