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William Brewster
REPORT (received from the author
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DESCRIPTION OF BIRDS

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SPRING AND AUTUMN OF 1880.

BY

JOHN A. HARVIE BROWN, F.R.S.E., F.Z.S.,
JOHN CORDEAUX, AND P. M. C. KERMODE.

LONDON:

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PREFACE.

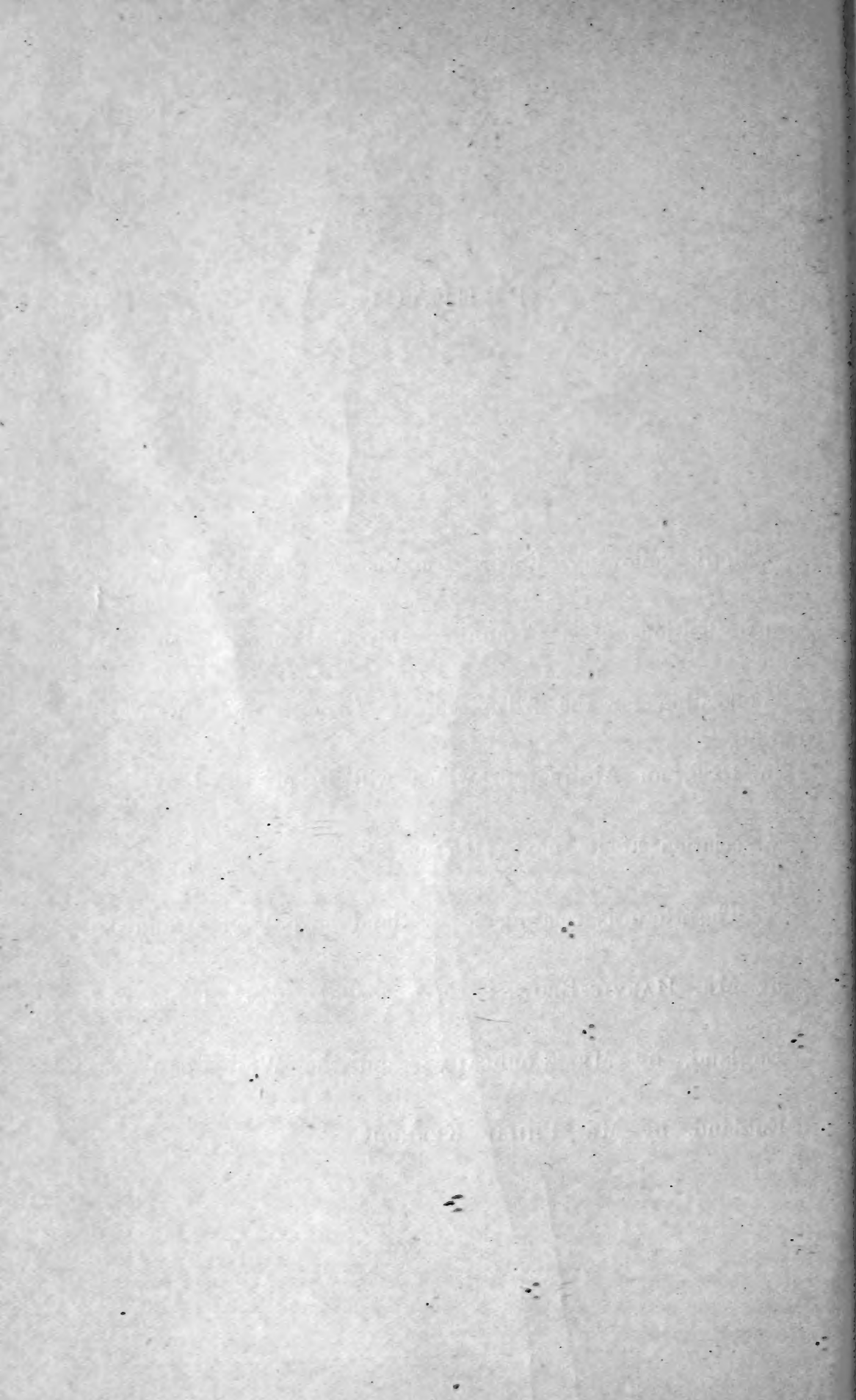
THE following Report contains a Summary of the investigations of a Committee appointed by the British Association for the Advancement of Science at Swansea in 1880, an Abstract of which will be presented to the Association at its next Meeting.

The Returns relating to Scotland have been arranged by MR. HARVIE-BROWN; those for the East Coast of England, by MR. CORDEAUX; and the West Coast of England, by MR. PHILIP KERMODE.

John Cordaux

Secretary to Committee

Great Britain
July 17th 1882.



REPORT
ON
THE MIGRATION OF BIRDS
IN THE
SPRING AND AUTUMN OF 1880.

“I am fixing correspondents in every corner of these northern regions, like so many pickets and outposts; so that scarcely a Wren or a Tit shall be able to pass from York to Canada but I shall get intelligence of it.”—ALEXANDER WILSON, in 1808. (*Vide* Constable's Edition, 1831, p. xlix.)

EAST COAST OF SCOTLAND.

Iceland and Faroe.—Schedules, letters of instruction, and additional remarks were forwarded through Mr. Alexander Buchan (Secretary, Scottish Meteorological Society, Edinburgh), to three stations, two of which, Stykkisholm and Reykavik, are in Iceland, and one at Thorshavn in Faroe. A fourth more northern station is secured at Fair Island for 1881, Mr. William Lawrence having kindly undertaken the work.* Our Faroe station has failed us this year, but we hope better things from it next.

* At a later date I received a letter (dated 17th March) from Mr. Lawrence, containing a few items of interest. During the week previous, “A number of Swans took shelter at Fair Isle, and a large flock of common Black Crows, with a few Jackdaws amongst them. The Hooded Crow is the common one here, and we never have the Black Crow here unless after, or during, gales of wind. Puffins and Guillemots arrived somewhat later this season, and a large increase appeared in the number of Gulls. Lapwings appeared, and one Coot was caught in a very disabled condition. Large flocks of Snow-birds are seen here. They came very early in winter, but disappeared again till now, when they have returned. A large flock of Wild Geese arrived here on the 14th inst. We do not often see them here. Four Swans were caught; the largest weighed twenty pounds, and the others from that down to sixteen pounds.”

Printed schedules, letters of instructions, and additional remarks were forwarded to twenty-six stations on the East Coast of Scotland and the Shetland and Orkney Islands, making, with the Iceland and Faroe stations, thirty-nine in all for 1880. With Fair Isle for 1881 we shall have forty stations.

Eight stations on the East Scottish coasts returned filled-in schedules, against thirteen last year, out of a total of twenty-six. This shows a falling off from last year. The reasons for this I have endeavoured to explain in my general remarks further on, under both East and West Coast. Scarcity of birds is reported from several stations.

The stations from which co-operation was asked are the following, commencing with the most northerly. Those from which returns have been received are marked with a *; those which sent returns both last year and this year have two **; those which sent none last year but have done so this year have a † prefixed; those which sent returns last year but none this year are printed in *italics*. In future Reports we will prefix to each station the years in which these stations make returns. A marked improvement appears, however, in the returns which we have received, these being fuller than in 1879.

We would like, however, to direct the special attention of our reporters, both on the East and West Coasts, to the desirability of recording exactly the *directions of flight* of the birds observed in every case, so far as practicable, and to minutiae of dates, even of single occurrences. Let us also impress that even a single accurate return, or one entry only in a schedule, is often of value; and even if solitary occurrences of birds take place at a station, such should be sent to me, though the schedule be otherwise a blank. The interest has this season been better kept up on the West Coast stations than at the East Coast ones, judging from the scarcity of returned schedules from the latter. When no schedules are returned, I would esteem it a great favour if the lighthouse-keepers would kindly drop me a post-card, stating if there is any reason for no returns being sent, such as pressure of duties, scarcity of birds, or other causes.

In connection with the migration of 1880, I have to mention that considerable aid to the work has been given by Mr. James Hardy, of Old Cambus, Berwickshire. He writes to me (22nd Feb. 1881), "I have drawn out a scheme of all the memoranda

I can find about last year's migratory birds. I only await a Northumberland and Berwickshire list to have it ready." Later I received a summary of this from Mr. Hardy, which will be found at the end of this East Coast of Scotland Report. As an example of careful and minute field-study it is alone deserving of the attention of observers, and it proves valuable upon comparison with the other data. Those reading the lighthouse reports here under the species, should also compare with Mr. Hardy's local Berwickshire observations. I beg to propose Mr. Hardy as a member of our Committee.

EAST COAST OF SCOTLAND.

				Height of centre of light above water.		
4.	**North Unst.	...	...	230 ft.	Robert Burnett.	
5.	*Whalsey Skerries.	...	...	145	Neven Kerr.	
6.	Bressay.	...	...	105		
7.	**Sumburgh Head.	...	...	300	} Wm. Anderson † and John Wilson.	
ORKNEY.						
8.	**North Ronaldshay	...	...	140	John Tulloch. †	
9.	Start Point.	...	...	80		
10.	**Auskerry.	...	...	110	John MacDonald.	
11.	*Hoy Sound (Low)....	...	...	55	Alexander Harp. §	
12.	Hoy Sound (High).	...	...	115		
13.	Cantick Head.	...	...	115		
14.	**Pentland Skerries.	...	...	170	Donald Macdonald.	

MAINLAND.

15.	*Dunnet Head, Caithness.	...	...	346 ||		
16.	Holborn Head.	...	...	75		
17.	*Noss Head....	...	...	175		
18.	**Tarbet Ness, East Ross.	...	...	175	William Davidson.	
19.	Cromarty, East Cromarty.	...	...	60		

† Records and Schedule dating after 22nd Nov. were filled in by Mr. John Wilson. Prior to this date they were filled in by Mr. William Anderson, who has been since transferred to St. Abb's Head.

‡ No schedule was returned, but one note upon Swans, in a letter, proves useful (*vide* Swan). "No birds struck the lights this year."

§ Schedule returned with the remark, "Nothing of importance has been observed at this station during 1880." In 1879 a similar scarcity noted at this locality.

|| We have lost a good observer here, Mr. George Maclachlan having left.

20.	Chanonry Point, Elgin. ...	...	40 ft.	
21.	Covesea Skerries, Elgin. ...	...	160	
22.	Kinnaird Head, Aberdeen...	...	120	
23.	Buchan Ness, Aberdeen. ...	...	130	
24.	<i>Girdleness</i> , Aberdeen. ...	...	185	
25.	Montroseness, Aberdeen. ...	...	124	
26.	**Bell Rock, off Fife Coast. ...	...	93	James Jack.
27.	**Isle of May, Firth of Forth. ...	...	240	Joseph Agnew.
28.	*Inch Keith, Firth of Forth. ...	...	220	Robert Grierson.
29.	St. Abbs Head, Berwick. ...	...	224 †	

I am also indebted to many other persons for interesting notes from various localities, bearing upon the subject of migration. A selection of these I will take notice of in the following report separately, under the head "*Notes*," as I consider it advisable to keep the one set of observations apart from the other. Further notice of similar observations will be found in my "Third Report on Scottish Ornithology," now preparing for press and partly read to the Natural History Society of Glasgow, on Jan. 25th, 1881, being a continuation of Reports read to the same Society, in 1880 and 1879, and relating to 1878-79, 1879-80. Many data will be found in these Reports having close and intimate connection with the Migration Reports proper.

As nearly as can be ascertained, notes have been kept by our east-coast reporters upon nine species of waterfowl and thirty species of land birds.

The new feature of this Report is the separate treatment of the spring and autumn migrations, owing to the greater length of time over which our reporters made notes. Another new feature is the *obituary*—or list of deaths—at the different stations.

