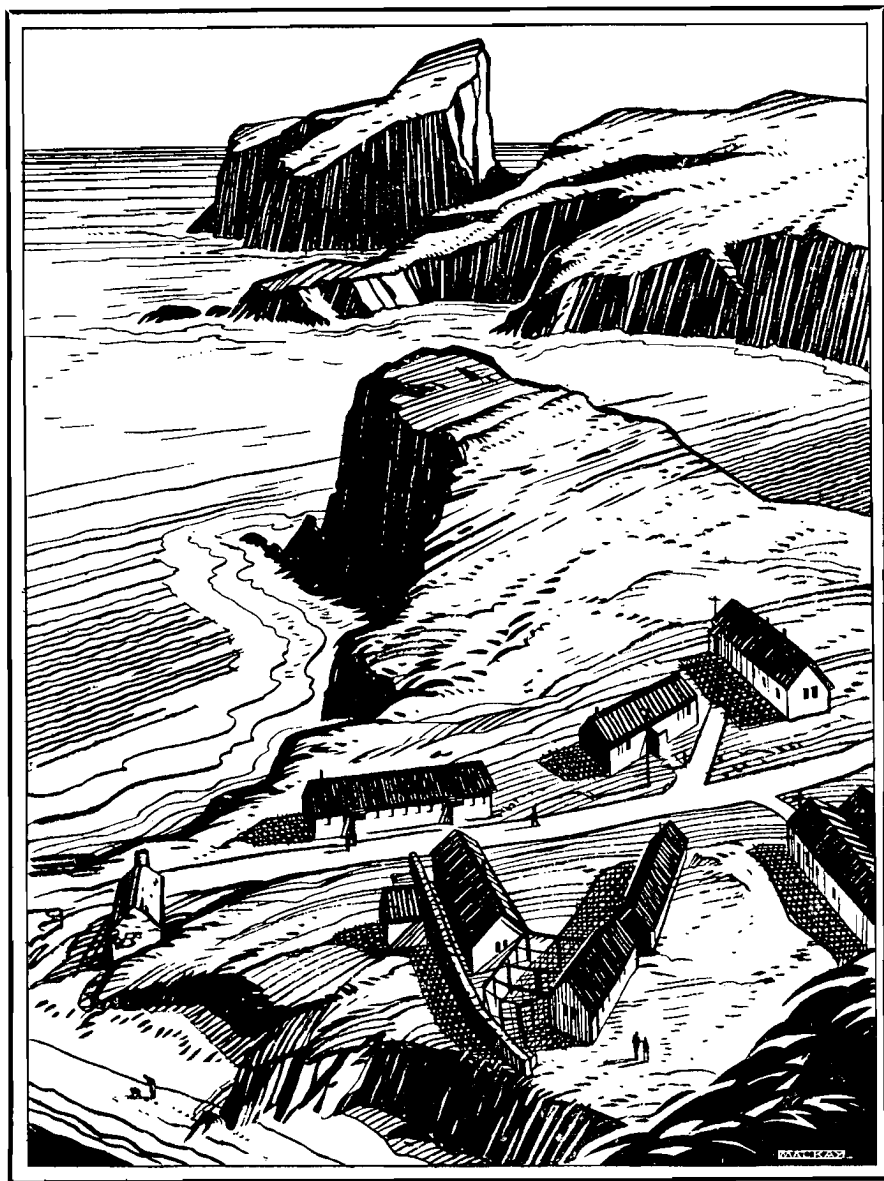


FAIR ISLE BIRD OBSERVATORY



FIRST ANNUAL REPORT
1949

Two Shillings and Sixpence

FAIR ISLE BIRD OBSERVATORY TRUST

Trustees :—

Miss EVELYN V. BAXTER	Sir JOHN STIRLING MAXWELL, Bart.
Dr. JOHN BERRY	Mr E. M. NICHOLSON
Mr A. G. S. BRYSON	Miss L. J. RINTOUL
The MARQUESS OF BUTE	Professor JAMES RITCHIE
Dr. F. FRASER DARLING	Mr PETER SCOTT
Mr JAMES FISHER	Dr. A. C. STEPHEN
Mr G. THEO KAY	Dr. A. LANDSBOROUGH THOMSON
Mr N. B. KINNEAR	Mr B. W. TUCKER
Professor V. C. WYNNE-EDWARDS	

*Chairman:—*ARTHUR B. DUNCAN.

*Hon. Secretary:—*GEORGE WATERSTON, 35 George Street, Edinburgh, 2.

*Hon. Treasurer:—*IAN PITMAN, 48 Castle Street, Edinburgh, 2.

*Director:—*KENNETH WILLIAMSON,

*April to October—*Fair Isle Bird Observatory, Fair Isle, by Lerwick, Shetland.

*November to March—*17 India Street, Edinburgh, 3.

*Solicitors:—*J. & F. ANDERSON, W.S., 48 Castle Street, Edinburgh, 2.

*Auditors:—*LINDSAY, JAMIESON & HALDANE, C.A., St. Andrew Square,
Edinburgh, 2.

*Bankers:—*UNION BANK OF SCOTLAND LTD., 64 George Street, Edinburgh, 2.

Annual Subscription . One Guinea.

FAIR ISLE BIRD OBSERVATORY ANNUAL REPORT

1949

FOREWORD.

THIS initial report of the Fair Isle Bird Observatory shows that the first objectives of the Trust have been speedily reached. The Observatory has been established; good accommodation has been provided for visitors; and most important of all, a real start has been made on the study of birds both migratory and resident. It is no exaggeration to say that without the energy and infectious enthusiasm of the Director, Ken Williamson, and his wife Esther, such progress would have been impossible. They have met, and overcome, many difficulties and I would like to place on record here our appreciation of their work.

Readers of this report will be interested to note the various angles from which the problem of migration is being attacked. If this attack is sustained for a long enough time, results of real value will be attained. In the studies of the nesting birds, too, each succeeding year will enhance the value of the work, for all these problems are, essentially, long term problems needing years of detailed study for their ultimate clarification.

A fine enterprise has been started and much has been done. Many have wished us well and have assisted us both financially and in other ways. We have enlisted the goodwill, and the practical support, of both the Pilgrim Trust and the Nature Conservancy. Indeed without their help we would have taken several years to accomplish what has been done in eighteen months. Neither of these eminently practical bodies give their support to a scheme unless they believe it to be competently managed and of real worth. We are deeply grateful both to them and to those many private individuals whose yearly subscriptions and donations have made our very existence possible.

I hope that you will enjoy reading of our work. I would like to thank you all for your help, and I hope that you will continue to assist us in making the Fair Isle scheme an outstanding success.

In this connection I would call your attention to our Treasurer's remarks (pages 29-30) and in particular to the fact that the most certain way of ensuring the continuance and enlargement of our work is by signing a deed of Covenant in favour of the Trust.

ARTHUR B. DUNCAN,

Chairman.

FAIR ISLE BIRD OBSERVATORY

SUMMARY OF DIRECTOR'S REPORT

1948

MRS WILLIAMSON and I first went to Fair Isle on 1st June 1948 to organise and direct the work of establishing the Bird Observatory. Three sites were available, and the possibilities of each were fully explored. These were (1) the Haa, the Laird's house at the south of the island, where constructional work and renovating had already been done; (2) a large wooden hut at the Pund, adjacent to the late Duchess of Bedford's cottage; and (3) a number of wooden huts, formerly the Royal Navy Detachment camp, at North Haven, the main landing-place.

Of these the North Haven site seemed eminently suited to the needs of the proposed Bird Observatory and hostel, the others being inadequate in size. It was also thought that the Bird Observatory, if established at North Haven, two miles distant from the crofting community at the south end, would be less likely to intrude upon the daily life of the islanders. The other two sites could no doubt be adapted later for use in conjunction with the main camp, without causing undue interference. We considered this aspect of the matter to be of the utmost importance to the future success of the Bird Observatory.

A programme of work was put into execution by a working party of islanders, under James Stout, with the aim of opening the Bird Observatory with accommodation for a limited number of guests in time for ornithological work on the autumn migration. Living-quarters for ourselves were established in the reconditioned Wardroom (Hut 1), together with hostel dining-room and kitchen facilities. By mid-August Hut 2, containing laboratory and temporary guest-room, was furnished and ready for occupation. Subsidiary work was done at the Haa, and in stripping former Army huts on the Ward Hill to provide materials for use in the erection of traps and the constructional work at North Haven.

The first visitors—George Waterston, Ian Pitman and R. S. R. Fitter—arrived in *The Good Shepherd* on 25th August, and the islanders were entertained to tea at an informal opening of the Bird Observatory on the afternoon of the 28th. From then until the hostel closed at the end of October and Pat Robertson and his family were left in charge, there was a succession of visitors, and full observations on the autumn migration were secured.

KENNETH WILLIAMSON.

FAIR ISLE BIRD OBSERVATORY

ANNUAL REPORT

By THE DIRECTOR

1949

INTRODUCTION.

WHEN we left Fair Isle on the first day of November 1948, something of the task of setting up a hostel and field-study station, primarily for the study of various aspects of bird-migration, had already been accomplished. Much, however, remained to be done, especially in preparing comfortable accommodation for the amateur ornithologists and students who, we hoped, would come to Fair Isle to spend their holidays assisting in the station's scientific investigations.

During the winter, work on the wooden huts at North Haven (Plate 1) went ahead under the foremanship of James Stout; and at the beginning of April accommodation for a maximum of eight people, besides living-quarters for the Warden, Pat Robertson, and his family, and for the two Faeroese maids, was ready for occupation.

This was the position when we arrived at Fair Isle on 14th April 1949. It was obvious, even then, however, that we should have to turn away a number of bookings unless further expenditure on the provision of additional accommodation could be sanctioned by the Council of the Trust. Eventually it was agreed to proceed with work on the half-completed Hut 4, at the south end of which were the maidservants' quarters, and in mid-May this work was put in hand under the Warden and James Stout.

The capacity of the hostel was thus increased during the season from eight to twelve visitors, and from the beginning of August until mid-October we had a "full house" almost every week. When the new bedrooms and bathroom were made in Hut 4 a portion of the hut was set aside for use as the hostel laundry, and an electric washing-machine and table ironer installed, our own 15 K.V.A. Lister engine generating the necessary power. An impressive supply of hot water was provided by a small Hydresse boiler which had been found derelict among the former Army huts on the Ward Hill. This equipment proved a great boon and relieved us of the anxieties, caused largely by long delays, which we had experienced earlier in the season when the hostel linen had to be sent to the Scottish mainland to be laundered. If we had not had our own laundry by mid-summer, when bookings became heavy, the hostel could not have carried on efficiently.

The plumbing in this hut, and also in the two double rooms in Hut 3 (where hot and cold running water was installed), was expertly carried out by the Warden, with assistance provided by John Fraser. Mr Fraser, representing the contractors responsible for the rebuilding of the bomb-shattered dwellings at the South Light, was almost a permanent resident from the end of April until the hostel closed at the end of October; and it is impossible to mention any major or minor improvement carried out at the Bird Observatory in 1949 which does not owe something to his help. Our indebtedness to him and his brother William Fraser (also a frequent visitor) for their invaluable assistance and sound technical advice on many matters is very great.

Accommodation problems are now solved, and adequate facilities exist for a complement of 10-12 visitors,—this number we regard as sufficient to ensure a full investigation of the problems on hand. No further expansion is visualised at North Haven, and it may serve a useful purpose to put on record a summary of the accommodation now available :—

- Hut 1. Living-quarters of Director and family; kitchen; hostel dining-room.
- Hut 2. Hostel sitting-room and library; laboratory; writing-room; toilet.
- Hut 3. Two double bedrooms with hot and cold running water; four single bedrooms; bathroom and toilet; drying-room, with additional ablution facilities; linen cupboard.
- Hut 4. Maidservants' quarters (sitting-room, toilet and two bedrooms); two single or double bedrooms (as need arises); bathroom and toilet; laundry; stock-room; linen cupboard.
- Hut 5. Living-quarters of Warden and family; general storage space.