In my Report on the East Coast of Scotland, however, I have not thought it necessary to keep the spring migration distinct, owing to the comparative scarcity of records on our East Coast, but in my West Coast Report I do so. Nor have I given an obituary for either coast, as the numbers on all the Scottish

† I am anxious to receive returns from this locality, not having received any hitherto. I have to thank Mr. W. Anderson for a very full return at Sumburgh Head up to Nov. 22nd. I hope he will find St. Abbs as interesting a locality, though, I fear, the Great Siren horn, with its unearthly shriek, will prove a great scare to migrants in a fog.

coasts is inappreciable. As will be seen further on, it is a very different matter at the low-lying lanterns of the light-vessels off the English coast. At the same time I sufficiently distinguish between the spring and autumn records, and where large numbers of birds are killed I make mention of it under the separate species.

SEPARATE REPORT ON EACH SPECIES.

I have purposely in one or two instances varied the arrangement of the statistics under the species,—as, for instance, under the *Corvidæ*,—thinking that possibly such variation may place in juxtaposition certain fresh considerations or combinations in our study, or place these in a clearer light for future comparison.

FALCONIDÆ.—Returns from N. Unst, Whalsey Skerries, Sumburgh Head, Pentland Skerries, and Isle of May, which, be it noted, are all insular localities. On Sept. 3rd one Sparrowhawk, chasing small birds, seen on Pentland Skerries at 9 a.m., fresh S.W. and haze. This appears the earliest date recorded on which the *Raptores* visit the islands on predatory raids in autumn. The only record at Isle of May was in the month of May, when two “falcons” were seen. On Sept. 13th a Rough-legged Buzzard (?) flew about all day on Whalsey Skerries, wind light S.E. and haze; and on Sept. 30th a “Glede Hawk” (from internal evidence probably a Peregrine) flew about; wind fresh N.E. and clear; seen at 8 a.m. On Oct. 3rd a “falcon” visited the Pentland Skerries, and flew round for a time; seen at 3 p.m., wind strong N. and haze; and on the same date and in the same place, two Sparrowhawks at 1.30 p.m. During Oct. 14th, 16th, and 17th, the so-called “Glede Hawks” remained preying upon Snow Buntings, and were joined by a Sparrowhawk (or Merlin?) on the 17th, wind fresh N. to W., to strong N.W. At Sumburgh Head, Nov. 28th, a “Brown Hawk” was noticed at noon, during S.W. wind, with haze and rain; and a “large Grey Hawk,” seen flying S., with fresh N. breeze, at 8.30 a.m.

Notes.—It is recorded that a White-tailed Eagle struck on Girdleness lighthouse a few years previous to 1853 (‘The Naturalist,’ 1853, p. 139). At North Unst the following species are noted as resident:—Three species of Gulls, probably Kittiwake, Herring Gull, and Great Black-backed Gull. Iceland Gulls appear from October till March, but were scarcer this year than any

which Mr. Burnett remembers. The Black Crow (?), Hooded Crow, Snipe, Starling, Titlark, and House Sparrow are included amongst residents. An occasional White-tailed Eagle is seen, and several kinds of hawks. Of all the sea-birds the Petrel is the only one that strikes on the lanterns. As it is usually in the morning when the rock-birds are first seen on arrival in spring, the time of their arrival is supposed to be during the night, and the direction of their coming is unknown.—(Signed, Robert Burnett.) Mr. Burnett adds, "The only rare bird I have heard of in this neighbourhood was a Hoopoe." I paid a visit to the Isle of May on June 24th, 1880, and made Mr. Agnew's personal acquaintance. During a hurried visit of less than two hours my companion and myself rowed round the cliff portion of the island, and also landed and walked over a considerable part of the lower-lying portion of at the N.W. end. We saw the following species engaged in incubation:—Oystercatchers, Eider Ducks, Guillemots, Razorbills, Kittiwakes, and Rock Pipits. We searched in vain for any species of Tern; a single Redshank was seen. Mr. Agnew's son saw a Black Guillemot a few days before, and Mr. J. H. Buchanan, who was out in the S.S. 'Fiery Cross' the previous Thursday, "thought" he saw one also. The Agnews cannot say if they breed there or not, but their being seen there occasionally would make it worth while, if time permitted, to search carefully the suitable clefts and caverns in the lower rocks. It was reported to me that the sea-birds have increased greatly on The May since the Sea-birds Bill came into force. The eggs, however, are still taken wholesale by fishermen from the Fife coast and elsewhere.

OWLS.—The only record occurs at Auskerry, where one was seen after midnight on Oct. 21st, and remained about for some time; exact species not noted.

Note.—Curiously enough, on the same date, numbers of Short-eared Owls were to be seen in the flesh in the birdstuffers' shops in Edinburgh. This shows the value of even single records at lighthouse stations, as, were it not for the above Auskerry record, the other fact would stand alone.

SWALLOWS.—During the spring migration these were taken notice of at Isle of May, Auskerry, and Sumburgh Head. The earliest record is at Isle of May, on April 30th, when two were seen flying N.W. at 10 a.m., flying with a light S.E. breeze, and

clear. Then at Sumburgh Head, two on May 16th, one on 19th, and two on 29th, during the daytime; winds variable, fine, clear to haze, or showery; threatening but fine on 19th; and two were seen at Auskerry on May 31st at noon, wind S.S.E., haze. Lastly, on June 2nd, at Auskerry, two were seen flying S., against a S. gale, with haze; and this last is properly no doubt assignable to the commencement of the autumn migration.

WREN.—Recorded at Pentland Skerries and Isle of May only. On October 29th at the former, when one was seen flying about the island; wind N.E., with snow-showers; and on Oct. 13th, at the latter, with light E. wind, and clear.

GOLDCREST, *Regulus cristatus*.—The only spring record is on April 12th at Sumburgh Head, where "some" were seen resting on the dykes between 4 p.m. and 8 p.m.; wind E., light, with fog. In the autumn migrations, they are recorded from two stations, *viz.*, Tarbat Ness and Isle of May. They appeared on Isle of May on Oct. 8th, when a number were seen, having arrived during the previous night; wind strong S.E., showery. Mr. Agnew notes this as "an early appearance," and notes also "none seen here last year." On Oct. 15th more Goldcrests appeared on the same island at 4 a.m., and one was wounded at the glass; wind variable and light; clear. On Nov. 1st one bird struck at midnight, in strong N. wind, with snow.

ROBIN, *Erythaca rubecula*.—Occurred at three stations—Tarbat Ness, Bell Rock, and Isle of May. A rush appears to have taken place about the time of the earliest date—on the 15th August—past the Bell Rock. "Great numbers along with Wheatears, Redshanks, and many small birds unidentified, struck the dome and lantern between 1 and 2 a.m.; wind light N.E. and rain. None were found dead on the balcony, but many struck; some lightly, and flew away again; others harder, and were seen fluttering away into the darkness. No doubt many perished in the sea." The next date is the 18th Sept., at Isle of May, when one was seen. "None seen last year." On Oct. 13th, on Isle of May, another large migration was noticed, many being seen upon the island, having arrived during the night. On Nov. 2nd, at Tarbat Ness, one struck at 8 p.m.; strong N.W. wind, with showers.

WHEATEAR, *Saxicola œnanthe*.—The northernmost locality given is North Unst, where a few strike the lantern during the

season, but no dates are given. Thence southwards, they are noted at five other stations, viz., Whalsey, Sumburgh Head, Auskerry, Pentland Skerries, and the Bell Rock. The earliest date is August 4th, at Pentland Skerries, where one struck at 11.30 p.m.; wind strong E., and haze. The reporter adds the note:—"Starlings and Wheatears generally strike at night, when the wind shifts with rain. They probably leave resting-places, and, when once on wing, are attracted by the light." On Aug. 14th another single bird struck at 10.15 p.m.; wind light S.E., and fog: three more on 15th, from 9 to 11 p.m.; wind the same, with haze. At Sumburgh Head, on Aug. 11th, one young bird struck; wind light N., and fog. At Whalsey, on 16th, about twelve old and young were flying round the lantern at 1 a.m.; wind light W., and haze. At Bell Rock, Aug. 15th, great numbers along with Robins. At Auskerry, Sept. 5th, three struck at 3 a.m.; wind strong S., with haze and showers. The latest date recorded is Sept. 13th, at Pentland Skerries, when two struck at 2 a.m.; wind fresh S.W., and rain.

TITMICE.—At Isle of May, Aug. 10th and 11th, a migration was noticed: 10th, the first pair came to the lights, and one was wounded; 11th, great numbers were seen on the island; wind light E., haze.

WAGTAIL.—At Whalsey—the only station returning a record of this species—large flocks rested, arriving on Aug. 21st; wind light S.E., with dense fog, which lasted till 28th, on which date they all again departed.

TITLARK, *Anthus pratensis*. — Noted as leaving Whalsey Skerries in the first week of September; wind at the time S. to S.E., with from haze to fog during the days. The note is added, "A few remain." These are probably *Rock* Pipits. The only other station whence I have records is the Isle of May. A very large migration of Titlarks (called "Woodlarks" in schedule) came during the night of Dec. 21st—22nd; wind light E., and clear; and on the 22nd, "The island was literally swarming with them; flocks of from twenty to one hundred or more." Mr. Agnew "never saw sô many here before."

TURDIDÆ.—Records came in from Sumburgh Head in the north, to Isle of May in the south, and from Auskerry. One record at Sumburgh applies to the spring migration, viz., on April 1st, when several Blackbirds (*Turdus merula*) were seen at

10 a.m.; wind squally S.S.E; changeable weather, with haze and rain. In the autumn migration we have more returns, but none before Nov. 1st, when the first Thrush was seen at 2 a.m.; wind strong W., with showers, at Auskerry. At Isle of May, Nov. 1st, "Mountain Thrush" was seen at 2 p.m.; wind light S.W., and haze. Thereafter on Dec. 15th, at the same place, a very large flock of "Mountain Thrushes" at 2 p.m.; wind light S., and snow. Again, on 22nd, two birds of same species,* and one on Jan. 1st; wind light E. to S.S.E., and haze. At Sumburgh Head, Jan. 14th, 1881, one Blackbird at noon; calm and clear.

CORVIDÆ.—The spring migration is referred to under Sumburgh Head on April 4th and 5th. On April 4th some Crows ["species not known"] seen flying S.E.; wind S.S.E., fine. On the 5th a gale blew from the South. The autumn migration has eight entries under three stations, viz., Sumburgh Head, Pentland Skerries (five dates), and Tarbat Ness. Only two species—Ravens and Hooded Crows—are noted. At Pentland Skerries, two Ravens on Sept. 29th at 3.30 p.m.; wind moderate S., clear; one on Oct. 9th, wind light E.; and two on Jan. 13th, 1881, at 11 a.m., wind fresh N.E., with showers alternating with clear. At Sumburgh Head, Hooded Crows arrived on Dec. 5th, and remained all winter; and five were seen on Dec. 1st, at 2.30 p.m.; wind moderate W., and showers; and four on Dec. 29th, at 1.30 p.m.; wind light E., and clear; and two on Jan. 13th, at 11 a.m.; wind fresh N.E., clear, alternating with snow-showers. At Tarbat Ness great numbers continued along shore in Jan., 1881, owing to severity of the weather.

STARLING, *Sturnus vulgaris*.—At Pentland Skerries and Isle of May. Earliest dates July 5th and 11th, at Isle of May. Latest date (but only three records altogether) 12th Sept., at Pentland Skerries. Four struck at 11 a.m.; wind fresh S., clear; Pentland Skerries, on 12th Sept. Flock of young at 10 a.m.; wind W., clear; remained two days at Isle of May on same date. Very large flock of young at 7 p.m.; wind N.W., light and clear, at the same station.

* There can be little doubt, I think, that Fieldfares are meant. Ring Ouzels are usually denominated "Mountain Blackbirds." Indeed, amongst a collection of local names which I have gathered, I find the name of "Mountain Thrush" applied to the Fieldfare.

CHAFFINCH, *Fringilla cœlebs*.—At Isle of May, Oct. 19th, a few seen: this is rather later than usual.

Note.—The only record on the west coast agrees with this, however, at Bahama L. V. (*q. v.*)

LINNET, *Fringilla cannabina*?—The spring migration represented only at Isle of May by one bird at 7 p.m.; wind light W., clear, on May 18th; and by two birds at 10 a.m. same night; wind light W., clear. In autumn, at Sumburgh Head, from sixteen to twenty seen on Dec. 2nd, at 10 a.m.; wind fresh N., haze and rain; and six on Jan. 3rd, 1881; wind strong S.W., haze. Previous to this latter date the weather was severe until Jan. 2nd, 1881. Snow and frost all gone on 3rd. "Until of late, birds very scarce."

YELLOWHAMMER.—At Isle of May, first seen (only record) on Oct. 7th; wind N.E. gale, clear.

SNOW BUNTING, *Plectrophanes nivalis*.—Recorded from the following stations:—Whalsey, Sumburgh Head, Pentland Skerries, Isle of May, Inch Keith. In all thirteen entries. Earliest date Sept. 13th, at Whalsey, when large flocks arrived and stayed thereafter all winter; wind on Sept. 13th N., with showers. Latest date noted Dec. 29th, at Pentland Skerries, when large flock seen on island at 11.15 a.m.; wind strong N.E., hail. Between these dates: Oct. 27th, at Isle of May, a flock at 2 p.m.; wind E.N.E., and heavy hail-showers. 28th, Pentland Skerries, a flock on the island at 1 p.m.; wind strong N.E., and hail. At Pentland Skerries, Nov. 6th, a few—five killed—from 7 to 11 p.m.; wind W., showers. At Isle of May, 13th, a flock at 2 p.m.; wind light W., clear. 29th, one bird killed at same station at 6 a.m.; wind light W., haze. At Sumburgh Head, Dec. 5th, ten seen at 1 p.m.; wind fresh S.W., haze and rain. At Inch Keith, Dec. 10th, large flock at 9 a.m., remained twenty-four hours; 15th, very large flock at 11 a.m.; wind light S., snow. At Pentland Skerries, Dec. 19th, flock at 2.15 p.m.; wind strong S.E., rain.

Note.—Mr. Hardy notes the earliest appearance on 18th Oct. in East Lothian—a single bird near Thornton Loch, on the public road, a field's-breadth from the sea-side. Wind N. and tempestuous, with heavy rain.

SKY LARK, *Alauda arvensis*.—Records from Sumburgh Head, Pentland Skerries, and Isle of May. Earliest date Oct. 23rd, at Sumburgh Head; one seen singing for a short time; wind N.W.,

fine, showers, and sunshine. Then Dec. 17th, at Pentland Skerries, large flock all day on the island; wind fresh N.E., clear. Dec. 23rd, Isle of May, all left, not one to be seen. Latest record Jan. 13th, 1881, Sumburgh Head; five seen hovering round at 1.30 p.m.; wind light E., cloudy. 14th, two at 11 a.m., rested; wind light N., clear; and on Nov. 2nd, seven at 9 a.m., flying east or landwards; wind fresh S.E., hazy. On Dec. 3rd, flocks at 11 a.m.; wind E., flying S.

ROCK PIGEON, *Columba livia*.—At Pentland Skerries, a flock seen at 2 p.m.; wind light S.W., snow on the ground.

GOLDEN PLOVER, *Charadrius pluvialis*.—Records reached me from Auskerry, Pentland Skerries, Tarbat Ness, and Isle of May (ten entries, of which seven were at Pentland Skerries). Earliest date July 23rd, when six were seen flying about the island—Pentland Skerries—at 9 a.m.; wind light E. At Pentland Skerries, Aug. 11th, a flock flying S.E. at 10.30 a.m.; wind light W., clear. No more till Nov. 15th, when a flock remained a week at Auskerry, arriving at 11 a.m., with light N.E. wind. At Tarbat Ness, Nov. 11th, hundreds all day till 4 p.m.; wind N. to W. with snow. Nov. 21st, at 3.30 p.m., a flock on island at Pentland Skerries; wind fresh S.W., clear. At Pentland Skerries, Dec. 16th, a flock flying N. at 10.30 a.m.; wind fresh S.W., and snow. At Isle of May, Dec. 22nd, one bird. "They are not seen here every year, and most in severe weather."

OYSTERCATCHER, *Hæmatopus ostralegus*.—At Sumburgh Head, Aug. 28th, all left after the fog of 21st—28th cleared away; as did other species, including Wheatears, Wagtails, and Rock-birds. At Auskerry, five arrived, with light S. wind and haze, and remained a week.

HERON, *Ardea cinerea*.—At Isle of May, July 22nd, a flock of six flying S. at 2.30 p.m.; wind light E., clear. At Pentland Skerries, Sept. 9th, seven at 5 a.m.; wind light W., clear. At Sumburgh Head, Sept. 19th, three flying about at 10 a.m.; wind N.W., and haze. At Auskerry, Oct. 8th, two arrived at 2 p.m.; wind light E., clear; and remained; and at same station on 21st, twelve arrived at 11.30 a.m.; wind light N., and remained.

CURLEW, *Numenius arquata*.—One record (April 13th) belongs to the spring migration. One was seen flying S.E. at 11 a.m.; wind S., and haze. At Sumburgh Head, Aug. 12th, six seen flying W. and crying loudly at 12.30 p.m.; wind S.W., and haze.

2nd, seven flying about, and then taking off W. and crying loudly at 1 p.m.; wind light S.W., haze. At Auskerry, Oct. 9th, five at 1 p.m.; wind light E., clear; and remained. At Isle of May, Curlews had been on the island for weeks.

Note.—Mr. Dunn, Dalkeith Gardens, “heard a Curlew when calling, some 800 to 1000 feet up in the air.” It was flying due W. on Dec. 26th. The sky was clear and the sun shining at the time—about 1 p.m. Wind light from W. in morning; calm at the time. For the previous six days the wind veered between S. by W. to N., the prevailing wind being S.W. Weather “very cold that day, and for a few days before and after.” Being a station of the Scottish Meteorological Society, the above statistics are exact.

REDSHANK AND SANDPIPER, *Totanus calidris*.—At Isle of May, Dec. 27th, three Sandpipers seen at 4 p.m.; wind N.E., haze; and on Jan. 3rd, at same place, a Redshank shot.

SNIPE, *Scolopax gallinago*.—At Auskerry, Pentland Skerries, and Isle of May. At Isle of May, Sept. 12th, one killed at lantern at 4 a.m.; wind N.E., fresh, and rain. At Pentland Skerries, Oct. 2nd, two killed at 8.30 p.m., during strong N. wind, haze, and rain. At Auskerry, Oct. 21st, two arrived at 3.45, and remained; wind strong N. At Isle of May, Jan. 12th, a number arrived at night; wind fresh N.E., and rain.

WOODCOCK, *Scolopax rusticola*.—At Isle of May, Oct. 9th, one seen at 5 a.m.; wind strong N.E., and showers; this is earlier than usual. At Isle of May, Oct. 19th, more arrived during the night or morning, with N.E. gale, and showers. At Auskerry, Oct. 21st, one arrived at 3.30 p.m., and remained; wind strong N., with sleet. On Nov. 16th considerable numbers came during the night. These are the latest Mr. Agnew remembers to have seen, by several weeks. At Pentland Skerries, Nov. 29th, one on the island at morn; wind strong W., and clear.

GOOSE, *Anser*.—On Oct 14th a flock of “Grey Geese” flying S.E., at 10.45 a.m., past the Pentland Skerries; wind fresh N.W., and showers. Again on Oct. 24th another flock of the same flying also S.E. at 5.15 p.m.; wind also fresh N.W., clear. Again on 26th Oct. a flock of the same flying N. at 6.30 a.m.; wind strong N., and showers; all the above probably indicating only a local migration—to and fro. At Isle of May, Oct. 26th, a large flock flying N., with westerly gale.

Note.—Mr. Dunn, Dalkeith Gardens, “observed a \triangleright -shaped flock of about forty Wild Geese, about six hundred feet from the surface of the earth, flying in an easterly direction on the 16th December. They made a considerable noise in their flight. The wind at the time was N.W., and for the six previous days it ranged from W. to N., on one day only chopping round to S., viz., on 15th, which was the day before we saw the Geese. Snow was lying on the ground at the time, and the next seven days were cold, dull, and stormy, with more or less snow falling every day. Flights of Geese are not common in this district, hence the interest taken in the above.” Could we get a number of similar records from inland observers, how useful they would be for comparison with our coast stations.—[J. A. H. B.]

SWAN, *Cygnus*.—At Sumburgh Head, Jan. 30th, 1881, twenty wild Swans seen, first a mile off, flying along the shore very slowly, and lowering, apparently much exhausted. At North Ronaldshay, Dec. 23rd, 1880, sixteen Swans seen; they stayed on a large loch about two weeks, during a heavy fall of snow, and flew off north when the thaw commenced.

DUCKS.—Two records on April 1st at Whalsey and Sumburgh Head, referable to the spring migration. At Whalsey, Eider Ducks (or “Dunters”) arrived *about* this date, and at Sumburgh Head, Sheldrakes arrived *on* this date, at 10 a.m.; wind strong S.S.E., with showers. In the autumn migration, notes have been taken at Whalsey, Sumburgh Head, Pentland Skerries, and Isle of May (eight entries). Eiders said to leave about August, and the note is added that, “after the Ducks have sat eight or ten days, the Drakes all disappear from the neighbourhood.” On Sept. 12th, twelve male Eiders seen at 3 p.m.; wind S., and fine, with haze. At Pentland Skerries, Sept. 14th, a flock, mostly males, seen flying E.; wind light E., and rain. Sept. 25th, at same station, a flock of male and female Eiders flying E.; wind light E., rain. At Isle of May, Oct. 19th, a “small duck.” At Isle of May, Dec. 22nd, “a flock of ducks” swam along shore. At Tarbat Ness, Dec. 30th, flocks of from eight to ten “ducks” seen from 2 to 3.30 p.m.; wind light N., and snow. At Isle of May, Jan. 13th, three “Wild Ducks” seen; wind E.N.E., gale, and snow.

ROCK BIRDS.—Records at North Unst, Whalsey, and Sumburgh refer to spring arrival. At North Unst, April 25th,

innumerable Puffins and rock-birds arrived; wind fresh N.W., and clear. At Whalsey, March 15th, the rock-birds arrived. At Sumburgh, March 4th, they arrived about 7 a.m. In autumn, all left Whalsey on Aug. 28th after the fog, which had hung since the 21st, cleared off. At Pentland Skerries, July 25th, a flock of Guillemots seen flying E. at 7 p.m., with moderate E. wind. On Aug. 4th, two flocks flying E. between 3 and 4 p.m., with light S. wind; and on Aug. 25th, three flocks seen flying E. between 5 and 8 p.m., with light S.W. airs.

Note.—Mr. M. Vaughan—to whom I am indebted for supplementary notes—writes that Rock-birds, Gannets, and Cormorants were scarcer than usual in Orkney during the first week in August. I have no return this year from Dunnet Head, but Mr. Geo. Maclachlan, says, “There are over 3000 Guillemots hatched here, and I am able to count (say) 175 in 350.” At the Isle of May, Eiders arrived about Oct. 1st, coming, it is believed, to winter from the Isle of May and Fidra. They remain till end of March.

GULLS.—At Sumburgh Head, Oct. 23rd, one Iceland Gull seen at 8 a.m.; wind N.W., with showers. This is the first seen. They come in October and leave in April. At same station, Nov. 22nd, another Iceland Gull at 10 a.m.; wind fresh S.W., and clear. At Tarbat Ness, Dec. 24th, two (“Iceland Gulls”) at 11 a.m.; wind light N.E., and sleet.