The only alterations which it is hoped to effect during the winter of 1949-50 (and for which the Warden will be responsible) are : (1) enlargement of the kitchen, which is rather small and cramped when catering for a full house; (2) extension of the laboratory to include an annexe for colorimeter work and use as the Director's study; and (3) installation of a photographic dark-room in the small porch giving access to Hut 4. The Warden will also instal the electric lighting system in the dormitories, and carry out general maintenance work on the buildings and equipment at North Haven.

The Haa.

The Haa, the Laird's house at the south end of the isle, is still unfinished, and it is hoped that the little work needed to put this excellent building into habitable condition can be accomplished during 1950. The house has a small kitchen (with an annexe which can be used as a store), a sitting-room, two bedrooms and bathroom. There is running water, a Rayburn cooker supplying hot water, a W.C., and a small but effective central heating system. Several enquiries with regard to the letting of the house during the summer have been received; and during the passage seasons it will certainly make for greater efficiency in the observation of migrants if a small party of watchers can be based at the Haa, keeping the cropped area and South Harbour under constant watch and working the Haa Trap at frequent intervals.

The Pund.

The camp at the Pund, adjacent to the late Duchess of Bedford's "Ortolan Cottage," was lent to the contractors for housing the workmen engaged on the reconstruction work at the South Lighthouse. The main building, a large wooden hut put up by the Navy in 1940, and containing kitchen, dining-room and bathroom, was unfortunately gutted by fire in the early morning of 17th August. In its place a brick structure serving as canteen has been erected. The Pund Camp is likely to be occupied by the contractor's men throughout the 1950 season, but subsequently it is hoped to make it available for school or university parties which may wish to visit Fair Isle and live independently of the hostel.

Visitors.

During the season 110 visitors stayed at the hostel for periods ranging from one week to a month, and some came from as far afield as the United States, British East Africa, New Zealand, Sweden and Holland. In addition, several people who came to Fair Isle to fulfil business or professional duties were accommodated for periods of two or three days.

The Hostel.

So far as has proved compatible with the difficult task of organising a hostel in so remote a situation as Fair Isle, every attempt has been made to purchase foodstuffs locally and thus provide the islanders with an outlet for their surplus farm produce. Over £250 was spent at the island shop, and more than £100 among various crofts. The development of the hostel again provided a number of the island

menfolk with labour, especially in the late winter and early summer, and some £600 was paid in wages on this account.

In addition to the assistance given to the island economy from these sources must be reckoned the increased traffic for the mail-boat, *The Good Shepherd*, and the new custom which the visitors have brought to the island's famous hosiery industry. Fair Isle pullovers, cardigans, gloves and scarves, with their beautiful and cleverly matched traditional patterns, remain unexcelled in the hosiery trade, and it is gratifying that the Fair Isle Bird Observatory has played a part in encouraging this home industry (Plate 3).

There is no doubt that the residents have enjoyed the increased social intercourse which the Bird Observatory scheme has sponsored; many of the hostel guests have gone away openly admitting that no small share of the pleasure of their holiday has been due to the helpful, friendly attitude and unobtrusive hospitality of the island folk.

THE MIGRATION, 1949.

APRIL AND EARLY MAY.

We arrived on Fair Isle to begin observations on 14th April: the wind was SW. and continued to have a westerly airt, with short intermissions, until the middle of May. It was noticeable how, if the wind slipped into the south, birds began to arrive. Thus, on 16th and 17th, the first White Wagtails, Willow-warblers and Swallows appeared, also two Robins, a Ring Ousel and Black Redstart. There were a few Redwings and Fieldfares on the 16th and easily 30-40 of each on the following day. Wheatears increased to over a hundred on the 17th and migrant Blackbirds were also in evidence, although the big Blackbird emigration had taken place at the beginning of the month, before our arrival.

Throughout 24th April the wind blew at force 4/5 between south and SE., and although much was expected from this change, little materialised. We trapped a Black Redstart and saw some Rooks, Wood-pigeons, Swallows and Willow-warblers. The next day brought the first Common Redstart; and the first Whinchat came on the 26th. The wind returned to SW. and, surprisingly, this heralded a movement of Chaffinches, Skylarks and Snow Buntings. Corncrakes were recorded on 30th April and from 15th May, and we had a flock of 50 black-fronted Golden Plover for three days following 7th May. There was a fine Iceland Gull on the island, feeding mostly in the ploughed fields, between 23rd April and 15th May.

There was a big increase in Wheatears and females were common for the first time on 9th May. On the 12th some further movement was noticeable, with the wind still westerly, the birds affected being Mealy Redpolls, Chaffinches and Snow Buntings, a Kestrel and Short-eared Owl. Whimbrel were fairly common day-migrants for the first time.

MID-MAY.

The wind veered to NW. on 13th May and went into the NE. overnight, and this long and unexciting spell was broken in dramatic fashion on the 14th. It was a day in the real Fair Isle tradition, of the kind which must have been the envy of every reader of William Eagle Clarke's "Studies in Bird-Migration" and the Duchess of Bedford's "A Bird-Watcher's Diary." It is gratifying to find that such days, which leave their imprint on British ornithology and live long in the memory of those fortunate bird-watchers who experience them, are still a very real part of Fair Isle's character and charm.

May 14th 1949 saw the occurrence of two species new to the avifauna of Scotland—a Black-browed Albatross and a Kentish Plover—of which more details are given on page 12; and in addition we recorded a male Grey-headed Wagtail, drake Velvet Scoter and Tufted Duck, and the first Hedge-sparrow of other than the continental race to be found on the island. The day also marked the start of the Sedge-warbler passage, which continued to the first week in June, and was conspicuous in autumn by its absence.

Following this exciting day the wind continued to blow from north and east until the 19th, when we had it SE. until 25th May. The week 12th-19th was the peak period of the spring passage, the last being the best day for several of the smaller species, notably Whinchat, Redstart, Willow-warbler and Common Whitethroat, whilst Swallows followed on 20th and 21st. In this brief spell the last flock of Snow Buntings passed through, and the first Pied Flycatcher, Blackcap, Lesser Whitethroat and Garden Warbler appeared. The only Blue-throat of the spring was trapped on the 20th, a Hoopoe delighted us all on the following day, and a Black Redstart and the Nightingale (Plate 13) were recorded on the 22nd.

JUNE.

June, though late for migration, was not without its excitements: there was another classic day on the 2nd, when the Greenish Warbler (Plate 13) mentioned on page 13, was trapped. Two Pomarine Skuas and a Common Buzzard which flew over the Gully at the same time were treated with something akin to disdain! On 11th-12th June we had a Reed Warbler and a Red-backed Shrike under close observation, and obtained excellent views of a lone Bean Goose,—apparently the bird which had had its headquarters on the Sheep Craig for some considerable time. Two of the islanders independently reported a White-tailed Eagle on the 19th, perhaps the same bird as was seen in Unst by L.S.V. and Ursula Venables towards the end of the month.

AUGUST-SEPTEMBER.

Common Sandpipers were seen from the end of July to 8th August, and were in evidence again throughout September. An early Glaucous Gull, an immature bird, arrived on the 8th, and we had Turnstones and Green Sandpipers from 13th August, when the autumn movement of Curlew and Wimbrel began. The year's young of Sanderling and Knot had made their first appearance five days before.

August was characterised by westerly winds. White Wagtails came through from the middle of the month, with noticeable increases on 28th and 29th; they reached a peak during 4th-13th September, a period of southerly succeeded by easterly winds which heralded one

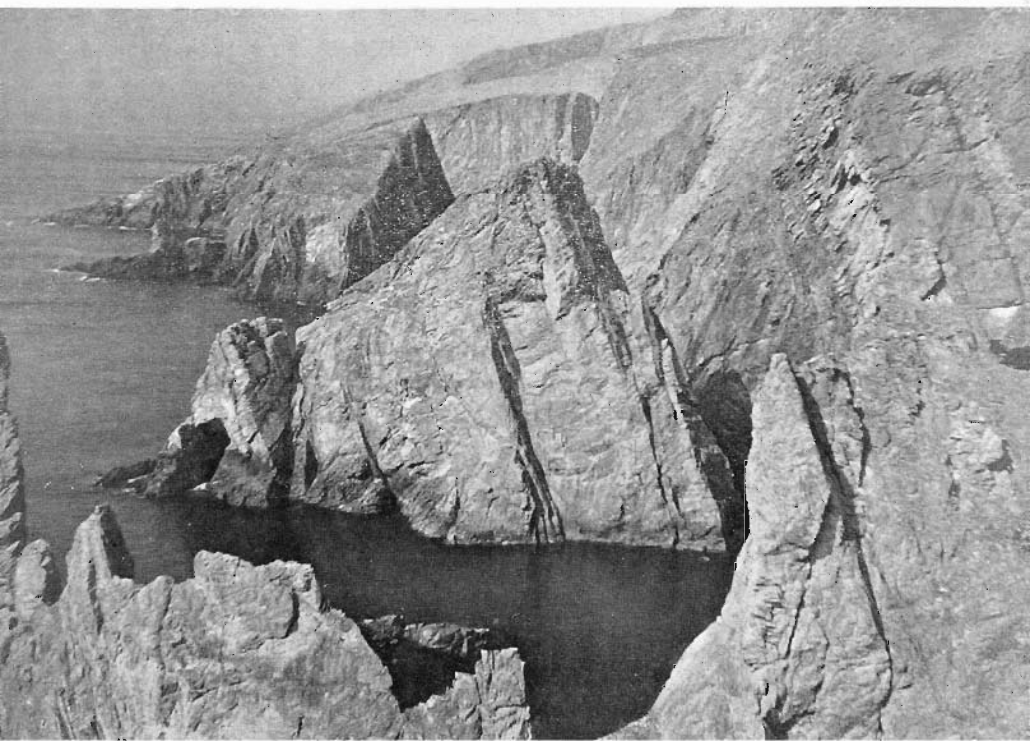


JOHN PETERSON

Plate 1. THE NORTH HAVEN AND BIRD OBSERVATORY.

Plate 2. THE WEST CLIFFS.

JOHN PETERSON





JOHN TOPHAM

Plate 3. KNITTING—FAIR ISLE'S FAMOUS HOME INDUSTRY.

Plate 4. MR AND MRS WILLIAMSON WITH RINGED BONXIE CHICK.

W. H. TUCKER



of the most interesting migration seasons experienced by British east-coast bird observatories. Early Yellow-browed Warbler and Scarlet Grosbeak were seen at this time, and Swifts were on passage up to 12th September. There was then a considerable increase in the number and variety of migrants. Pied Flycatchers and Willow-warblers were much in evidence, a Red-breasted Flycatcher arrived, and two Siberian Lesser Whitethroats were trapped. Whinchats were of daily occurrence from 27th August for a full month.

Two more Red-breasted Flycatchers were caught on 21st September and there were three Yellow-browed Warblers in the crops that day. Wood-warblers were noted on 6th and 19th September, and two Reed Warblers (also rare visitors to Fair Isle), stayed from 24th to 27th September. There was a Scarlet Grosbeak at the Haa on the 18th-19th, a Barred Warbler and Wryneck were seen on the 20th, and there were Turtle Doves on this and the following day. There had been a small movement of this species as early as 2nd-5th July.

The only Ortolan Bunting of the autumn (an adult male) was seen on 22nd September, and Sand-martins were passing through on this day. Swallows passed chiefly between 15th-19th September, Tree Pipits were commonest between the 16th and 28th, and *flava* wagtails were fairly regular during the same period. There were Bluethroats on 5th, 16th and 26th, the last remaining for three days, and another Siberian Lesser Whitethroat, ringed on the 24th, stayed on North Haven shore until 29th September.

OCTOBER.

The easterly weather of the first week of October brought a number of very interesting northern Chiffchaffs to the isle; a note on these, and the Pallas's Grasshopper-warbler which was found on the 8th and is mentioned on page 13, has been sent to the journal *British Birds*. A Barred Warbler and Great Grey Shrike were seen on the 9th, and Teal and Wigeon, which had been present in ones and twos for some time, showed a big increase on that day.

It was a good year for Blackcaps, which first appeared on 1st September, were fairly common from the 16th onwards to the end of the month, and passed through sporadically afterwards until mid-November. This was the most protracted migration of any summer visitor on the schedule, except perhaps for the great Wheatear migration, continuous from mid-August until 26th October. Kestrels and Merlins were with us from late August until mid-October, there being as many as nine of the latter on 6th October. Whimbrel passage lasted from mid-August to 10th September, Curlew continuing for a month beyond that date.

Other autumn visitors noteworthy on account of their rarity at Fair Isle were single Red-backed Shrikes on 15th and 18th September;

three Pale-breasted Brent Geese (an adult and two juveniles) on the 30th; two Stockdoves on 11th October and one on the 14th; and a Spotted Redshank and female harrier (either Montagu's or Pallid) on 20th October. Skeins of grey geese passed over in late October, most of them Grey Lags, and the main arrival of Woodcock occurred on the 28th-29th.

Winter Visitors.

A feature of the autumn was the early appearance, compared with the previous season, of some of the incoming winter visitors. Continental Robins were regular from 19th September to the end of October. Water Rails were captured on 14th, 23rd and 30th September, and there were others during the following month. The first continental Goldcrests were also trapped on 14th September (we had none until 9th October in 1948), although numbers did not appear until 6th October.

Last year the first Redwing flocks came in on 9th October; in the present season fully fifty arrived on 22nd September, although again the main body was not in until 7th October, when the Ward Hill and surrounding moorland were covered with birds. Song-thrushes were on the island from 13th September, becoming common on 25th and 26th. There were Blackbird movements at intervals from the second half of September to the middle of November, the species becoming very common after 9th October.

Snow-buntings were unusually early: about 40 (with as many Lapland Buntings, most of which stayed for about three weeks), appeared on the hill on 10th September, and by the 16th they were over a thousand strong. It was a great season for this picturesque species, and many thousands must have gone through by the first few days in October, when their numbers began to decline. A few Bramblings and Chaffinches were about from the third week of September, but it was 6th October before the main body arrived.

Icelandic Birds.

It is not only easterly weather which brings in the birds, although generally speaking very little happens at Fair Isle under other conditions. When the wind blew from the SW.—usually the worst direction—on the night of 20th-21st October we had a big influx of Snipe, Redshank and Redwings. Almost certainly all these were from Iceland, for on the morning of the 21st we trapped several of the Redwings and careful laboratory examination showed them to be of the Iceland race, *Turdus musicus coburni* Sharpe. Randolph Webster, a student meteorologist who is interested in the Fair Isle records, attempted to trace the track of these birds with the aid of the Meteorological Office Daily Weather Reports.

It is impossible to plot a track under the prevailing conditions unless one assumes that the birds had a "preferred direction" towards SE., a flight-speed of 35-40 knots, and originated in NE. Iceland. There was a rising barometer in Iceland on the afternoon of the 20th, and troughs of low pressure lay in the Atlantic to the south (moving SE.) and east. The flocks must have passed between these low pressure areas, assisted during the early part of the journey by a NE. wind at force 3, dropping to a calm west of the Faeroes. Beyond this calm, they encountered a freshening wind backing gradually SW., which gave them a drift to Shetland and Fair Isle.

It would appear from the charts that any birds which departed from the south or SE. coasts of Iceland on the evening of the 20th must have been drifted out into the Atlantic on an easterly wind, carried round the low pressure area into the westerly winds below, and eventually brought to the western shores of Britain after perhaps 30 hours on the wing.

The Woodpecker Invasion.

An important event of the autumn was the invasion of Northern Great Spotted Woodpeckers, for the first time on a big scale since 1935. These natives of the Scandinavian pine forests made their appearance on 12th September, and there were fresh incursions later, notably on 6th October, when at least ten birds were present on the isle. They were also reported from various parts of Shetland and Orkney, the Bass Rock and Isle of May in the Firth of Forth, and from as far west as the Isle of Man. All those seen on Fair Isle were young of the year, distinguished from the adults by their crimson crowns, and it has been an odd experience to see such highly specialised birds struggling to wrest a livelihood from so hostile an environment. A further observation on this question is given on page 15, and a note on the birds has been included in a report on selected species which has been submitted to the journal *British Birds*.

Later, from 10th-12th November, Fair Isle shared with other parts of Scotland in the winter immigration of Waxwings.

The Records.

Since the close of the active season at the end of October the Fair Isle records have been closely compared with those kept at the Isle of May Bird Observatory during the autumn period. The Yellow-browed Warbler, which has its home in northern Asia and migrates to Indo-China and Siam, turned up at both stations on the same dates in mid-September, and again a month later. Red-breasted Flycatchers were also trapped and ringed on the Isle of May at the same time as on Fair Isle, the main dates of the woodpecker "irruption" coincide, and in general the close agreement between the arrival dates of other species at these two widely-separated stations is very marked.

Rarities.

Fair Isle has a truly imposing list of birds, as every ornithologist knows. It now stands at 298, or more than half the total number included in "The Handbook of British Birds." That even this long list is far from being complete is shown by the addition of six new species during this first full season's work. By a fortunate and well-merited chance, George Waterston, the Laird of Fair Isle and moving spirit in the establishment of the Bird Observatory, was on visits to Fair Isle when four of these novelties occurred.

The first two turned up on the same day, 14th May, and both are new to the Scottish avifauna,—the Black-browed Albatross and Kentish Plover already mentioned. The albatross, which was about the Fair Isle cliffs during the whole of the day (and appears to have been seen by everybody except the Director!), gave most of the observers excellent short-range views. It was always accompanied by a concourse of inquisitive gulls, and during the afternoon was seen being viciously attacked by a pair of Ravens whose nesting-cliff it approached. The species is a bird of the southern oceans and only rarely wanders into the northern hemisphere. The first British record was of a bird stranded at Linton, Cambridgeshire, in July 1897, but within more recent years odd ones have been taken off Spitsbergen, Greenland and the Faeroe Islands. One historic individual frequented the gannetry on Mykinesholmur, the most westerly point of Faeroe, every year between 1860 and 1894, coming and going with the Gannets each season.

The Kentish Plover is a southern breeding-species—France and the Low Countries—and the Fair Isle bird must have been a returning migrant that had overshot its normal range. So, too, with the next newcomer, which was a Nightingale, trapped at the Haa on 22nd May by the Hon. Mrs Leo Russell (Plate 13). It is only the fourth of its kind to be recognised in Scotland. Previously there had been two records for the Isle of May (in 1911 and 1931), whilst G. Theo-Kay captured one in his garden at Lerwick, Shetland, on 25th September 1929. A male Spotted Crake, the first for Fair Isle although others had been seen in Orkney and Shetland before, was found by Sargent Wellman (one of our American visitors) and Miss Robertson in the Haa House on 9th August (Plate 13). It is also worth recording that a trip of three Dotterel was found on Burrashield by W. B. Alexander, the chairman of the Bird Observatories Committee of the British Trust for Ornithology, on 22nd September, the second time only that this species has been seen on the isle.

Rare Warblers.

The two highlights of the year were members of that notoriously difficult family, the warblers. John Peterson and I spent the whole

morning of 2nd June pitting our wits against an unusual *Phylloscopus* in the Gully; at length we succeeded in trapping it, and to our delight found we had captured the third British example of the Greenish Warbler, *Phylloscopus trochiloides viridanus* Blyth (Plate 13). As with the Nightingale, there was a previous Shetland occurrence, Sam Bruce having collected one at the Skaw of Whalsay on 12th September 1945. We ringed and released our bird, after taxonomic examination, and spent much of that and the following day in observation of its field-characters and habits. A full account of the occurrence was included in the selected notes on the spring migration submitted to *The Scottish Naturalist*.

Mr Peterson photographed the bird in the laboratory, thus securing a permanent record of its occurrence and of the details of wing-formula on which identification rests (Plate 13). The Greenish Warbler extends from East Prussia (where it is rare) across north and central Siberia, and winters in Indo-China and Siam. Its appearance in this country on the spring migration—for the first time at that season—is not easy to explain, and it seems most likely that the bird, on its return journey from winter quarters, must have overshot its breeding-place by well over a thousand miles.

Finally, there was the discovery of an unusual bird which was eventually identified as a Pallas's Grasshopper-warbler, in a turnip field at Lower Leogh on 8th October. The species was admitted to the British list on the strength of an immature male found dead at Rockabill Lighthouse, near Dublin, on 25th September 1908. We found it a most difficult bird to observe well, because of its skulking nature, and the lack of any really outstanding field-character added to our difficulties. It was therefore a matter of no little satisfaction to the party of eight observers that their careful and patient teamwork, extending over several hours on 8th and 9th October, resulted in sufficient detailed observations to put the identity of this great rarity beyond question. Like the Siberian race of the Chiffchaff, a number of birds resembling which were on the island at this time, following three days of easterly weather, Pallas's Grasshopper-warbler extends eastwards across Asia from the Urals; and winters in India and the Malay Peninsula.

The Recognition of "Rarities."

Our experience with these two rare warblers brought out what I regard as an important aspect of bird observatory work, and one which, I think, is under-estimated by some ornithologists who consider that the recognition of these "waifs and strays" is of comparatively little value to the study of British ornithology, and of migration in general. In an earlier age at Fair Isle (and any similar place) these birds would have been shot out of hand, and their identities established beyond cavil in a museum, where their skins