Note.—These “Iceland Gulls” may be true *Larus islandicus* or Iceland Gull *vera*, but more probably are Glaucous Gulls (*Larus glaucus*). The incident below related is confirmed by a letter received from Mr. Jack, the head light-keeper at the Bell Rock lighthouse:—“Arbroath: A Fact for Naturalists.—Our Arbroath correspondent writes:—A curious story of a sea-bird is in circulation here, and I send it you, as it has been related to me on what seems fairly good authority. The other day a white Sea Gull of the Kittiwake variety was seen flying about the signal-tower of the Bell Rock lighthouse. The bird was evidently in distress, and one of the lighthouse-keepers opening a window, held out his hands, when it came to him. The bird, in taking a bait fixed to a line, had swallowed the hook, and the line, with its handle, a stick about a foot long, was dependent from the bird’s mouth. The light-keeper cut away the string as far down the bird’s throat as he could reach, and the bird flew away evidently

relieved.—‘Scotsman,’ 1st May, 1880.” Mr. Jack writes as follows, 10th May, 1880:—“It is quite true about the Sea Gull. It was so unusual to see a string attached to the bird, that I opened the window of my bedroom and leaned out to look at it, when, strange to say, it came towards me. Without thinking for a moment that the creature would really come to me, I held out my hands towards it, when it came close up to me. I took hold of it and brought it inside, and called to my two assistants (who were looking out of another window a few feet from mine) to ‘look at this.’ So surprised were they both at the whole affair, that after we had relieved the poor bird, one of my assistants declared that, when he got on shore in turn, he would state the case to the editor of the ‘Guide’ newspaper.” “Poor little creature!” adds my correspondent, “it was a pleasant sight to see it on its flight away, and not as it arrived, weary and worn out.” One has only to imagine the Bell Rock as the Ark in the midst of the waters, and the Gull a Dove. As I am speaking now of the Bell Rock, I may note here that large numbers of Long-tailed Ducks are reported by Mr. Jack as frequenting the vicinity of the rock in winter, constantly uttering their peculiar cry of “Co-co-candle-wick.” Solan Geese are perpetually in sight summer and winter, flying round the rock or fishing. Mr. Jack also tells us that single birds of different species come crash against the dome or windows with terrific force, and rebounding off are seldom even seen, but leave often their blood and brains scattered about.

SKUA, *Lestris catarractes*.—Reported as seen at North Unst first on April 18th. About the same number is counted, viz., six or eight each year. In autumn, at Sumburgh Head, one “Bonzie” was seen flying W. at noon; wind S.S.W., haze; and the note is added, “The first seen (in autumn?) for eight years.”

TERNs, *Sterninæ*.—Two records referable to spring migration at Whalsey and Sumburgh Head. Arriving at former about May 15th and at the latter on May 16th, at 9.40, with variable winds, fine, and clear. In autumn, records at Whalsey, Sumburgh Head, Auskerry, and Bell Rock. They disappeared from Bell Rock on Aug. 23rd, “not, however, from want of food, as plenty soil of herring are around the rock.” They had been about the rock for a fortnight, feeding. They disappeared from Whalsey, Aug. 25th, after the fog of 21st—28th, at the same

time with Wheatears, Oystercatchers, Wagtails, and rock-birds. At Bell Rock, Aug. 28th, about thirty old and young were seen feeding; and on the 29th these all left. At Sumburgh Head, Sept. 8th, a number flying about and crying at 9 a.m.; wind W., light and haze. At Auskerry, Oct. 1st, four flew round for a little about 1 a.m.; wind light E., rain.

Note.—Mr. J. T. Garriock, to whom I am obliged for a supplementary schedule from Lerwick, recorded in 'The Zoologist' for 1880 the arrival of Terns, apparently from the north, on May 22nd, when a pair was first noticed. In a subsequent letter to me, Mr. Garriock confirms his observation on the direction of their flight.

PETREL, *Thalassidroma pelagica*.—Occasionally strikes the lantern during the season at North Unst, but no dates given. At Whalsey, Aug. 16th, one caught at 1 a.m.; wind light N.W., haze. At Sumburgh Head, Aug. 3rd, three struck at 11 p.m.; wind N.N.W., dull, and sultry; and on the 6th, one struck at midnight; wind S., and haze. At Auskerry, Aug. 16th, one killed at 11.20 p.m.; light S. breeze, fog, and haze. One struck at Auskerry, Sept. 13th, at 3 a.m.; wind strong S., and haze.

GANNET, *Sula bassana*.—At Sumburgh Head, July 20th (earliest date), great numbers, adult and young, flying in all directions, feeding on herrings. At Pentland Skerries, July 19th, 30—40, flying E., wind N.E., 9 a.m. to 5 p.m.; 20th, 50, flying E., wind fresh N., 9 a.m. to 5 p.m.; 21st, 60, flying E., wind light N.E., clear, 9 a.m. to 5 p.m.; 22nd, 25, flying E., wind light N.E. airs, 9 a.m. to 5 p.m.; 23rd, 25—30, flying E., wind E., 10 a.m. to 4 p.m.; 24th, 40, flying E., wind S.E., 9 a.m. to 7 p.m., fog, haze; 26th, 60, flying E., wind mod. E., 9 a.m. to 7 p.m., fog, haze; Aug. 4th, continuous flights, wind light E., 9 a.m. to 7 p.m., fog, haze; 5th, continuous flights, wind moderate W., 4.30 a.m. to 8.30 p.m.

Note.—Solan Geese were observed daily in flocks going E., from July 19th to middle of Sept.; and going W. on Aug. 19th, 20th, and 25th. About the middle of Sept. young appeared amongst them. This note summarises to a great extent the above data. At Tarbat Ness, Oct. 18th, 19th, and 20th, great numbers flying N., wind S., 8 a.m. to 4 p.m. Since the return of the schedules Mr. Jack has written to me that—"On the 5th

February, 1881, the Bell Rock station was visited by the largest flock of birds I have seen this winter, viz., Larks, Rose Linnets, Starlings, and other species which I did not see well enough to make out. Time when seen, 2 till 5 a.m.; wind light S.W. on arrival, and on departure fresh N.E. Fog and rain. Great numbers struck, but none found dead, though doubtless many fell into the sea. I have observed during the last two winters that the Golden-crested Wren and the Common Wren have not visited us as usual. I have seen these small birds thick on the windows, night after night, during the fall of the year." It is interesting to note here that between the 2nd and 11th March, 1880, a similar great migration took place past the Bell Rock, of which an account is given in my last report for 1879 [*vide* Zool., May, 1880].* At Bell Rock, 18th Feb., a great number of Larks, 8 p.m., light E.S.E., haze. Great numbers struck, none lying dead. Apparently this flock was entirely composed of Larks greatly exhausted. A number seen asleep all night on window-sashes; left at first streak of dawn. Feb. 19th, a small number of birds (species not determined) flew about in the rays of light all night; wind S.E., fresh, haze. 25th, great number of Larks during the night; wind light W.; striking, but none found dead; left, flying N.W. March 10th, one Black Crow seen asleep on balcony rail; left flying N.E., at 7 a.m.; wind fresh W.S.W., haze. 17th, one "Snowflake" flying from N.W. to S.E.; wind W.S.W., fresh, haze. In a letter accompanying this later schedule, Mr. Jack writes (28th March, 1881):—"I am sorry to say our close companions during winter, Dunters and Sea Pheasants, are still with us in great numbers. This we know by long observation to indicate that winter is not yet past for a season, nor can we judge so until they have all been gone for a week at least. In the fall of the year, when we see them return, we well know that winter is at hand. When stationed in the Isles of Shetland I have often remarked, when I heard much howling going on amongst the seals, that no good weather could be looked for, and I have never known this to fail."

* Later in March this year, viz. the 19th, an indication of a returning (?) migration of Shrikes is found in the occurrence of one bird at Bath Hill Wood, West Grange, Perthshire, not very far removed from the Alloa district. It was shot by Mr. J. Livingstone, and is now in the collection of Mr. J. J. Dalgleish.

GENERAL REMARKS.

As already mentioned, we have received fewer returns this year from the East Coast than in 1879, having returns only from eight stations in 1880, against thirteen in 1879. This arises principally from actual scarcity of birds at many stations, and at some, from extra work devoted to duties of the reporters, owing to fogs and stormy weather. This scarcity appears to have extended all along our Scottish E. coast, and even showed itself for some distance down the East English coast. That, at no time, can our East of Scotland returns approach in magnitude those of the East English coast, I fully believe, because, in the weather most favourable for observation at the stations,—*viz.*, foggy or thick nights,—lanterns placed a few feet above the water, as they are in lightships, must attract far more birds than higher lanterns at the lighthouses. The peculiar situations also of many of our Scottish stations—in the midst of towns (as at Cromarty and Kinnaird Head, in Frazerburgh), in inland bays and arms of the sea (as at Chanonry, and at many localities on our west coast)—must very materially alter the conditions of observation. At our more northern stations the lighthouses for the most part stand at great elevations, and it is worthy of note that from such stations as the Bell Rock, Pentland Skerries, and Whalsey Skerries, on the east coast, and Dhuheartach and Skerryvore, on the west coast, &c., we have the best filled schedules, showing that stations upon lower and isolated elevations are the best points of observation.

At the conclusion of my report for 1879, under the West Coast stations, I take notice of the N.W. to S.E. trend of the migration across Tyree and Loch Assapol in the Ross of Mull, and of the direction taken by birds across the narrow part of Scotland between the Firths of Forth and Clyde (*vide* 'The Zoologist,' May, 1880, pp. 202—204).

My present impression—from these and many similar observations in Stirlingshire and the districts named—is, that a semi-circular migration is probably carried on; birds which strike our coasts at more northerly points, or start from localities further north in Scotland itself, at certain points trend more southerly from their original E. to W. direction; and again, at certain other points, again trend more easterly from their previous N. to

S. direction, and pass finally, as far as our British Islands are concerned, from N.W. to S.E. directions. This, of course, is more patent in some seasons than in others, depending upon *prevailing* winds and weather. Birds came to us all through the migratory season from E. to W. across the North Sea, except in 1879 at the Galloper Bank l. v. (Zool., May, 1880, p. 203). In 1879, I believe, as further indicated at the end of my report on the West Coast, that the migration was *compressed* by prevailing N.W. winds, and deflected further south, but in 1880 was more expanded, or *less compressed*, by prevalence of N.E. and E. winds, and that therefore the horizontal area of migration covered a larger surface. In 1880 we thus find birds migrating from directions south of East to directions north of West across the English Channel, or crossing *from* France to England (*vide* Cordeaux's Report *antea*). These points are put forward not as intended to be conclusive, but simply for the purpose of *directing attention* for further statistics. I will only further direct attention here to my "Third Ornithological Report for Scotland, 1880-81," read to the Natural History Society of Glasgow, session 1880-81.

In our last Report, 1879 (Zool., May, 1880), under our lists of lighthouses, we gave the descriptions of the lights, whether white or red, fixed, flash, revolving, or intermittent, or with other lights or action. What influence in attracting birds these various descriptions of light have, it would not yet be easy to ascertain, because—*given* the different colours and descriptions—we have them at different localities, which makes it almost impossible to compare them. However, broadly speaking, we would imagine the *brightest, whitest, fixed* lights to have most influence in penetrating fog or haze, and therefore of attracting birds. We considered it advisable to give these descriptions in our first Report, because we thought that in time such may prove of some value when our knowledge of migration increases. In the Report for 1880 we have not repeated these particulars, but, instead, we give, after the name of each lighthouse station, *the heights of the lanterns above the sea*, not because we can positively affirm that the height of any given light influences the total of birds seen or killed at that light, but because we believe that this particular may possibly elicit facts in future. Some of our reporters state extreme height above the sea as a cause of birds seldom or never

striking the glass, or never being seen hovering round the light. Certainly, returns show a preponderance of deaths or other records, first, at *lightships* (the average height of the lights of which above the sea is only a few feet); secondly, at such stations—upon isolated rocks—as the Bell Rock, Dhuheartach, or Skerryvore (the lanterns of which are not more than sixty or seventy feet above the water); and a great preponderance above such stations as Cape Wrath (which is 400 feet above the sea) or other similarly elevated lights. During the daytime, whilst crossing towards the English coasts and past the lightships, flocks are usually seen flying low; and across the Firth of Forth and other narrow estuaries the same thing is observed. At times birds are seen passing high in air “almost beyond the range of vision,” and when clouds or fogs rapidly lift or clear off during the time of migration, the said migration appears often to “cease to mortal vision,” indicating, some say, a reascent to higher levels. Birds also are known to *descend* upon Heligoland almost perpendicularly from the sky, indicating, it is presumed, a course of migration at a great height, and a descent therefrom upon fog- or haze-covered land to rest or feed. To birds passing through the air above, a *local* fog beneath probably indicates *land in the midst of water*, and, if this be so, hence a descent upon it. The various numerical returns of those killed at lanterns are probably a good deal dependent on the height at which birds fly in foggy weather. We might call this the vertical area of birds’ migration flight as opposed to lateral area.