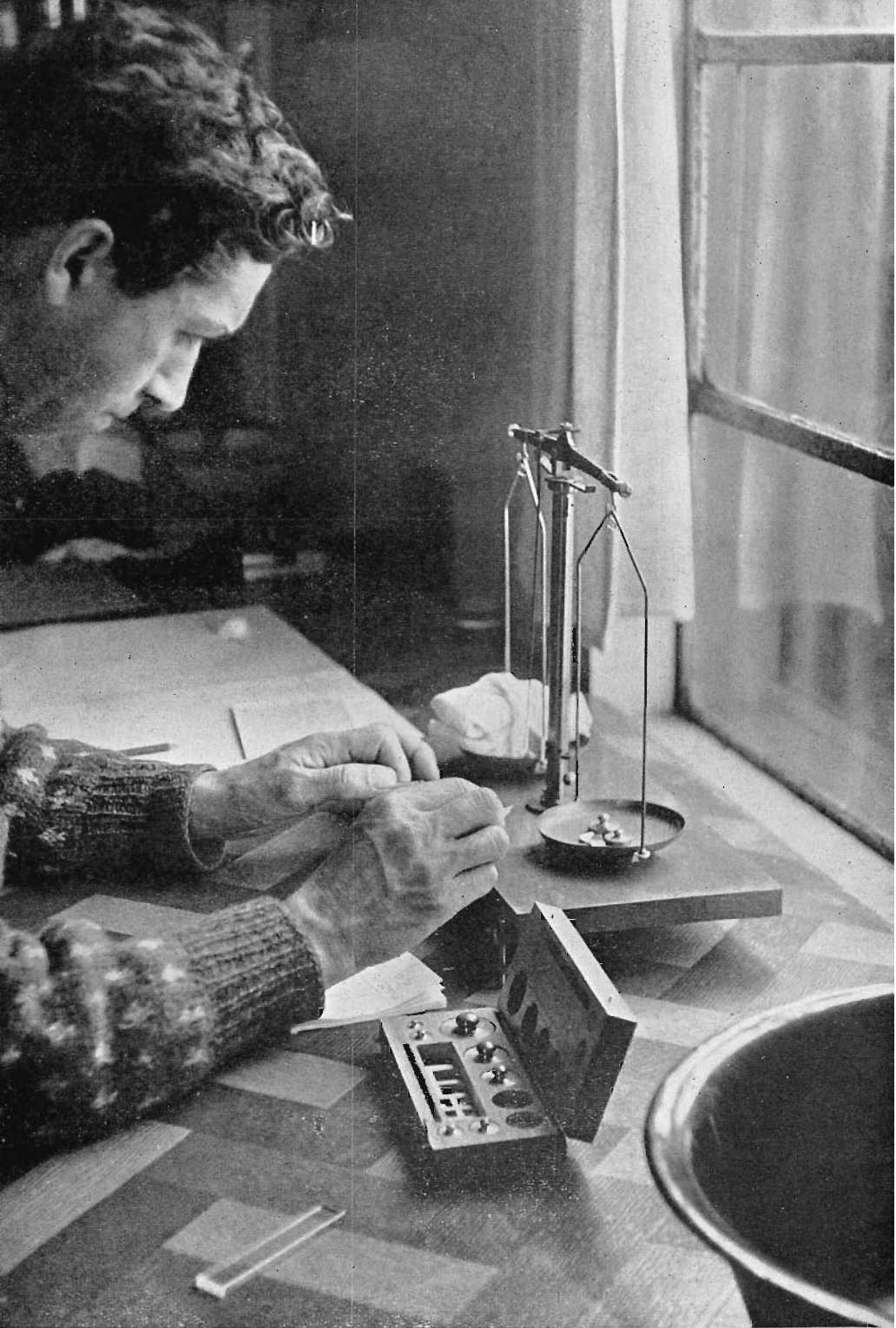
would have provided permanent, tangible evidence of their claim to status as British birds. Such a policy, however necessary it may have been in the early days of migration study, can have no standing at a modern field-study station. It may be less satisfactory that an important record should rest on the deposition of a few observers, but against this must be set the important gain that these few observers are presented with a unique opportunity in field-work. They enjoy a few hours intensive training as a team,—hours which call for patient concentration on the job of observing and noting down details of plumage, habits and behaviour; and of analysing these for the all-important “field-characters” (often so imperfectly known) likely to assist other observers in years to come. Major R. F. Ruttledge, a field-ornithologist of wide experience who was staying at the hostel at the time, afterwards wrote to me :—

Perhaps the thing that struck me most of all was the wonderful opportunity one gets to practise making field-identifications and the chance of making rapid notes of essential field-characters. That Pallas's Grasshopper-warbler could surely be held up as the finest example of the care and perseverance necessary to make a 100 per cent. identification. I know that both Biermann * and I (and others too, I think) were overjoyed that never for an instant was there any thought that the bird should be shot for identification. Why should one kill to satisfy one's curiosity, or to make a name over a record ?

The recognition and recording of “rarities” is also of importance in view of our imperfect knowledge of the status and distribution of many of the species which have occurred as scarce vagrants in this country. Until observation and collecting began on Fair Isle and the Isle of May early in the present century it was thought that the Little Bunting and Yellow-browed Warbler were mere “waifs and strays” to this part of the globe, hopelessly adrift from their normal migration-routes; but the field-work of Eagle-Clarke, Misses Baxter and Rintoul and others, showed beyond dispute that these species are in fact regular, if rare, migrants. As bird observatory work develops we may show that other species to-day stand in much the same light : bird-populations do not remain static, many species are either expanding or contracting their breeding-ranges, and any Siberian bird which is tending to spread westwards may sooner or later become a regular visitor to Britain.

The converse is equally true, of course, and we may learn that there are species which appeared with fair regularity on migration in

* Dr W. H. Bierman of Haarlem, Holland, a member of the Council of the Netherlands Ornithological Society, who was staying on the island at the time.



JOHN TOPHAM

Plate 5. THE LABORATORY—WEIGHING A TRAPPED MIGRANT.

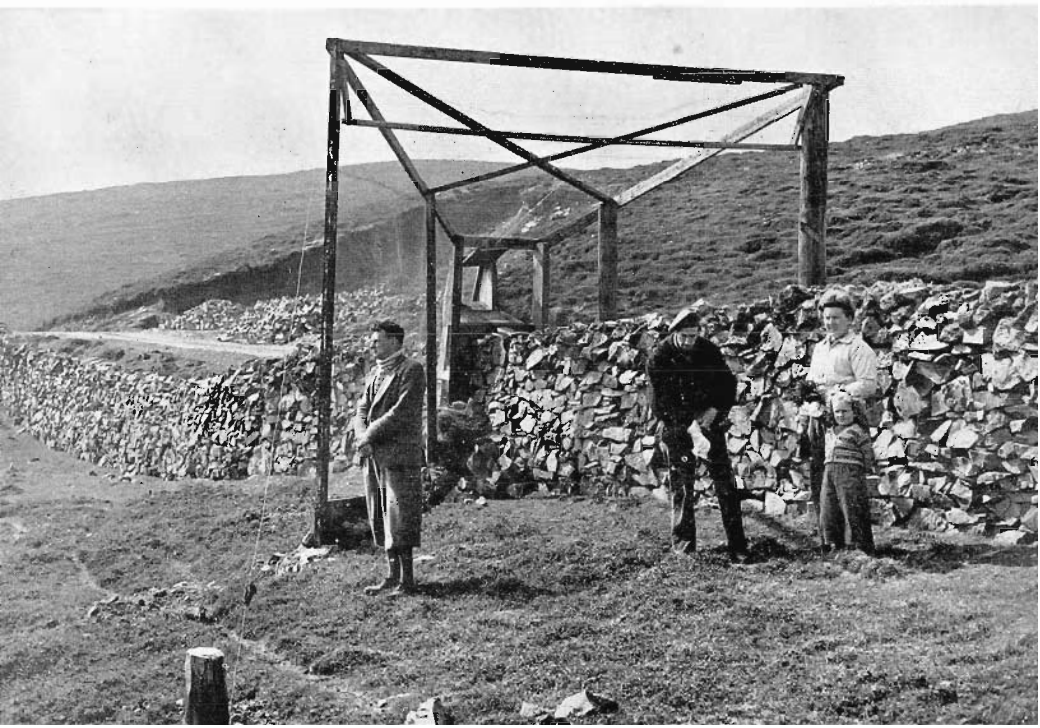


JOHN TOPHAM

Plate 6. DISCUSSING THE CHARACTERS OF A TRAPPED BLUETHROAT.

Plate 7. THE "DYKE TRAP."

JOHN TOPHAM



the early years of the century and which are now becoming scarce and irregular in their appearances. The Barred Warbler, Red-backed Shrike and Ortolan Bunting, for example, do not appear to have visited Fair Isle in recent years in anything like the strength recorded by Eagle-Clarke and his successors.

A detailed account of the Pallas's Grasshopper-warbler is included in the selected notes on autumn migrants which have been submitted to the journal *British Birds*.

Behaviour of Migrants.

The behaviour of migrant birds on an island such as Fair Isle is of great interest, and as observations accumulate they may conceivably throw valuable light on some of the problems connected with habitat-selection and bird-psychology. The Great Spotted Woodpeckers provided an instructive case, especially important as these are birds highly specialised for a particular mode of life. Fair Isle offered them practically no scope for a natural existence, having no trees; in the absence of trees, they hammered vigorously at the telephone poles, clothes-posts and the long lines of fencing-posts, feeding in characteristic fashion. It is doubtful, however, if they secured much sustenance. Two were found in a dying condition with no recognisable food-remains in their gizzards, others doubtless died unseen, or the stronger ones may have moved on. But a few remained, quickly adapting themselves to their new environment by becoming largely graminivorous. At least two of these are still flourishing on Fair Isle as this report is being written in late December, spending most of their time in the stack-yards where the traditional hammering action of the bill has been adapted to the task of removing the grain from its husk. Two others are known to be wintering in Shetland.

It is evident that a migrant bird's anxieties are not necessarily dispelled as soon as it makes a landfall: it has still to discover a suitable habitat if it is to survive, and regain strength for the onward journey. An investigation into the facility with which certain birds are able to adapt their modes of life to the peculiar conditions they find on Fair Isle promises to be interesting. It may be that in some cases no other habitat than the traditional one will do. Evidence bearing on this aspect of the problem is at present very meagre, but one might deduce that those migrants which pass through Fair Isle quickly do so not because they have stood the overseas journey better than those which elect to stay for a period, but because they are compelled to move on to a congenial habitat or perish.

Unfortunately, because such birds pass by so quickly, the chances of retrapping them in order to discover if there has been any change in weight during their brief spell on the island are very few. The lowest weight we have recorded for an autumn Spotted Flycatcher is of one retrapped two days after its first capture. A Sedge-warbler

weighing 11 g. on 1st June was down to 8.4 g. when taken on the same stream (to which it had returned from its release-point half-a-mile away) next day. The flycatchers and some warblers have specialised hunting methods which are of little value to them on Fair Isle where Diptera and other low-flying groups of insects are scarce.

Warblers have better opportunities in the autumn when the crops have grown, and tend to stay longer at that period; not only are there more insects than in the spring, but they partake of the crop of *Empetrum* berries on the hill, as witness the purple-stained cloaca and ventral feathers of a number of those trapped. In spring, they and other insectivorous birds are often driven to seek food on the high-tide debris of rotting seaweed, where there is usually an abundance of flies.

On the other hand, open-country species such as the Wheatear, White Wagtail, Tree and Meadow Pipits find in Fair Isle a congenial habitat in which they can spend several days—often more than a week—recuperating for the next stage of their journey. We have data; from “repeat” trappings, which show that although these birds arrive light after their long overseas flight, they quickly begin to make up weight. A Meadow Pipit ringed on 11th September weighed only 16.7 g., which is about the usual weight of incoming migrants of this species; a fortnight later it weighed 24 g., which is higher than most of the breeding birds in June and July. A Tree Pipit was 21.8 g. on 24th September, in the evening when a bird’s weight is normally high; when retrapped in the morning six days later it registered 25.2 g., which is the highest weight we have recorded for this species:

Another interesting case is that of a Song-thrush first taken on 16th November 1948 and retrapped on 22nd January 1949: it weighed 90 g. on the first occasion (suggesting that it had already been some time on the isle), and 99.5 g. on the second. The average weight of ten migrant Song-thrushes in autumn 1949 was no more than 60 g. ! It is obvious that for a full study of migration, its effects on the general metabolism of the bird and the question of its behaviour whilst on passage, recaptures and re-weighings whenever possible are every whit as important as the capture and marking of new birds.

Trapping and Ringing.

One of the standard techniques of bird observatory work is trapping birds alive for laboratory examination and marking with aluminium identification rings issued by the British Trust for Ornithology. These rings, which are placed on the leg, are durable and light (the smallest weighs only a few grains); they are serially numbered and bear the legend “INFORM British Museum (Nat. Hist.) London,” to which it is hoped that subsequent finders will report them. By this means much has been learned concerning the seasonal movements

of birds, the routes they follow, their breeding and wintering areas, and even about their life-span and predators.

Large wire-netting traps, called "Heligoland" traps because their use was first developed at the German bird observatory on the North Sea island of that name, are employed in catching migrants for this purpose. In the autumn of 1948 four such traps were in use at Fair Isle, but unfortunately one of them was destroyed during a severe gale at the end of October. During 1949 we planned to rebuild this trap, make a new one at the site of the Bird Observatory, and effect improvements to the existing trap at the head of Funniquoy. This programme was accomplished very largely as a result of the splendid assistance given by many of our visitors during August and early September, and to all those who took part in this work we tender our thanks.

The history and performance of the various traps may be summarised as follows:—

Haa.—The original "Heligoland" trap, presented by G. Theo Kay of Lerwick in 1945, and built at the back of the Haa, is as yet our only permanent trap in the crofting area. Its best captures were the Nightingale, a Corncrake, and a Merlin which chased a Twite into the catching-box and (making the best of a bad job) ate it there!

Gully.—This trap was built at the end of September 1948, and consists of a wire-netting roof covering a deep gully at the head of Funniquoy, an east-coast ravine into which migrants go for food and shelter (Plate 10). In 1949 two important alterations were made to this trap, greater depth being given to the funnel (so that the catching-box could be set in a better position) and the roof extended some 20-30 feet. In order to accomplish this we had to manhandle two 30 feet steel girders from the demolished lighthouse dwelling into position across the front of the gully (Plate 9). The value of this extension is reflected in the increased number of Redwings (42 against 5), Blackbirds (54 against 12), and other species trapped there in October 1949 as compared with those taken during the same period in the previous year. The Gully Trap had 550 birds in all, including 95 Wheatears, 95 Blackbirds, 76 Twites, 70 Meadow Pipits, 50 Redwings and 22 Goldcrests, as well as 36 of the 52 warblers trapped.

Dyke.—A small trap straddling a dry-stone wall by the roadside (Plate 7) was put up in the autumn of 1948 with the object of catching migrant Wheatears, many of which use the wall for cover. Of its total catch of 51 birds in the 1949 season, 23 were of this species. This trap, which is experimental, needs a few small modifications which it is hoped to effect in the coming summer.

Ward Hill.—The successful trap erected last autumn below the Ward Hill dominated a tangled mass of rusty dannert wire in which tired migrants took refuge. The wreck of last autumn's gale was cleared and the trap partially re-built on the same site. The new

structure, since we ran short of wire-netting, is smaller and less efficient than its predecessor; nevertheless, its catch included some interesting species, one being the second Lapland Bunting to be ringed in the British Isles.

Observatory.—A new "Heligoland" was built at the end of August 1949 among the huts at North Haven (Plate 8). Its situation ensured that it received the maximum attention, and its total "bag" of 190 birds in eight weeks (to say nothing of recaptured Rock Pipits and Starlings) was most heartening. The trap-mouth was kept baited with bread, and to this fact must be attributed the predominance of Starlings (43) and Rock Pipits (57) in the catch. Other important birds were Meadow Pipits (28) and White Wagtails (20), and it is already obvious that this trap will give a handsome return in a full season's work.

Other Methods.—Four small wire Potter Traps, baited with bread, accounted for 128 birds. We rigged up an experimental shore-trap by draping herring-net over an old iron framework, and succeeded in catching two juvenile Knots, a species which had been ringed in Britain only once or twice before. Ron Edwards achieved the incredible by catching a Sanderling in a Faeroe bird-fowling "fleyg": this comprises a large triangular net at the end of a 15 ft. pole, and is designed for use against Puffins and Fulmars as they fly close to the cliff. Two of these instruments were presented to us by Niels C. Rein of Torshavn, Faeroe, but they arrived too late in the season to be put to their legitimate use. We hope to master the art of using them effectively next summer at the puffinries of Burrista and Toor o' da Ward Hill.

Trapping in the Future.

Fair Isle is so large, and the autumn cover in the crofting area so widespread, that migrants quickly become dispersed about the crops: consequently it is impossible, in the absence of any heavy concentration of birds (such as occurs on smaller and more barren isles), to trap and ring more than a mere fraction of the numbers passing through. We are always on the look-out for potential trapping-sites and are trying to develop techniques specially suited to the conditions on Fair Isle; but it has to be borne in mind that Fair Isle is primarily an observation-station, and trapping must not encroach too much on time needed for the all-important business of recording the day-to-day numbers of species passing through. It is possible that a number of small, movable traps to stand at the ends of cabbage or turnip-rigs would increase our total considerably without lowering observation efficiency, since the crops have to be worked once daily in any case. Moreover, such a development would afford us an opportunity of handling and examining some of the rarer warblers which are seldom seen away from such cover.



KENNETH WILLIAMSON

Plate 8. "HELIGOLAND TRAP" AT THE BIRD OBSERVATORY HOSTEL.

Plate 9. STAGES IN THE RECONSTRUCTION OF THE "GULLY TRAP."

Photos—BRADFORD, WELLMAN AND K. WILLIAMSON



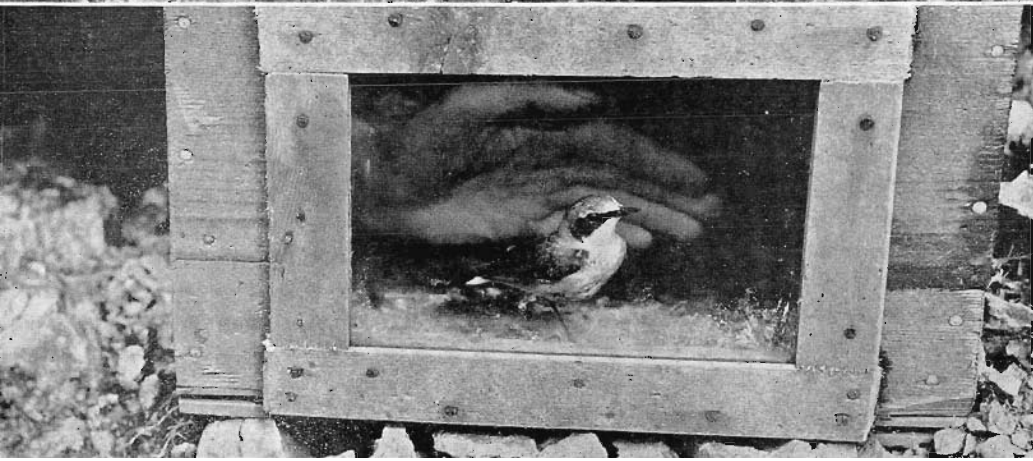
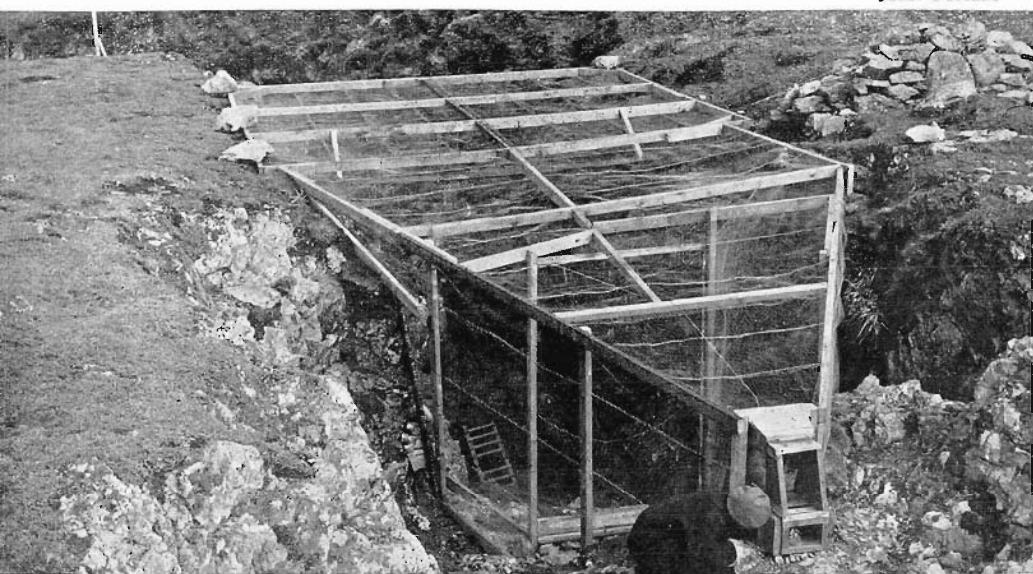


JOHN TOPHAM

Plate 10. GILSETTER BURN BELOW THE "GULLY TRAP."

Plate 11. THE "GULLY TRAP" (BEFORE RECONSTRUCTION) AND
MALE WHEATEAR IN CATCHING-BOX.

JOHN TOPHAM



There is need, too, for another "Dyke Trap" of an improved pattern placed midway along the stone-wall which runs out to Vaassetter from the Gully catching-area, and along which numerous Wheatears, Blackbirds, Redwings and many warblers move in the autumn after by-passing the Gully Trap. Such a trap could be driven in conjunction with the Gully Trap without upsetting the present routine, and it is sincerely hoped that funds will be available in the spring of 1950 to enable us to implement both projects. A model of the "Dyke Trap" we have in mind has been constructed by Grahame Brock to our specifications: it is a double trap, shaped rather like an hour-glass, open at each end, and narrowing to a central funnel in the middle of which is the catching-box.

Recoveries.

Last year we were fortunate enough to have a Wheatear, ringed as a nestling on Fair Isle in June, recovered at Braganca in Portugal in September. To date, this year has brought no comparable return despite the much greater number of birds ringed, but useful results of this kind will inevitably accrue as the ringing total grows. Two Fair Isle Starlings were recovered away from the isle, though at no great distance: a female ringed on 24th October 1948 was found dead in Aberdeenshire on 24th March 1949; and a nestling marked on 8th June was caught near Sandwick, Shetland, on 25th October, and released.

A Woodcock ringed as a north-bound migrant on 1st April 1949 was found wintering at Tarbert, Harris, in the Outer Hebrides, on 21st January 1950. Two female Blackbirds ringed as autumn passage-migrants have been reported; one ringed on 11th October 1948 was found on 1st February 1950 near Newcastle-on-Tyne, and the other trapped on 16th October 1949 was recovered at Morar, West Inverness-shire, on 18th January 1949. A Twite ringed on the island on 2nd October, turned up on Westray, Orkney, four months later.

Two local recoveries are of some interest as showing that at least some of the migrants which visit Fair Isle may actually spend the winter there. A Song-thrush (also mentioned on page 16) was taken in the Haa Trap on 16th November 1948, and again on 22nd January 1949; whilst a Robin, also re-trapped on that date had been first captured in the Gully on 11th November.

We were able to report to the Stavanger Museum the finding, in late August, of a dead juvenile Black-headed Gull bearing a Norwegian ring. The bird had been banded as a nestling by the Director of the Museum, Dr. Holger Holgersen, at Nese, Lake Orrevan, Jaeran, 14 miles SSW. of Stavanger on 12th June. In sending details. Konservator Holgersen also informed me that another chick ringed at the same place on the same day was found on 8th September at Cork, Eire.

SUMMARY OF BIRD-RINGING.