Now it seems that light-vessels always return the best-filled schedules, and therefore a preponderance of birds are noticed all along the East English Coast, where light-vessels are most abundant. Whilst upon the East Scottish Coast the returns are infinitely smaller where there are no light-vessels, but only lighthouses, whose lanterns are at a greater height; and the question very naturally arises, “If the Scottish coasts were lighted with light-vessels, would not the number of records be very considerably augmented?”

Mr. J. Hardy's Notes from Berwickshire and the Borders.

SWALLOWS.—Began to take up their residence on May 12th; left September 26th. Much later elsewhere in central districts.

MARTIN.—Returned on May 15th to sea-side nesting-places on rocks and cavern-mouths. On September 22nd the great body departed, and on 27th had all left but one.

SAND MARTIN.—April 23rd, on sea-coast.

STARLING.—Most of the young birds had left the upper part of Berwickshire before October 31st.

THRUSH.—March 21st, a few birds scattered here and there; very scarce. Left mostly by September; only a few later.

REDSHANK.—Dispersed before March 18th, when only one was heard. A pair returned March 20th. June 24th a pair had returned. On July 17th six or seven frequented the coast. On August 31st a small compact band noticed.

EIDER DUCK.—A flock of six appeared on the coast, March 18th and 22nd. There were eight on March 27th and four on March 30th.

WILD DUCK (*Anas boschas*).—Continued on coast till March 22nd; greatly diminished by March 27th. One reappeared at sea September 25th. On October 16th they amounted to thirty, and on November 15th about one hundred were enumerated. In December they nearly all left the coast. On December 29th only nine remained.

GREAT CRESTED GREBE.—A party of twelve noted for the last time March 22nd, 1880. They reappeared, to the number of fifteen, on December 20th, and continued all winter.

RAVEN.—January 24th, one seen; storm of snow.

CURLEW.—March 27th and 30th, most had left the coast; only one bird left on April 17th. One reappeared June 7th, and more on the 9th. A great flock on September 20th; shifted their ground before December 16th; only one or two left at the close of the year.

PIED WAGTAIL.—February 7th, one first seen; the next arrived March 27th. Left September 24th.

WHEATEAR.—March 25th, appeared off coast, but were absent on March 27th. March 29th, a little band of seven or eight arrived, but disappeared. April 17th, a few appeared inland.

Noted again on the coast July 15th; September 17th, last seen. Were seen at Berwick, October 14th, but the conditions are very different from here.

WHINCHAT.—A family newly hatched on the coast a mile to the south of this on August 9th; not seen again.

STONECHAT.—Not in some of its old haunts this year. On coast on Cockburn's-path, April 30th.

REDSTART.—May 2nd. Scarce this year.

SEDGE WARBLER.—May 25th, arriving in a band of late migrants.

WILLOW WARBLER.—April 18th, in garden. April 23rd and 24th, singing sweetly; last seen September 4th.

SWIFT.—May 16th.

GREATER WHITETHROAT.—May 13th, arrived; 16th, general. August 6th, haunts the garden; a single bird left September 19th. Observed in some localities till end of October, but not here.

LANDRAIL AND CUCKOO.—Not heard in the neighbourhood this season.

BLACKCAP WARBLER.—May 22nd, in Peasedean; *not* heard on 16th.

SPOTTED FLYCATCHER.—May 25th, numerous arrival along with other migrants, as was the case last year. Last seen September 5th.

BLACK-HEADED GULL.—June 11th, two returned to the sea-side; more appeared July 15th, 16th and 17th. By the end of the year the numbers were reduced to one or two.

FIELDFARE.—October 31st and November 9th, arrived, but few in number, and only one remained to face the storms of 1881; very scarce. No Redwings seen here. A great scarcity or total absence is recorded from a large number of Scottish localities for the past two years.—*J. A. H. B.*

WOOD PIGEONS.—A large migratory band proceeding high over head flying from N. to S., on October 30th.

SNOW BUNTING.—A very large flock of Snowflakes arrived at Penmanshiel on October 30th, but left after resting a few days. Again numerous there, November 30th. A few remained at Old Cambus, January 7th, 1881. October 18th, one landed in East Lothian in a storm of wind and rain from the North, near Thornton Loch.

GREY-BACKED CROW.—November 5th, arrived.

WOODCOCK.—Did not leave till second week in May. Returned to Peasedean, November 2nd. One flushed at Blackburn, Chirnside, October 20th.

LARK.—December 16th, flock of about one hundred seen; most of them remained and departed in March.

GREY LINNET.—December 29th, flocks that fully numbered one hundred birds feeding on the sea-coast ploughed fields infested by wild mustard. Had all left, except four or five, by January 9th, 1881, when that number came to the stack- and poultry-yards.

BRAMBLING.—Only two present in the great snow on January 15th and 19th—at corn laid out for poultry—along with Finches.

WILD GEESE (*Greylag* probably).—February 8th, first band returning north. Continued in neighbourhood till April 24th. In autumn return first seen October 11th and 30th. Did not rest.

LAPWING.—In inland fields, March 7th. July 15th, returned to turnip-fields. Disappeared in January, 1881.

GREY WAGTAIL.—March 8th, a pair returned. On May 25th several new arrivals along with a rush of migrants, consisting of Flycatchers, Sedge Warblers, and Common Martins.

WATERHEN.—March 9th returned to its breeding pools.

HERON.—April 17th, still three on the coast. On July 15th there were seven or eight. On August 6th there were sixteen, and on August 31st twelve.

CORMORANT.—Began to disperse about March 9th, when there were six. Only one on March 18th, and two on March 25th. March 27th and 30th, only one. Were not again noted till August 9th and 12th, when only a pair had returned. Scarcer this winter than usual.

RARE BIRDS RECORDED BY OTHERS ON MY LIST.—Hoopoe in Northumberland. One Greater Shrike in Berwickshire, others in Northumberland. Bohemian Chatterer, Kelso; Turtle Dove, Rough-legged Buzzard (one).

Notes from the Faroe Isles.

THE following notes from Herr H. C. Müller and Dr. Madsen, of Thorshavn, Farøe, have been received too late for insertion in the General Report, but not too late for addition as an Appendix. These notes were all made after the 1st January, 1881. They came to hand on May 1st, 1881:—

Cygnus musicus.—Five Wild Swans were seen on Jan. 1st, 1881; three killed at Suderö on 22nd; one seen near Thorshavn on 10th; probably all belonging to the same flock. Wind S.W., force 3—4. Rain.

Numenius arquata.—One killed at Hvidenov, near Thorshavn, on Jan. 30th. Wind S.S.E., force 4. Rain.

Columba palumbus, Linn.—One seen along with *Columba livia* at Thorshavn on Feb. 7th. Wind E., force 5. Rain and hail.

Larus tridactylus.—Four seen at Thorshavn at 10 a.m. on Feb. 10th. Wind E., force 3—4. Snow.

Alauda arvensis.—One hundred in a flock seen at Thorshavn at 9 a.m. on March 8th, 1881. Wind S.W., fine. For the five days previous, storm from S.E.

Vanellus cristatus.—Four seen same time as the above noted Larks, in and after similar weather.

EAST COAST OF ENGLAND.

PRINTED forms of enquiry and letters of instruction were sent to thirty-seven lighthouses and light-vessels on the east coast of England, and, through the kind co-operation of Mr. Cecil Smith, to two of the principal lighthouses in the Channel Islands: independent reports have also been received from four stations on the east coast; and my best thanks are due to T. H. Nelson and C. Donald Thompson, Teesmouth; M. Bailey, Flamborough; Wm. Eagle Clarke and H. Bendelack Hewetson [Leeds]; notes from Spurn Point. J. H. Gurney, jun., Northrepps, and Major C. Russell, Essex, for supplying notices of the movements of birds in their respective districts. These reports have either been treated separately or incorporated with the nearest lighthouse. I have also received many interesting notes from Mr. Gätke, on the migration of birds over Heligoland from the commencement of June to the end of December, which are especially welcome as a most valuable addition to the report. Special thanks I also must tender to those various observers in the lighthouses and light-vessels scattered along the east coast. Altogether, out of forty-four stations, returns have been sent in from thirty-eight; two other stations report no birds seen during the autumn, from the circumstances of their situations in the midst of houses; and only from four have no returns been made. The observations are in many respects an improvement on those of the preceding year, exhibiting in a marked degree the intelligent interest taken by the observers in their work—work which it must be remembered is entirely voluntary, and often carried on under circumstances of considerable difficulty and discomfort.

The east coast stations are as follows, those making returns being marked with a * :—

40. *Longstone, on the most easterly of the Farne Islands; white light, revolving every 30 seconds.
41. *Farne Inner, two lights; white, revolving every 30 seconds.
42. *Coquet Island, coast of Northumberland; two white lights in same tower.

43. *Souter Point. Nil return—no birds seen.
- 44a. *Teemouth, No. 5 Buoy, Lightvessel; one white light, fixed.
- 44b. *Teemouth.
45. *Whitby, High Light; white, fixed.
46. *Flamborough Head; two white, one red flash, revolving every half minute.
47. *Spurn Point; red and white sectors.
- 48a. *Spurn (Newsand), Lightvessel, 6 miles S.S.E. of Spurn Point; white, revolving every minute.
- 48b. *Great Cotes.
49. *Outer Dowsing, Lightvessel, 53 miles E.S.E. Spurn; red light, revolving every 20 seconds.
50. *Inner Dowsing, Lightvessel, 17 miles E. Sutton, on Lincolnshire coast; green, 20 seconds.
51. *Dudgeon, Lightvessel, 35 miles E. Skegness, Lincolnshire coast; white, fixed.
52. *Lynn Well, Lightvessel, off Nook of Longsand, Lynndeeps; one white, revolving 20 seconds.
53. *Hunstanton, Lighthouse; white, fixed.
54. *Cromer, Lighthouse; white, revolving each minute.
- 55a. *Northrepps.
- 55b. *Leman and Ower, Lightvessel, 48 miles E.N.E. Cromer; two white, one fixed, one revolving.
56. *Hasborough, Lightvessel; two white, fixed horizontal, north end Hasborough Sound.
57. *Hasborough, Lighthouse; white, fixed.
58. *Newarp, Lightvessel, 12 miles N.E. Winterton; white, three quick flashes, 36 seconds in a minute dark.
59. *Winterton, Lighthouse; white, fixed.
60. *Cockle, Lightvessel, 3 miles E. Yarmouth; white, revolving each minute.
61. *Corton, Lightvessel, 4 miles E. Lowestoft; red, revolving 20 seconds.
62. *Lowestoft, Lighthouse. Nil return—no birds seen.
63. Orfordness, Lighthouse; white, fixed.
64. *Shipwash, Lightvessel, 8 miles S.S.E. Orfordness; white, fixed.
65. Cork, Lightvessel, 5 miles off mouth of Harwich River.
66. *Langard Point, Lighthouse, entrance to Harwich River; returned by Major Russell.
67. *Gallopier, Lightvessel, 40 miles S.E. Orfordness; two white, horizontal, fixed.
68. *Kentish Knock, Lightvessel, 33 miles N.E. North Foreland; white, revolving each minute.
69. *Swin Middle, Lightvessel, off Thames; white, revolving every minute.