SPECIES	1948	1949			GRAND TOTAL
		Trapped	Nestlings	TOTAL	
1. Starling	88	165	30	195	283
2. Twite	10	111	—	111	121
3. Redpoll	2	—	—	—	2
4. Chaffinch	5	15	—	15	20
5. Brambling	1	3	—	3	4
6. Yellow-hammer	—	1	—	1	1
7. Reed Bunting	—	4	—	4	4
8. Lapland Bunting	—	1	—	1	1
9. Snow Bunting	4	—	—	—	4
10. House Sparrow	4	162	—	162	166
11. Skylark	1	4	8	12	13
12. Tree Pipit	—	9	—	9	9
13. Meadow Pipit	12	112	5	117	129
14. Rock Pipit	6	129	5	134	140
15. White Wagtail	1	27	—	27	28
16. Great Grey Shrike	1	—	—	—	1
17. Red-backed Shrike	2	—	—	—	2
18. Spotted Flycatcher	1	5	—	5	6
19. Pied Flycatcher	—	10	—	10	10
20. Red-breasted Flycatcher	—	2	—	2	2
21. Goldcrest	4	28	—	28	32
22. Chiffchaff	—	1	—	1	1
23. Willow-warbler	—	6	—	6	6
24. Greenish Warbler	—	1	—	1	1
25. Reed Warbler	—	1	—	1	1
26. Sedge Warbler	—	10	—	10	10
27. Barred Warbler	1	—	—	—	1
28. Garden Warbler	2	5	—	5	7
29. Blackcap	1	17	—	17	18
30. Whitethroat	—	5	—	5	5
31. Lesser Whitethroat	1	5	—	5	6
32. Fieldfare	—	5	—	5	5
33. Song Thrush	5	11	—	11	16
34. Redwing	15	55	—	55	70
35. Blackbird	25	130	5	135	160
36. Wheatear	39	145	32	177	216
37. Whinchat	1	2	—	2	3
38. Redstart	3	7	—	7	10
39. Black Redstart	1	1	—	1	2
40. Nightingale	—	1	—	1	1
41. Bluethroat	—	1	—	1	1
42. Robin	9	21	—	21	30
43. Hedge Sparrow	—	3	—	3	3
44. Wren	12	23	—	23	35
45. Swallow	—	2	—	2	2
46. Long-eared Owl	1	—	—	—	1
47. Merlin	1	1	—	1	2
48. Sparrow-hawk	—	2	—	2	2
49. Shag	—	—	19	19	19
50. Gannet	—	1	—	1	1
51. Storm Petrel	1	1	—	1	2

SPECIES	1948	1949			GRAND TOTAL
		Trapped	Nestlings	TOTAL	
52. Fulmar	1	6	20	26	27
53. Woodcock	2	2	—	2	4
54. Knot	—	2	—	2	2
55. Dunlin	—	1	—	1	1
56. Sanderling	—	1	—	1	1
57. Common Sandpiper	—	1	—	1	1
58. Oyster-catcher	15	—	21	21	36
59. Herring-gull	—	1	15	16	16
60. Lesser Blackback	—	1	9	10	10
61. Greater Blackback	—	1	—	1	1
62. Kittiwake	—	2	—	2	2
63. Great Skua	4	—	4	4	8
64. Arctic Skua	4	—	12	12	16
65. Puffin	—	27	12	39	39
66. Corncrake	—	1	—	1	1
67. Spotted Crake	—	1	—	1	1
68. Water Rail	1	9	—	9	10
69. Moorhen	1	1	—	1	2
TOTALS	288	1,308	197	1,505	1,793

LABORATORY ROUTINE.

Weighing.

Our laboratory routine, some aspects of which are illustrated on Plates 5 and 6, includes the careful weighing of all small birds when they are brought in from the traps, and although much of this data still awaits analysis, several interesting points have emerged. Migrants which undertake a long overseas flight appear to lose a considerable proportion of their weight whilst doing so, and the gain in weight of some birds retrapped after only a short stay on the island has already been discussed (pages 15-16). The difference in average weight between migrant and nesting birds of the same species is interesting: whilst 13 out of 18 Meadow Pipits trapped at the height of the nesting-season weighed over 21 g. each, 20 newly-arrived migrants on 30th September and 1st October averaged only 15.2 g.

There is some evidence of a sexual difference in weight in certain species. We now have over 300 weighings of Rock Pipits at various times of day from late June to November, including of course many "recaptures" of resident birds. Wing-length provides an indication of sex in this species, and it has been found that those with wings over 90 mm. long are, on the average, 3 g. heavier than those with wings under 88 mm. Cock Blackbirds are slightly heavier than hens, and five male Chaffinches trapped in autumn average 4 g. heavier than 11 females. Alec Butterfield, who stayed at the Observatory in August, has kindly undertaken the statistical analysis of bird-weight records.

Redwings have set us a problem which may be connected with the phenomenon of weight-loss during migration. Our 47 autumn migrants in 1949 averaged 65.4 g. as against 87.7 g. of seven spring migrants,—which, of course, had come to us over a much shorter distance. The heaviest bird in autumn was an adult Iceland Redwing weighing 80.7 g., nearly 3 g. less than the lightest of the spring birds. It is curious that the Blackbird, another thrush which comes to us from Scandinavia, and one for which we have amassed considerable data, shows little difference between spring and autumn weights. The Redwing's pattern occurs again in the White Wagtail, however, and we may find it in other species when more records are assembled.

Plumage Studies

Some work was done from late August onwards in noting details of wing, body and tail moult in trapped Starlings and House Sparrows, and detailed information is now available for the first of these. We continue to record details of moult in migrant birds, and interesting examples of spring moult in Song Thrush and Redstart (which normally moult in autumn only) have been communicated to *The Scottish Naturalist*. Systematic work in attempting to elucidate the characters of Continental and Iceland Redwings was also undertaken in the autumn, but a full plumage study of these races and the geographical races of the Wheatear occurring on Fair Isle must await the installation next season of the Lovibond-Schofield Colorimeter. This instrument should give a numerical reading for even slight differences in plumage-tints: if it justifies our hopes, then we may be able to sort out various populations of the same species, or identify different "waves" of migrants one year after another. In two successive years now we have had "waves" of dissimilar Song-thrushes in early and late October, the later birds greyer on mantle and rump than the others. If, by a chance recovery of a ringed bird at its breeding-place, we can manage to pin down a certain colour-group of a certain species to a definite area of northern Europe or elsewhere, then we may expect to get a more accurate picture of the bird's migration than is at present possible when we refer to the daily weather charts. The colorimeter is a tool that has not been tried in the field, so far as we know, and although nothing can be claimed for it until it has been tried, it is an instrument which could conceivably increase the potentialities of bird observatory work and add to our knowledge of migration.

The sexing and ageing of migrant Blackbirds had interesting results: throughout October the Blackbirds were almost entirely first winter males and females in equal proportion, but from the beginning of November adult birds, twice as many females as males, preponderated. We hope to collect similar data for this and other species of migrants in future seasons.

Bird Parasites.

Bird-parasites (fleas, flat-flies and mallophaga) were collected from a number of hosts and sent to Eugene O'Mahony for determination. The present season brought nothing of comparable importance with the tick *Hyalomma marginatum balcanicum*, new to Britain, which was found on a Rose-coloured Pastor in August 1948; but the Water Rail was recorded as a new host for the Hippoboscid fly *Ornithomyia avicularia*, whilst a young Arctic Skua gave us a new host-record for the related *O. fringillina*, which also turned up again on Rock and Meadow Pipits, Twites and Wheatears. A specimen of *Ornithomyia fringillina* taken from a Wheatear on 22nd August was itself found to be parasitised by a mite, *Microlichus* sp. The females of this genus, although spending much of their lives as epidermal parasites of birds, repair to flat-flies for breeding purposes, attaching themselves and their eggs to the base of the fly's wings. A. R. Edwards is at present working on the identity of these mites, which belong to a little-known group. We were interested to find mallophaga parasitising day-old chicks of the Arctic Skua, doubtless transferred from the parent birds whilst brooding. It is also interesting to note that some immature Blackbirds, Redwings and a Robin which passed through the island between 7th-10th October were infested with small ticks in the region of gape and eye-rim. No subsequent migrants carried the tick until two adult female Blackbirds were seen to be infested on 1st-2nd November. In view of the known time-lag between immature and adult Blackbird migration, one cannot help wondering if this indicates that these adults came from the same region of the continent as the young birds of three weeks before. It will be interesting to see if similar "waves" of affected birds pass Fair Isle again in future years.

"The Study-Collection.

At the beginning of the 1949 season a selection of bird-skins from the J. G. Millais collection was obtained on loan for use at the Bird Observatory through the kindness of the authorities of the City Museum and Art Gallery, Perth. These skins were of considerable use to us for checking the field-identification of some birds, and assessing the racial affinities of certain migrants, as well as for general instructional purposes. The value of such a collection at a modern field-study station cannot be over-estimated, and our warmest thanks are due to the Perth City Council Museum and Art Gallery Committee for their ready co-operation in this matter.

We are adding to the study-material at the Royal Scottish Museum by preserving birds which are found injured or dead, as a result of striking telephone wires or the lighthouse lanterns, or through other causes. Skins prepared in the laboratory during the past season include an interesting series of local Starlings, young and adults, in

heavy moult to winter plumage; several Continental Redwings, which were a useful aid to the segregation of trapped Iceland birds; two Northern Great Spotted Woodpeckers, juveniles moulting to first-winter plumage; a juvenile Arctic Skua (see page 25), several Meadow Pipits and a number of other small birds. A goose shot for food by one of the islanders was presented to the collection when the importance of the specimen was realised: it was an adult, Pale-breasted Brent Goose, *Branta bernicla hrota* (Müller), and apparently the first definite record of this form for Shetland.

THE BREEDING BIRDS.

Arctic Skuas.

It is part of the field-work programme of the Observatory to conduct a detailed investigation, extending over many seasons, into the breeding-biology and behaviour of the Great and Arctic Skuas. A good deal of useful exploratory work was done among the Arctic Skuas in 1949, mainly in locating the nesting-sites and getting to know the individual characteristics of plumage and behaviour of the 20 pairs, but also in deciding on the methods of study to be adopted in future seasons, and selecting key-points for the erection of observation hides.

Observations on the distraction or nest-protecting behaviour of the adult birds (further to those already published in *Ibis*, Jan. 1949) were carried out, throwing further important light on the development of this fascinating and complex series of behaviour-patterns.

Twenty pairs of Arctic Skuas are known to have nested in 1949, eighteen nests being located and two further broods discovered at a distance from the main colony, which centres around the Eas Brecks, Burn of Furse and Homisdale areas. Four of the pairs were mixed matings, in which one parent was of the white-bellied type, and the other wholly brown. In 1948 not a single young Arctic Skua was reared on Fair Isle, but this year the birds appear to have had much the best breeding-season of any since they re-colonised in the early years of the war. For this I think we have to thank the warm dry spell during July: the chicks, when small, do not appear able to survive cold, wet conditions. Of the twenty pairs, nine were wholly unsuccessful in rearing young (although only one pair failed to hatch its eggs), eight pairs reared a single chick each, and three pairs reared the full brood of two. Thus, despite the excellent conditions, over half of the young failed to reach the fledging stage. This was probably due to a certain extent to the skuas themselves, for there is evidence that a chick which strays from its own territory into that of another pair is attacked and killed. Of the thirteen young which left the isle (one died after fledging), eleven were ringed.



JOHN TOPHAM

Plate 12. MAKING A COUNT OF BRIDLED GUILLEMOTS AT THE SHEEP CRAIG.

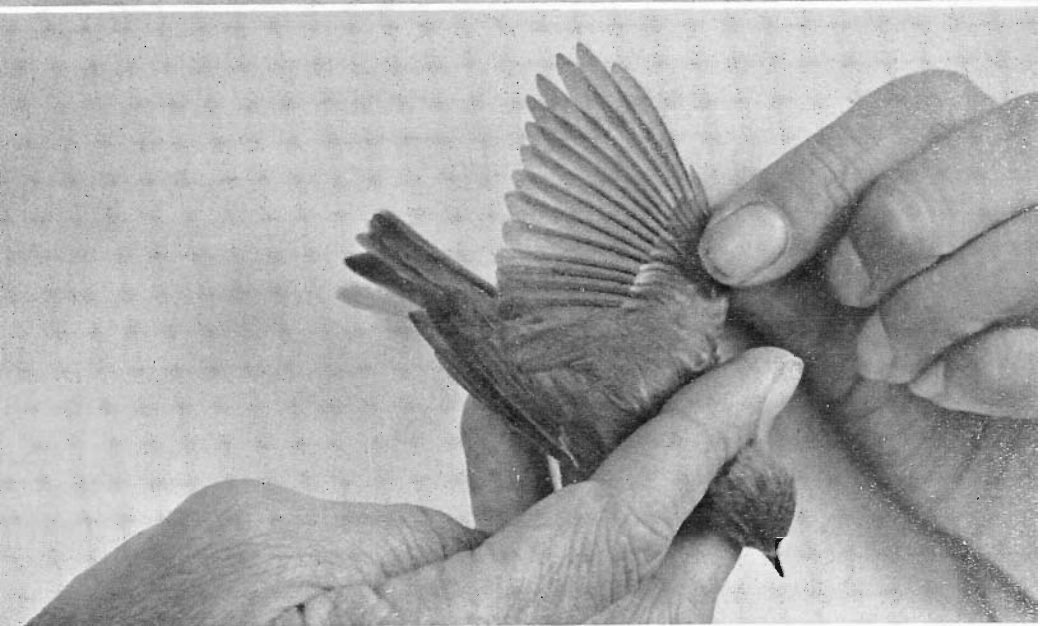


Plate 13. SOME INTERESTING CAPTURES, 1949.

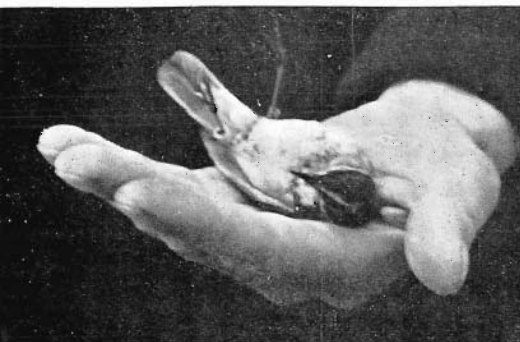
(Above) NIGHTINGALE.

(Middle) GREENISH WARBLER.

(Below, left) BLUETHROAT.

(Below, right) SPOTTED CRAKE.

Photos—JOHN TOPHAM, JOHN PETERSON AND KENNETH WILLIAMSON



Observations were made on the spread of hatching and the length of incubation and fledging periods, and graphs were plotted to show the wing-growth and changes in weight of several youngsters as the fledging stage approached. We introduced a colour-ringing scheme planned to enable us to identify the surviving youngsters with their parentage and year of birth should they return to the colony in future years. It is hoped by this means to gather data on such questions as the inheritance of the light and dark phases; the connection (if any) between these adult phases and the two extreme types of juvenile plumage, dark brown and chestnut; the inheritance of egg-types and pronounced characteristics of behaviour.

It is a pity that the most important youngster, the only progeny of a light × dark pair to reach the fledging stage, should have died three weeks after taking to the wing. A skin was prepared and is in the F.I.B.O. collection. Another very interesting youngster, which fortunately survived, was produced by a dark pair, the female of which showed a partial albinism which she passed on mark for mark to the chick, in both down and juvenile plumages.

Long watches were made from hides on the nesting-grounds of various pairs, and the feeding of the chick and other aspects of its daily life were observed and noted. Much more remains to be done, not only at this period, but throughout the whole breeding-cycle from arrival at the nesting-ground to the departure in autumn. There is also the wider problem of the skuas' apparently complicated social life to explore. The experience gained in this first "trial year" should—if conditions are suitable—enable us to embark on a thorough investigation of the social and family life of this fascinating species in 1950, and we hope there will be no lack of observers willing and eager to assist in this research.

The Great Skua.

Four pairs of Great Skuas bred in 1949 as in the previous year, one pair again unsuccessfully, and the others raising a total of four young between them. The Eas Brecks pair reared two young as last year: the first egg was laid on 15th May, hatching took place between 27th-30th June, and the elder youngster flew on 3rd August at the age of 48 days (Plate 4). Again, observations were made on behaviour (particularly the aggressive display for which this species is notorious), the wing-development of the young birds, and so on.

A late-nesting pair on Vaassetter was the subject of intensive observations by Kathleen Preston, who watched the birds' family life from a hide on the nesting-ground. Two chicks were hatched here, and although they were equal in weight on the morning after the second hatch, the younger one failed to respond when called up by the parent birds, which for some days fed the chicks only at the nest-site. Consequently it missed its feeds, lost weight, and soon

died. A series of weighings of the elder chick shows an interesting pattern in which the greatest increase is usually between mid-day and dusk, with little or no gain during the night. The surviving chick flew on its 54th day.

The Oyster-catcher.

Observations on the behaviour of the Oyster-catcher, particularly in reference to the behaviour of the juveniles, and also the distraction or nest-protecting displays, were taken a stage further in 1949. A close study was made of the so-called pseudo-sleeping attitude, in which a bird puts its bill among its scapular feathers as though intending to sleep, but remains fully alert with eyes wide open all the time. A short paper has been prepared on the incidence and significance of this curious activity in the distraction behaviour, and has appeared in *British Birds* for January 1950.

Miscellaneous notes were made on other breeding-species, such as Eider and Meadow Pipit (distraction display), Wheatear (nesting-sites, song and brood-size), Fulmar (weights of young birds and the nature of the oil-spitting habit), Starling (clutch and brood-size) and Black-bird. The last is a comparatively recent nesting-bird on Fair Isle, and in 1949 two pairs reared broods. One of these fledged four young on the first occasion, and later succeeded in rearing a single chick from a second clutch. The nest of the second pair was not found, but the young of both families were colour-ringed, two of the second pair being captured in the Haa Trap. The Northern Guillemots nesting on the Sheep Craig were counted to determine the number of "bridled" birds,—specimens having a white line encircling the eye and extending backwards towards the nape. The sample of 215 birds gave a percentage of 19.4 for the "bridled" variety, whereas at the last count in 1946, 403 birds counted gave a "bridled" percentage of 15.38 (Plate 12).

OTHER ACTIVITIES.

A. R. Edwards, accompanied by his wife, stayed for the month of August making a study of the insect fauna of the island. He is working out his collection as part of his studies at Edinburgh University, and hopes to continue the field-work on Fair Isle in future seasons. He has kindly offered to present the specimens to the Bird Observatory to serve as a reference collection for others who may work on the island's entomological fauna in years to come.

Eric Duffey spent a fortnight on the island studying various aspects of the breeding-biology of the Fulmar, in connection with his zoological work at University College, Leicester. E. F. Warren, of Queen Mary's School, Basingstoke, prepared an excellent paper on the economic geography of Fair Isle as a result of his stay with Mrs. Warren in August; and a younger visitor, Master John Wightman of Edinburgh, produced for private circulation an 18,000 word account of a week's holiday at the same period,—a commendable piece of work.

In June, David K. Wolfe-Murray ("Fish-hawk") and a photographer of the B.B.C. Television service visited the Bird Observatory to film Oyster-catcher, Great and Arctic Skuas at their nests, and this film has appeared in the television programme. John Topham, who came in May, also made a 35-mm. film incorporating various aspects of the Bird Observatory's work, and in addition he took numerous still photographs, many of which have since appeared in the Press. John Peterson also spent much time in photography, and in late September, Clifford Holt secured 16-mm. colour film of a Yellow-browed Warbler and other interesting birds. Roland Svensson, a well-known Swedish artist, spent three weeks at the hostel in September and early October, and made many fine sketches of the island scene.

LIBRARY.

The Trust is indebted to a number of visitors who very kindly made gifts of various books to the Library, which we can now claim is adequate to the needs of a field-study station of this kind, and has proved of great assistance to students of the island's social and natural history. There is a fine section dealing with Shetland history and folk-lore, for the most part loaned by George Waterston, and much of the ornithological and general natural history literature has been deposited by the Director and himself. An anonymous well-wisher, a friend of Miss Joyce Henderson, presented the five volumes of "The Handbook of British Birds," unquestionably the most useful single work that any bird observatory could have. Donors of other volumes, to whom we also express our warmest thanks, are Sargent Wellman (Roger Tory Peterson's "A Field Guide to the Birds" of eastern North America, and other American publications), Robert Haslam (Newton's "Dictionary of Birds"), W. H. Haslam ("Twelfth Report and Inventory of the Ancient Monuments of Shetland"), Douglas Grant (current issues of *The Ibis*), Tom Henderson (Gilbert Goudie's "Antiquities of Shetland"), John and Mrs Peterson (Saxby's "Birds of Shetland"), Miss K. M. Weir, Alec Butterfield and W. H. Tucker (Bentham and Hooker's "Flora"), Misses Hesketh-Williams and C. Duthiot (Edmonston's "Flora of Shetland"), Fru Hansine Rein (Debes, "Coloured Illustrations of Faeroe Islands Knitting Patterns"), Richard Fitter (Haywood's "A Botanist's Pocket-book"), Dr Saxby of Unst (Shetland poems), and Guy M. Goodwin ("Journal of the

Royal Artillery," containing an account of his visit to Fair Isle). Dr M. Neal Rankin is also thanked for a number of very useful books on bird-behaviour, including works by E. A. Armstrong, F. B. Kirkman and F. Fraser Darling, and we are very grateful to Miss M. P. Ramsay of Edinburgh, for the gift of a number of very useful books in memory of her late brother, L. N. G. Ramsay, a noted Scottish ornithologist.

ACKNOWLEDGMENTS.

The Trust is grateful to many people who have assisted in one way or another the work at Fair Isle during the season under review. In addition to the Perth City Museum and Art Gallery, and the donors of books, mentioned in previous sections, our thanks are due to the following for useful gifts: His Grace the Duke of Bedford (portrait of the late Duchess of Bedford), Mrs Stenhouse (portrait of the late Surgeon Rear-Admiral J. H. Stenhouse), H. A. Course (wall-clock for hostel sitting-room), Alexander Bennett (Ordnance Survey sheets of Shetland), W. H. Clague (anemometer), Niels C. Rein (two Faeroese bird-fowling "fleygs"), John Topham (photographs and field-telephone set), Adam Baptie (beam-balance), Miss K. Ward (shrubs), John Peterson (photographs, lantern-slides and shrubs), Stanley Cursiter (sketches of Fair Isle), A. Sutherland ("poster" showing Bird Observatory), Grahame Brock (models of bird-traps), G. Theo Kay and C. W. Holt (loan of colour-films of Fair Isle), W. H. Tucker (photograph and lantern slide).

Once again we must mention our gratitude to John and William Fraser for various favours, and to Tom Henderson and G. Theo Kay for the assistance given to our visitors when passing through Shetland. We thank our visitors for their assistance not only in the scientific work of the Bird Observatory, but also in those many small domestic tasks which lead to the smooth running of the hostel; and also the staff—warden Pat Robertson, and the maids Kristina and Valdis Djurhuus—for their splendid contribution towards the season's success.

The Bird Observatory is very fortunate in that a number of the Fair Islanders combine their daily routine in the fields and about the croft with amateur bird-watching of a really high standard, so that a good deal of valuable information comes to us from this source. It is a very real pleasure to us to conclude this report with a warm expression of thanks to the islanders for their keen interest and friendly co-operation in the station's work, especially for their ready willingness to permit observations being carried out among their root-crops. Much of the success of autumn observations depends upon this favour, as the crops then provide the only good cover on the island, and we hope that visitors will continue to take every possible care when exercising this privilege.

KENNETH WILLIAMSON.

TREASURER'S REPORT

I think it right, on the occasion of this our first annual report, to give some short outline of the financial situation. Our accounts and balance sheet have been kept as simple as possible and have been approved by the Auditors. They show a deficit to 31st December 1949, of £276. You will see that we have incurred considerable initial expenditure of a capital nature. This money has been spent in building the first series of bird-traps on Fair Isle, creating our laboratory and providing the necessary scientific equipment, providing comfortable accommodation for visitors, furnishing the observatory buildings on the island and furnishing the headquarters in Edinburgh. Such expenditure is, in effect, capital expenditure, in that it is mainly non-recurring; it totals £5,633, 17s. 2d. and the details appear in the balance sheet in the assets column. It was felt that to enter the full expenditure as assets would be to give a false impression, since much of the money was spent on the alteration and building of huts and traps on Fair Isle and would only be recoverable in part in the event of the Trust being wound up. We have therefore written down the individual items to a figure which in the opinion of the Trustees represents their true market value in the event of a sale. The amounts so written off appear as deductions before arriving at the final figures in the assets column, and also appear in the revenue account as expenditure.