70. *Tongue, Lightvessel, off Thames; two lights, fixed: higher white, lower red.
71. Nore, Lightvessel, entrance to Thames; white, revolving 30 seconds.
72. *North Foreland, Lighthouse; white, fixed.
73. *Goodwin, Lightvessel, Goodwin Sands; white, revolving, three quick flashes in succession, 36 seconds dark.
74. *Gull, Lightvessel, Goodwin Sands; white, revolving 20 seconds.
75. *Southsand Head, Lightvessel, Goodwin Sands; white, fixed.
76. *East-side, Lightvessel, Goodwin Sands, 13 miles E. Deal; green, revolving 15 seconds.
77. South Foreland, Lighthouse; white, fixed.
78. *Heligoland.
79. *Casquets, Lighthouse, off Alderney; white, triple, flashing every 30 seconds.
80. *Hanois, Lighthouse, Hanoveaux Rocks, W. end Guernsey; one red, revolving 45 seconds.

As many of the reports range over a twelvemonth, it is necessary to divide the remarks on the separate species into spring and autumn migrations. The numbers of species noticed are very greatly in excess of 1879.

SPRING MIGRATION, 1880.

SEPARATE REPORT ON EACH SPECIES.

PIED FLYCATCHER, *Muscicapa luctuosa (atricapilla, Linn.)*.—At Heligoland, Mr. Gätke reports, May 4th, great many fine old males; 5th, the same; 15th, E., many females, few males; 19th, S.S.E., all females.

BLACKBIRD, *Turdus merula*.—At Cromer L.H., Feb. 12th, two killed against lantern, with thirteen Larks at midnight o.m.

REDBREAST, *Erethacus rubecula*.—At Whitby L.H., March 1st, daylight, a flock of Robins.

BLUETHROAT, *Ruticilla suecica*.—At Heligoland, May 22nd, all males—perhaps one in ten a female.

REDSTART, *Ruticilla phœnicurus*.—At Heligoland, May 1st to 10th, all males. Thenceforward females increasing. May 4th, E. by S. or E. by N., millions all males; 19th, all females.

WHEATEAR, *Saxicola œnanthe*.—At Teesmouth 5 Buoy L.V., April 23rd, W.S.W., many, with Wagtails, passing to land. At Heligoland, March 31st, S.E., to April 3rd, S.E., male birds; and to May 1st, when females began to arrive. May 13th, E., all females.

GREATER WHITETHROAT, *Sylvia rufa*.—At Cromer L.H., May 18th, 10 p.m., four killed and stunned against lantern.

WREN, *Troglodytes parvulus*.—At Whitby L.H., March 22nd, E., several at daylight. At Cromer L.H., May 16th, 4 a.m., one killed against lantern.

PIED WAGTAIL, *Motacilla lugubris*.—At Teesmouth 5 Buoy L.V. (see WHEATEAR). At Whitby L.H., May 9th, daybreak, many.

SKY LARK, *Alauda arvensis*.—At Cromer, Feb. 12th (see BLACK-BIRD). Feb. 16th to March 24th, several with Starlings killed and stunned during night.

SHORT-TOED LARK, *Calandrella brachydactyla*.—At Heligoland, May 18th, a fine male captured.

TREE SPARROW, *Passer montanus*.—At Outer Dowsing L.V., April 18th, 11 a.m., sixty to S.E.; two came on board. April 26th, 3 p.m., hundreds to W.N.W.; ten came on board. From the position of this lightvessel it will be apparent that in the first instance the Sparrows were making for the coast of Holland, and on 26th for the English coast.

STARLING, *Sturnus vulgaris*.—At Cromer L.H., Feb. 16th to April 10th, several struck lantern and killed along with Larks.

CARRION CROW, *Corvus corone*.—At Cockle L.V., June 8th, six to S.E.

CUCKOO, *Cuculus canorus*.—At Farne Inner L.H., May 26th, W. strong, one seen. At Hunstanton L.H., April 18th, heard close to lighthouse.

SWALLOW, *Hirundo rustica*.—At Farne Inner L.H., May 15th, two passed. At Teesmouth 5 Buoy L.V., May 9th, 2 p.m., two from S.E. to N.W.; May 22nd, great many S.E. to N.W., fresh breeze from W. At Hunstanton L.H., April 17th, one to S.; 19th, five to S. At Lemn and Ower L.V., June 9th, five on board at sunset; 21st, one at 11 a.m. At Cockle L.V., June 23rd and 24th, 4.20 a.m., two each day to W. At Corton L.V., May 22nd, one to W.N.W.; 25th, two to W.N.W. At Kentish Knock L.V., May 26th, 10 a.m., two very high to N.W. At East Goodwin L.V., May 4th, 10 a.m., four S. to N. The observations tend to confirm what I have observed and remarked upon, that the Chimney Swallow in spring migrates in pairs; even when in flocks the pairs may be distinguished, as the males and females keep close company.

SWIFT, *Cypselus apus*.—At Whitby L.H., May 14th, several at noon to N.W. At Spurn L.H., June 7th, 7 p.m., fifty perched on gallery, none killed. At Hunstanton L.H., May 17th, one.

WOOD PIGEON, *Columba palumbus*.—At Hasbro' L.V., May 28th and 30th, one each day to E.

DOTTEREL, *Eudromias morinellus*.—At Spurn L.H., May 15th, four seen near Kilnsea; 25th, small flock of eight.

RINGED PLOVER, *Ægialitis hiaticula*.—At Teesmouth 5 Buoy L.V., April 2nd, first arrival at their breeding quarters on neighbouring sand, where about ten couples nest each year, leaving with the young in the autumn.

LIMICOLÆ.—From the 1st to the 18th of May, northerly and easterly winds blew persistently day and night on to the Lincolnshire coast; the consequence was that we had an almost entire dearth of all those many flocks of shore birds—as Godwit, Grey Plover, Knot—which visit the Humber mud-flats during the first fortnight in May, on their passage to the north. On the opposite coast of Yorkshire, under shelter of the sandy promontory of Spurn, they assembled in large numbers, feeding daily on the great expanse of muds left uncovered at ebb, and at flood crossing to the sands on the sea side of Spurn. A correspondent writes that, on May 7th, “countless thousands of waders lined the beach, like wreck, on the sea-side about a mile above Spurn; there were more than had ever been seen at once before.”

ANATIDÆ.—At Flamborough L.H., July 2nd, a flock of Grey Geese were seen flying N. At Goodwin L.V., June 6th, 7.30 a.m., a flock flying to the E. Mr. Gätke reports from Heligoland that, on May 19th, three Snow Geese, *Anser niveus*, passed boat quite close, “whiter than snow, bills and feet redder than oranges, but alas! no gun at hand.” King Eider, *Somateria spectabilis*, is reported from the Farne Isles on May 29th, and during the summer (Zool., 1880, p. 514; 1881, p. 62). On Feb. 27th, 1880, large flocks of Widgeon came into the Tees, and thirteen were shot by one discharge of a single-barrelled shoulder-gun. At the Outer Dowsing L.V., April 18th, Wild Ducks were seen migrating to N.W.; and on April 30th, every hour during day, to N.N.W. At the Goodwin L.V., May 19th, shoals of Ducks from W. to E. From the Teesmouth 5 Buoy L.V., May 25th, 11.30 a.m., my correspondent writes, “Saw two Sheldrakes leave their nest with ten young ones at low water; had to travel half a mile before

they reached the water; the male kept about six yards behind the young, the female leading; they were fifteen minutes in reaching the water; appeared just hatched; cock bird often looked behind to see nobody was coming." With reference to the spring migration of Wild Geese, Major Russell sends me the following notes from a correspondent on the Essex coast, whose house is situated on the south slope of a steep high hill:—"The Grey Geese were seen on Saturday, Feb. 21st, from 600 to 1000 flying in a triangular form, in a N.E. direction. I have repeatedly seen them sometimes passing for whole days, and have always noticed that we have never had any winter to speak of afterwards. They generally fly about a mile high. We very seldom see them going south. I suppose because the days are shorter, or possibly some may go another way; but they generally go north about this time of the year. I used to try to shoot them with a rifle to see what sort of Geese they were."

ALCIDÆ.—At Longstone L.H., March 9th, Guillemots and Razorbills assembled; 24th, Puffins. At Flamborough L.H., May 3rd, hundreds of Puffins arriving throughout the day, and on the same day a great number of Guillemots. From May 28th to June 2nd, great numbers of Guillemots and Razorbills were seen all day in the neighbourhood of the Spurn L.V., at sea six miles S.S.E. Spurn Point. The Guillemots, Razorbills and Puffins are later in their arrival and departure at the southern than their northern breeding-stations.

PELECANIDÆ.—At Longstone L.H., March 9th, numbers of Gannets flying N. At the Farne Inner L.H., April 16th, from 9 a.m. to 1 p.m., Gannets were seen flying N. At Teesmouth 5 Buoy L.V., March 15th, twelve Cormorants came into Tees, about fifty in every year at this time, leave again after breeding-season till next March.

LARIDÆ.—At Farne Islands, April 8th, Gulls commenced assembling at their nesting-quarters. At Whitby L.H., Feb. 18th, Herring Gulls first appeared on the cliffs near lighthouse. July 4th, first young was seen on the wing. Sept. 2nd, all left, both young and old. At Spurn L.V., May 28th to June 2nd, large numbers of Gulls were seen all day in the neighbourhood, along with Guillemots and Razorbills; these birds were probably not migrating, or even contemplating such a movement, but wanderers from Flamborough, following the shoals of small fry

which approach the Humber about that period. At the Longstone L.H., April 29th, W., weather fine, first Sandwich Tern seen, and the last seen Sept. 8th. The Arctic Tern was first seen May 10th; last, Sept. 14th. At the Farne Inner L.H., Sandwich Terns were seen on May 12th, and the Arctic May 15th, both species leaving together on Aug. 28th. The Siberian Herring Gull, *Larus affinis*, was seen at Heligoland on June 5th, and the Caspian Tern, *Sterna Caspia*, on the 22nd, the first Mr. Gätke has got there. July 23rd, repeatedly seen.

GENERAL SUMMARY—SPRING MIGRATION.

Compared with the autumn notes on migration, the spring reports are very meagre, and few and far between. This is probably due to the fact that in the spring birds migrate, with rare exceptions, at night; and, as the weather is then finer, and the nights clearer and shorter, they do not run their heads so much against the lanterns of lighthouses and lightships. The spring migration is also carried on much more leisurely, migrants proceeding by easy stages northward, and we have none of those great rushes which are so characteristic of the autumn migration, when, with sudden changes of weather, flock after flock pour continually during the whole day and night on to our east coast. In the spring also the males of the *Insessores* migrate some time in advance of the females, as is very clearly shown in the Heligoland notes, as well as by the well-known arrival of our summer immigrants, as the Nightingale, Whitethroat, &c. The notes on spring migration taken in 1879, as well as in 1880, seem to point to the conclusion that, during the vernal migration, migrants strike the lanterns of lighthouses from 11 p.m. to the dawn of day, the majority after midnight; and not in the early hours of night, as is the case in the autumn.

AUTUMN MIGRATION, 1880.

SEPARATE REPORT ON EACH SPECIES.

WHITE-TAILED EAGLE, *Haliaeetus albicilla*.—At Heligoland, Sept. 10th, S.S.E., windy, eight or ten.

PEREGRINE FALCON, *Falco peregrinus*.—At Heligoland, Oct. 24th, "all latter time and *F. aesalon*, scattered." As in every autumn a few on passage have been recorded in the eastern

counties; one, an immature male, was shot near Spurn on Jan. 1st, 1881.

HOBBY, *Falco subbuteo*.—At Heligoland, June 19th and 20th, S.E., some.

KESTREL, *Falco tinnunculus*.—At Heligoland, Sept. 25th, S., very little wind, a great many, few old.

SPARROWHAWK, *Accipiter nisus*.—At Heligoland, enormous numbers crossed in the autumn, commencing Aug. 7th, eight or ten young birds; from thence to Sept. 18th, almost daily in greater or less numbers, all young birds. Sept. 29th, evening, the first old birds. Oct. 9th, young interspersed with old; 20th, many; 28th, still daily. An enormous majority of these must pass down the European coast, as the notices on our east coast are few and far between. At the Outer Dowsing L.V., Oct. 8th, one at sunset flying round lantern. At Leman and Ower L.V., Oct. 6th, 4.30 p.m., one to S.E. At Corton, L.V., Oct. 9th, one settled on ship. At Heligoland, Mr. Gätke says Sparrowhawks often arrive towards evening.

COMMON BUZZARD, *Buteo vulgaris*.—At Heligoland, Sept. 18th, many.

HONEY BUZZARD, *Pernis apivorus*.—At Heligoland, Sept. 10th, with Sparrowhawks.

ROUGH-LEGGED BUZZARD, *Buteo lagopus*.—At Heligoland, June 19th and 20th, some. There was a considerable flight on to the east coast in October, Mr. J. H. Gurney recording (*Zool.*, 1880, p. 570) about a dozen in Norfolk between Oct. 16th and the end of the month. Two were shot Nov. 1st on the Lincolnshire coast near Mablethorpe, and one at Spurn later in the season. Several others have been recorded from time to time in the 'Field' and local papers, as either seen or obtained in various parts of England and Scotland. The following notices from the lighthouses may or may not refer to this species. At Whitby L.H., July 24th, 9 a.m., a large Hawk going S. At Hasbro' L.H., Oct. 24th, 11 a.m., four very large birds with heavy flight to S. At Kentish Knock, L.V., Oct. 13th, one very large Hawk soaring overhead. At Corton L.V., Oct. 19th, a large brown Hawk about ship—may perhaps have been a female Kestrel.

HEN HARRIER, *Circus cyaneus*.—At Heligoland, Oct. 20th, some.

LONG-EARED OWL, *Asio otus*.—At Heligoland, Oct. 22nd, some.

At Spurn, Oct. 28th, one shot. At Hasbro' L.V., Sept. 30th, 10 a.m., o. m. from E. to S.W., horned owl—probably this species. The Long-eared Owls arrive on our east coast, as a rule, later than *Asio accipitrinus*, and in much less numbers.

SHORT-EARED OWL, *Asio accipitrinus*.—At Heligoland, Sept. 25th, S., very little wind, great many. Oct. 20th, again great many; 22nd, thousands. On our east coast they arrived in very considerable numbers in October. At Inner Farne L.H., Nov. 16th, 4 p.m., one. At Coquet Island L.H., Oct. 7th to Nov. 16th, with northerly and easterly winds, and from 6 a.m. to 7 p.m., eight. At Teesmouth 5 Buoy L.V., Oct. 4th to 27th, twelve, 10 a.m. to 4 p.m., going E. to W. At Teesmouth, Oct. 3rd to 24th, nine. At Spurn, Sept. 29th, one shot; Oct. 19th and following week, many; 27th, several. On Lincolnshire coast, Oct. 19th and following week, very great many. At Inner Dowsing L.V., Nov. 4th, 7.30 a.m., one N.E. to S.W. At Dudgeon L.V., Oct. 5th, noon, one to W.; 23rd, 10.20 a.m., one to S.W. At Lynn Well L.V., Oct. 5th, 11 a.m., one; 4 p.m., one Grey Owl N.W. to S. At Lemn and Ower L.V., Oct. 1st, one caught at noon. Many also arrived about Oct. 19th on the Norfolk coast. I have no notices of Short-eared Owls south of Yarmouth. The "great rush" took place on night of Oct. 18th or morning of 19th, the Woodcock arriving at the same time with a north wind. Heavy snow from north on Oct. 20th. The "great rush" over Heligoland was on Oct. 22nd.

BARN OWL, *Aluco flammeus*.—At Yarmouth, Oct. 19th, morning, one seen coming in from the sea.

TENGMALM'S OWL, *Nyctala Tengmalmi*.—On Oct. 22nd a very fine example of this small Owl was shot at Saltfleet, on the Lincolnshire coast; wind strong from the north on 21st. Another was shot in Felyingdales, Yorkshire, near Robin Hood's Bay, late in December. At Heligoland, Nov. 22nd and 23rd, Hawk Owl, *Surnia funerea*, was seen flying about, but never within shot.

GREAT GREY SHRIKE, *Lanius excubitor*.—At Heligoland, Oct. 14th, N.W., windy, four fine old birds, pure white underneath; 16th, some; 17th, some; *major*, one. Nov. 10th, one fine old male. There was a very considerable immigration on to the east coast in October. At Spurn, one was seen during the first week in October, and subsequently in that month and early in

November, many. The last from that locality I have a note of was a female, shot at Patrington, Holderness, on Jan. 20th, 1881. At Whiteley Sands, Northumberland, one early in October. One shot near Hartlepool Nov. 17th. One at Flamborough Head first week in October. Mr. J. H. Gurney has also recorded three shot in Norfolk in October; and many others have been mentioned in the 'Zoologist' and 'Field' as occurring in various parts of the country. One also was shot at North Kelsey, in Lincolnshire, at the end of February.

SPOTTED FLYCATCHER, *Muscicapa grisola*.—At Heligoland, June 3rd, some; July 13th, some; Aug. 25th, many; Sept. 3rd, N.W., 11 a.m., some; 9th, great many; 16th, some; 26th, less, passage varying over four months. At Farne Inner L.V., Sept. 15th, great many Flycatchers.* At Swin Middle L.V., Aug. 28th, o. m., many with Starlings round lantern.

PIED FLYCATCHER, *Muscicapa luctuosa (atricapilla, Linn.)*—At Heligoland, Aug. 11th, E., fine, great many young birds, first arrivals, and so on to 24th, when they passed in "countless numbers"; 27th, still passing, but in less numbers; Sept. 8th, many; 13th, great many with others in potato-fields; 26th, less numerous; 27th, few. From Aug. 11th to end of Sept., about forty-seven days; "great rush" on Aug. 24th, none recorded from English coast.

RED-BREADED FLYCATCHER, *Muscicapa parva*.—At Heligoland, Sept. 26th, one shot in Mr. Gätke's garden, and another obtained Oct. 21st.

MISTLETOE THRUSH, *Turdus viscivorus*.—At Casquets L.H., Alderney, Oct. 2nd, 11 p.m. to 2 a.m., with Ring Ouzels and Larks going W., six Mistletoe Thrushes striking.

SONG THRUSH, *Turdus musicus*.—At Heligoland, Sept. 16th, some numbers with Ring Ouzels; 24th, many of both; 25th, both all day; Oct. 6th, with Redwings, and on 16th with Redwings and Fieldfares; 20th, with Blackbirds and Redwings; 22nd, few; altogether, between Sept. 16th and Oct. 22nd, large numbers crossed the island. On the English side of the North

* The term "Flycatcher" seems to be used somewhat indiscriminately for many of the small insect-catching birds. Some of these in this case are probably—as they are associated with Wheatears—Redstarts. At the Longstone L.H., also on the same date, several Redstarts appeared, both species migrating together and at the same time.

Sea, Thrushes occurred at twelve stations covering the entire length of coast. At Farne Inner L.H., Oct. 29th, several. Nov. 20th, 22nd, 23rd, all day, with Blackbirds, Fieldfares, and Redwings; 26th, with Blackbirds. At Teesmouth 5 Buoy L.V., Oct. 22nd, several and a few Redwings going E. to W., great many stopped on board and appeared very tired, early part of day foggy; 25th, several S.E. to N.W. At Whitby L.H., Nov. 23rd, snow, large flocks at intervals flying high. At Flamborough L.H., Oct. 21st, day and night. At Spurn L.H., Oct. 5th and 7th, many. At Great Cotes, about Oct. 19th, many. Dec. 9th, second arrival. At Cromer L.H., Aug. 3rd, midnight, three killed. Sept. 25th, 1.30 a.m., two killed. Dec. 10th, 8 p.m., two killed. At Leman and Ower L.V., Sept. 28th and 29th, during night. At Hasbro' L.H., Oct. 26th, 10 p.m., with a great many small birds, some killed. At Corton L.V., Oct. 22nd, continuous after daylight, E. to W., with Larks and Blackbirds, and again Nov. 7th. At Galloper L.V., Nov. 1st, 9 a.m., forty S.E. to N.W.: 2nd, 10 p.m. to sunrise, with Larks, Starlings, and Blackbirds, from E.S.E. to N.W., about 120 killed; 9th, about eighty to N.W. during night. At Kentish Knock L.V., Oct. 10th, one. At Gull L.V., Oct. 25th, with Larks and Linnets continuously all day. "Great rush," 19th to 26th Oct. There was a "second rush" Dec. 9th and 10th, preceding the outbreak of Arctic weather on Dec. 13th. Line of migration E. to W., S.E. to N.W. Time over which migration extended (exclusive of occurrences in December, as probably referring to local movements caused by severe weather) from Aug. 3rd, Cromer, to Nov. 26th, Farne Islands, or 126 days.

FIELDFARE, *Turdus pilaris*.—At Heligoland, Oct. 16th, N.W. and easterly, in great numbers high overhead; 25th, some; 28th, numerous; and after this Fieldfares, Thrushes, and Blackbirds occasionally till first week in December. On the East Coast of England occur at ten stations from Farne Islands to Yarmouth. At Inner Farne L.H., Oct. 25th, forenoon, flocks to W.; 27th, same; Nov. 16th, flock. At Coquet Island L.H., Oct. 26th, 7 a.m., half-a-dozen. At Teesmouth 5 Buoy L.V., Oct. 25th, 9 a.m., three, S.E. to N.W. Nov. 5th, 10 a.m., great many to W.; 20th, 11 a.m., large flocks from E.; 27th, great many E. to W. At Flamborough L.H., Oct. 21st, day and night, five killed. At Spurn L.H., Oct. 26th, 27th, 28th, great many. At Great Cotes, Dec. 9th, many, "second rush." At Corton L.V., Oct. 5th, one over ship,

E. to W. Jan. 15th, 12.45 p.m., high overhead, W.S.W. At Galloper L.V., Nov. 1st, 9 a.m., fifteen, S.E. to N.W. At Yarmouth, Oct. 17th and 18th, early morning, very high. Mr. T. Southwell, of Norwich, saw a large flock near that city on Sept. 9th.* Excluding Great Cotes as referring perhaps to local movement from outburst of severe weather in the North, the Fieldfares were seen on their migration, first near Norwich, Sept. 9th and last at Teesmouth, Nov. 27th—eighty days. "Great rush" Oct. 21st to 28th.

REDWING, *Turdus iliacus*.—At Heligoland, Sept. 6th, first flocks. Oct. 16th, N.W. and easterly, in great numbers, very high; 20th, many. English coast five stations from Farne Island to Yarmouth. At Farne Inner L.H., Oct. 29th, many. At Spurn L.H., Oct. 5th, plentiful. At Great Cotes, Dec. 9th, many, "second rush." At Hunstanton L.H., Sept. 18th, 10 p.m., one caught. At Yarmouth, Oct. 17th and 18th, with Fieldfares, very high. From Sept. 6th, Heligoland, to Oct. 29th, Farne Islands, fifty-four days; "great rush" middle of October.