The only other item calling for comment is the figure of £1,968, 15s. in the liabilities column of the Balance Sheet. This represents cash put up by private individuals in the early stages of the Fair Isle Scheme. If the observatory was to make a start, it was essential to spend money. We were fortunate in finding certain private individuals who were prepared to take a chance and to lend the capital necessary to start the scheme in the knowledge that they might never be repaid. This initial loan remains as a debt due but need only be paid back as and when funds permit.

I should like to place on record here the debt of gratitude which we owe to all of you who have subscribed and in particular to the Pilgrim Trust whose grant of £3,000 was so invaluable. I might mention that since the closing of the 1949 account the Nature Conservancy have voted us a sum of £1,000 towards certain specific items of equipment. This grant will appear in next year's figures, but I would take this opportunity of thanking them for this generous help.

We have made, thanks to our various supporters, a quick and promising start. We are established on a sound working basis. The main problem for the future will be one of annual revenue. Our yearly income from subscriptions and donations is at the moment

roughly £1,000. We should like to double that sum. We want to be able to develop, to build new traps if necessary, to initiate new lines of enquiry, to help young students by offering them reduced terms, and especially do we want to be able to pay our Director the salary which his work deserves. At present our finances make that impossible.

I must emphasise the point made by the Chairman that ours is a long term project. Continuing work in the field means continuing expenditure, and it is vital to our ultimate success that we should be able to budget with confidence for a secure annual revenue. We hope that you will not only continue your own subscriptions, but that you will encourage others to subscribe. If each of you could but secure one new Friend of Fair Isle, our future and our ability to carry out a full programme would be assured. I need not stress the benefit to our budget should subscribers see their way clear to enter into and sign the Deed of Covenant which accompanies this report. Such action gives us a guaranteed payment on which we can rely, quite apart from the fact that it enables us to reclaim, at no extra cost to the subscriber, a substantial sum in tax from the Inland Revenue.

In conclusion, I think that we have made a good beginning, but ours is a project of which the very essence is continuity over the years. We would like, eventually, to own both the Fair Isle and our Edinburgh headquarters. We would like to make a successful Fair Isle Observatory the nucleus of a larger scheme that would embrace, and if necessary assist, other observation stations round our coasts. But such dreams can only be realised if the money is there to back them. We hope that each and every one of you who have helped us may live to see our dreams, and yours, come true. But just remember, if you have faith in the future of our venture, that a few words in your Will might help us enormously in the years to come.

IAN PITMAN.

FAIR ISLE BIRD OBSERVATORY TRUST

REVENUE ACCOUNT

For the period to 31st December, 1949

Subscriptions and Donations for 1948 and 1949	£2,304 18 3	Wages and National Insurance	£1,421 3 1
Sale of Pamphlets, etc.	46 6 8	Less: Private Contribution	1,000 0 0
Income Tax recoverable under Deeds of Covenant for Year to 5th April 1949	186 5 7		£421 3 1
Grant from the Pilgrim Trust	3,000 0 0	Printing, Postages and Stationery	138 19 0
	£5,537 10 6	Travelling Expenses	101 17 7
Deficit carried to Balance Sheet	276 0 0	Miscellaneous Expenses	257 0 9
		Expenses of Administration	134 16 1
		Loss on Hostel Account	108 0 0
		Expenditure on Freight, Sundries, etc.	438 11 9
		Repairs, etc., at 17 India Street	214 15 8
		Director's Removal Expenses	170 9 3
		Cost of Appeal Booklets	310 0 0
		Amount written off Expenditure on Buildings, etc., at Fair Isle	2,576 17 6
		Amount written off Expenditure on Furniture and Furnishings at Fair Isle	628 11 10
		Amount written off Expenditure on Furniture and Furnishings at 17 India Street	242 4 11
		Amount written off Expenditure on Scientific Equipment	70 2 11
	£5,813 10 6		£5,813 10 6

BALANCE SHEET

As at 31st December, 1949

LIABILITIES.		ASSETS.	
Sums advanced	£1,968 15 0	Buildings, Traps, etc., at cost	£3,026 17 6
<i>Note:</i> These advances are repayable only in the event of Funds being available.		Less: Amount written off	2,576 17 6
Messrs J. & F. Anderson, W.S., for sums advanced by them	£1,526 12 5		£450 0 0
Sundry Creditors	15 0 0	Furniture and Furnishings, etc., at Fair Isle at cost	£1,628 11 10
	1,541 12 5	Less: Amount written off	628 11 10
			1,000 0 0
		Furniture and Furnishings, etc., at 17 India St. at cost	£712 4 11
		Less: Amount written off	242 4 11
			470 0 0
		Scientific Equipment, etc., at cost	£266 2 11
		Less: Amount written off	70 2 11
			196 0 0
		Consumable Stores	102 1 3
		Income Tax recoverable	186 5 7
		Cash in Bank and in hand	830 0 7
		Deficit per Revenue Account	276 0 0
	£3,510 7 5		£3,510 7 5

EDINBURGH, 1st March 1950. *Examined and found correct.*

LINDSAY, JAMIESON & HALDANE, C.A.

GEORGE WATERSTON & SONS LTD., *Printers*, EDINBURGH.

FAIR ISLE BIRD OBSERVATORY TRUST

SUBSCRIPTION and
COVENANT FORMS

Hon. Treasurer :

IAN R. PITMAN, W.S.

48 Castle Street
Edinburgh

FAIR ISLE BIRD OBSERVATORY TRUST.

Please detach and fill up this form and send it to The Manager, The Union Bank of Scotland, Ltd., 64 George Street, Edinburgh, 2.

I,
(Please use Block Letters.)

being in sympathy with the objects of THE FAIR ISLE BIRD OBSERVATORY TRUST apply for election as a FRIEND OF FAIR ISLE and enclose herewith the sum of £1, 1s. being my first year's subscription.

Cheques should be made payable to The Fair Isle Bird Observatory Trust and crossed Union Bank of Scotland, Ltd.

My address to which all communications should be sent is :—

.....
(Please use Block Letters.)
.....
.....

Date.....

BANKER'S ORDER.

FAIR ISLE BIRD OBSERVATORY TRUST.

Date.....

Bankers.....

Branch.....

Please place to the credit of The Fair Isle Bird Observatory Trust at The Union Bank of Scotland, Ltd., 64 George Street, Edinburgh, 2, on receipt of this Order and on the same date in each year the sum of

.....Pounds.

Signature

2d.
Stamp

Address.....
.....

This Order should be sent to the Manager, Union Bank of Scotland, Ltd., Edinburgh.

Note: Do not send this direct to your own Bank.

COVENANTS.

The Fair Isle Bird Observatory Trust has introduced a scheme for the payment of subscriptions under Covenant. This means that, if you pay Income Tax at the full rate and intend to remain a member of the Trust for seven years or more, you have an opportunity of increasing its funds without any additional cost to yourself.

This result is attained by entering into the attached undertaking to pay your annual subscription for over six years. By paying your annual subscription at the minimum rate of one guinea per annum you are then considered to have "charged" your total income with an amount which, with Income Tax at the present rate, is equivalent to £1, 18s. 2d. The Trust will be able to reclaim the extra 17s. 2d. from the Inland Revenue, and you will thus be giving the Trust £1, 18s. 2d. worth of subscription for payment of one guinea only. You do not have to pay anything further to the Revenue, as the 17s. 2d. is included in the tax you have already suffered. The same principle applies of course if you are able to covenant for a larger annual subscription than the guinea minimum.

A certificate relating to the deduction has to be signed by the "covenanting" subscriber. This will be forwarded for completion each year when your subscription has been received.

If you already pay your subscription by Banker's Order, the signing of the Covenant in no way interferes with this arrangement. In fact it would be of great assistance if the covenanters would pay their subscriptions by Banker's Order, at least for the period covered by the Covenant.

The Deed of Covenant and a Banker's Order form are attached, and if you are willing to assist the Trust to increase its funds in this way, I should be grateful if you would sign them, in the presence of two witnesses and send them direct to The Manager, The Union Bank of Scotland, Ltd., 64 George Street, Edinburgh, 2.

IAN R. PITMAN,

Hon. Treasurer.

- NOTE 1. The scheme applies only to Income Tax Payers, *i.e.*, those whose income is above the statutory limit of exemption and who pay Income Tax at the full rate.
2. In the event of the death of the subscriber, the Covenant automatically terminates, leaving no liability to the Executors.
 3. The scheme is not an evasion of the Income Tax Law, being provided for in the Finance Act of 1922.
 4. **The date of the first payment under the Covenant must be later than the date on which the Covenant is signed.**

FAIR ISLE BIRD OBSERVATORY TRUST.

I,
(Name in Block Letters.)

of Do
HEREBY COVENANT and agree that for the period of
years, or until my death (whichever should be the shorter period)
I shall pay yearly to the Fair Isle Bird Observatory Trust, per their
Treasurer, for the time, a sum which, after deduction of Income
Tax at the appropriate rate, will amount to
per annum, the first of said payments to be made on the
day of and so forth yearly on said day of
..... during the subsistence of these presents, and I
declare that said annual sum shall be held to represent payments
to the General Funds of said Fair Isle Bird Observatory Trust for
the year ending Fifth April following the date of payment thereof.

Signed by me at this
day of

Signature.....

BEFORE THESE WITNESSES :—

Signature.....

Address.....

Profession.....

Signature.....

Address.....

Profession.....

FAIR ISLE BIRD OBSERVATORY

The Work of the Observatory.—The purpose of the Bird Observatory is to provide facilities for visitors to carry out scientific research on the island, not only in the sphere of ornithology, but in every aspect of Natural History. Work will be mainly concentrated however on ornithology under the supervision of the Director. The Observatory will be open from 5th April 1950.

The Hostel.—The Hostel has accommodation for ten observers. It is sited at the North Haven, the main landing-place, and consists of a group of well-constructed timber buildings formerly occupied by the Royal Navy.

Terms.—Full board, including service, is FIVE GUINEAS PER HEAD PER WEEK. Reduced terms are available for parties of students from schools and universities. These terms include use of bicycles, bird-rings, and other Bird Observatory equipment, but do not include hire of motor transport or small boats whilst staying on the island.

Catering.—Breakfast is served at 9 a.m., lunch at 1 p.m., and supper at 6.30 p.m. Facilities for early morning and late evening refreshments are provided in the hostel sitting-room.

Applications.—Priority in bookings will be given to "Friends of Fair Isle," and to *bona fide* naturalists prepared to take part in the scientific investigations of the station under the leadership of the Director, and to help with such other duties as may be necessary from time to time in connection with the station or hostel. Anyone else wishing to visit the island will be made welcome, provided room is available. Those who are not keen ornithologists are asked to book for the summer months—June, July, and August—so that more accommodation will be available in the Spring and Autumn for students of bird migration. Application should be made as follows :—

(1) If made between 1st April and 31st October.

To the Director, Fair Isle Bird Observatory, by Lerwick, Shetland. Telegraphic address: "Migrant, Fairisle."
Telephone: Fair Isle 8.

(2) If made between 1st November and 31st March.

To the Director, Fair Isle Bird Observatory Trust, 17 India Street, Edinburgh. Telephone: Edinburgh CENTral 4532.

Prospectus.—Giving details of transport to and from Fair Isle, and other information, will be sent on application.

Scientific Publications.—Subscribers can obtain reprints of the Scientific Publications of the Observatory free on application to the Secretary.

[illegible]**Halpern**

Edin