BLACKBIRD, *Turdus merula*.—At Heligoland, Oct. 19th, some; 20th, many; 28th, numerous. At Farne Inner L.H., Oct. 21st and 29th, one each day; Nov. 20th, 22nd, 23rd and 26th, many; "great rush" on these four days. At Coquet L.H., Nov. 20th, all day. Dec. 19th, many, with Larks and Plover. At Whitby L.H., Aug. 1st, at daylight, the first seen this year. Oct. 24th and 26th, several at daylight. At Flamborough L.H., Oct. 21st, day and night. At Spurn L.H., Oct. 27th, old cocks. Nov. 20th, Blackbirds in considerable numbers, with Thrushes, Redwings, and Fieldfares. At Great Cotes, Sept. 27th, young cocks. Oct. 19th, many. At Outer Dowsing L.V., Oct. 22nd, 3 p.m., four old males, E.S.E. to W. Nov. 26th, 1 p.m., three males, E.S.E. to W. At Cromer L.H., Nov. 6th, three. At Hasbro' L.H., 11 p.m., two struck, killed. At Corton L.V., Oct. 22nd, continuous after daylight, E. to W. Nov. 7th, 11 a.m. to sunset, with Thrushes; 9th, W. by N., several flocks to S.W., very low. At Galloper L.V., Oct. 22nd, 8.40 a.m., about four hundred and three hundred Starlings to S.W.; 31st, sixty; Nov. 2nd, about one hundred during night, thirty killed, to N.W. at sunrise; 6th, 10 p.m. to sunrise,

* A flock of twenty-five were seen at Woodham Mortimer, Essex, on Sept. 6th. See 'Field,' Oct. 2nd.

about fifty; 9th, 10 p.m. to sunrise, sixty. At Casquets L.H., Alderney, Oct. 13th to 17th, Blackbirds at midnight. Are noticed at thirteen stations from the Farne Islands to Alderney. Great numbers appear to have crossed; at Heligoland commenced passing later than any other of the *Merulidæ*. There was a "great rush" on to the English coast, especially over the Corton and Galloper light-vessels, from Oct. 19th to 22nd; a "second rush" northwards of Spurn on Nov. 20th. Migrate both by day night; direction of flight E. to W. or S.E. to N.W.

RING OUZEL, *Turdus torquatus*.—At Heligoland began moving very early in the season. Sept. 9th, some, with *T. musicus*; 24th, many; 25th, great many, whole day, passing on. Oct. 7th, many, young birds; 27th, some. None recorded at any station on the English coast, which is rather remarkable.* At the Casquets L.H., Aug. 16th, midnight, misty, "Ring-Thrushes," four striking. Sept. 6th, midnight, N.E., rain, four struck. Oct. 2nd, 11 p.m., rain, four struck, and again on the 7th, 3 a.m., rain, four struck. Ring Ouzels were moving along the French coast as early as Aug. 16th; over Heligoland Sept. 9th to Oct. 27th. A very fine example of *Turdus Naumanii* (the first that has occurred there), a young bird, was captured on Oct. 10th; N.E., windy.

HEDGESPARROW, *Accentor modularis*.—At Heligoland, Sept. 26th, pretty large numbers, first comers. Oct. 5th, great many in garden; 8th, great many; 9th, same. At Spurn L.H., Oct. 17th, very abundant. At Great Cotes, Sept. 21st, in bean-fields near coast. Not observed at any other stations.

REDBREAST, *Erithacus rubecula*.—At Heligoland, from Sept. 9th to Oct. 9th, great numbers passing over island. At Coquet L.H., Sept. 10th and 16th, 10 a.m., one each day. Oct. 23rd, 5 p.m., one caught on glass. Dec. 28th, noon, one. At Whitby L.H., Sept. 27th, 10 a.m., a large flock of small birds containing many Robins remained a few hours and then went S. At Hunstanton L.H., Sept. 5th, one. At Northrepps, Norfolk, Oct. 14th and 15th, many noticed, evidently immigrants. At Hanois L.H., Guernsey, Aug. 14th, midnight, Redbreasts with many other birds, some killed.

* Lord Lilford (Zool., 1881, p. 24) records the first Ring Ouzel of the season in North Northamptonshire on Sept. 21st; and two are also recorded in 'The Zoologist' (1881, p. 26), as seen near Harwich, Oct. 10, 1880.

BLUETHROAT, *Ruticilla suecica*.—At Heligoland, Sept. 9th, E., fine, several; 17th, N.E., wind, much rain, many.

REDSTART, *Ruticilla phœnicurus*.—At Heligoland, Aug. 12th and 13th, young birds. Sept. 3rd, 11 a.m., N.W., great many; 8th, many; 9th, great many; 16th, many, about half old birds; 17th, enormous numbers, same; 25th and 26th, many. At Longstone L.H., Sept. 15th, several on reef. At Farne Inner L.H., Sept. 15th, many "fly-catchers" with Wheatears (see notes, Fly-catcher, *M. grisola*). At Teesmouth, many amongst the bents which grow upon the Tees breakwater early in September (not previously noted in this locality). At Flamborough, last week in August, great many. At Spurn, Sept. 3rd, many, left to a bird night of 3rd. At Northrepps, Aug. 30th and 31st, "swarming." At Yarmouth, large numbers first week in September. At Shipwash L.v., Aug. 30th, 2 p.m. to 7 p.m., large numbers to W.N.W. The immigration of this species is very interesting from the large and unusual numbers which can be traced along the east coast from the Farne Islands to the Shipwash L.v., off the mouth of the Thames. They arrived along the entire length of the coast during the latter part of August and early in September. At the Shipwash L.v., the most southern station, they were going W.N.W., and at all other stations, after touching land, evidently followed the coast-line to the south. The migration was confined very closely to the coast, the birds going but a short distance inland. In nearly every case they migrated in company with or at the same time as the Wheatear.

STONECHAT, *Saxicola rubicola*.—At Heligoland, Aug. 11th, young. Sept. 3rd, 11 a.m., great many; 9th, same. Oct. 1st, 2nd and 3rd, old birds.

WHINCHAT, *Saxicola rubetra*.—At Heligoland, Aug. 23rd, great many young birds, the first of them; 24th, also great many. October, first week, old birds. Mouth of Deben river, Suffolk coast, Nov. 1st.

WHEATEAR, *Saxicola œnanthe*.—At Heligoland, July 5th, small flights, young birds; 24th, same. Sept. 16th, great many, about half old birds. At Farne Inner L.H., Aug. 10th, several. Sept. 15th, forty to fifty. At Teesmouth 5 Buoy L.v., Aug. 30th, 10 a.m., fog, two came on board. Sept. 10th, great many Wheatears from S.E., and "several small birds of a dark green colour" (Redstarts?), some on deck. At Teesmouth, Sept. 10th, an unusually

large number along the banks between Hartlepool and Sneaton Snook, also Redstarts. At Flamborough, last week in August, in great numbers, with Redstarts. At Spurn, Sept. 3rd, with some Redstarts. Oct. 27th, last seen, an old bird. At Great Cotes, September, first fortnight, very great many. At Northrepps, Aug. 30th and 31st, great numbers and Redstarts. Altogether there was a very large immigration on the east coast from the Farne Islands to Yarmouth the last week in August and early in September.

Saxicola deserti, Rupp.,* a fine old male, in perfect summer plumage, occurred at Heligoland on June 23rd, wind W., calm, warm. *Saxicola leucura*, Aug. 11th, E., fine, one, undoubtedly, but not shot.

SYLVIIDÆ.—Of the small warblers, *Hypolais icterina*, a fine male occurred in Heligoland on June 3rd; the same day some Willow Wrens and one *Sylvia viridanus*, a fine female, shot in Mr. Gätke's garden, making the third Heligoland example. On July 13th, Whitethroats; 24th, young Willow Wrens. On Aug. 24th, great many, also some Whitethroats and Garden Warblers; 27th, Willow Wrens in less numbers, and again in increased numbers on Sept. 3rd; on the 9th Chiffchaffs commenced migrating, also a great many Willow Wrens and Whitethroats came; on the 15th, forenoon, Willow Wrens and Sedge Warblers, great many in potato-fields; again, on 16th, S.E., calm, sunny, warm, Willow Wrens, Chiffchaffs and Garden Warblers, great many, less numbers of Blackcaps; 17th, Willow Wrens, Chiffchaffs and Garden Warblers, less of the latter; 25th, westerly, Willow Wrens, and great numbers of Chiffchaffs, Garden Warblers, Blackcaps and Whitethroats; the same day, *P. superciliosus*, one fine bird shot; besides this a large *Phylloscopus*, with very conspicuous wing-bar, was seen. Again, on the 26th, another *P. superciliosus*, and in the evening many Chiffchaffs, Garden Warblers and Blackcaps; 27th, Chiffchaffs, Garden Warblers, Blackcaps and Whitethroats; 28th, some Chiffchaffs; 30th,

* It is worthy of note that on the same day a fine example of *Papilio podalirius*, the scarce Swallow-tail, was taken on the island. This butterfly was added to the British list on the authority of Haworth, but no authenticated British specimen is known: its occurrence on Heligoland adds to the probability of its capture in England. [*Saxicola deserti* also occurred at Alloa, in Scotland, on Nov. 26th, 1880.—J. A. H. B.]

Chiffchaffs, Garden Warblers, one *P. superciliosus* seen, a grey *Phylloscopus* seen, *tristis*? Some more Chiffchaffs, with many other birds, Oct. 8th, and one *P. superciliosus*; Chiffchaffs again on 9th, 10th and 11th; 13th, Willow Wrens, great numbers all this latter time also. After the middle of October the migration of the *Sylviidæ* appears to have ceased. At Flamborough a Willow Wren was caught on the morning after the great storm on the night of Oct. 28th, and at Spurn on morning of 28th a female Blackcap was shot by Mr. W. Eagle Clarke.

GOLDEN-CRESTED WREN, *Regulus cristatus*.—At Heligoland, Sept. 9th, great many, first comers; 25th, some; 27th, 29th and 30th, some. Oct. 4th, great many; 5th, also many with some *R. ignicapillus*, Fire-crested Wrens, first comers; 8th, great many Golden; 11, also great many; 22nd, daily some. At Longstone L.H., Oct. 22nd, one. At Farne Inner L.H., Sept. 15th, 9 a.m., E.N.E., six. Oct. 12th and 13th, several all day. At Coquet Island L.H., Oct. 14th, N.W., one. Nov. 9th, 11 p.m., N.W., gale, one caught on glass. At Flamborough L.H., Oct. 8th, hundreds seen. At Spurn L.H., Sept. 15th, E.N.E., first seen. Oct. 5th and 7th, plentiful; 15th, about a dozen, one caught; 17th, several; 26th, one seen. At Hasbro' L.v., Oct. 17th, 3 p.m., E.S.E. to W.N.W., two. At Cockle L.v., Aug. 18th, one caught on deck. Oct. 9th and 18th, one each day also. On Suffolk coast, mouth of Deben, Nov. 1st, Goldcrests. At Kentish Knock L.v., Oct. 1st, one; 10th, two on board. At Shipwash L.v., Sept. 1st, 6 to 8 p.m., large numbers to N.W. Dec. 8th, 10 a.m., flock to W.S.W. At Hanois L.H., Aug. 14th, o. m., N., Goldcrests, some killed. First observed at the Guernsey lighthouse, Aug. 14th; last at Coquet Island, Nov. 9th. Migration extending over eighty-eight days.

WREN, *Troglodytes parvulus*.—At Farne Inner L.H., Nov. 23rd, several. At Whitby L.H., Sept. 27th, 10 a.m., Wrens with many other small birds, remaining a few hours and then going south. At Spurn L.H., Sept. 21st, one caught on lantern. At Great Cotes, early in October, many. At East Goodwin L.v., 10 a.m., four from N.W. came on board.

PARIDÆ.—Oct. 14th, N.W., windy, Great Titmouse (*Parus major*), some; Blue Titmouse (*P. cæruleus*), a great many passed over in the afternoon of Oct. 10th, N.E., windy; and again a great many on the 11th, under the same conditions. At Great Cotes, Oct. 14th, Great Tit, many; Blue, some; and Coal Titmouse

(*Parus ater*), a few. Dec. 9th, *P. major*, several, "second rush." Migratory flocks of the Long-tailed Titmouse (*Acredula rosea*) occurred near Cromer in October.

MOTACILLIDÆ.—At Heligoland, Aug. 27th, Blue-headed and White Wagtails (*Motacilla flava* and *alba*), great many young birds. Sept. 1st, *M. flava*, pretty large numbers with other birds, all restless, passing over; 9th, E., fine, Yellow Wagtail, *Budytes* (*M. Raii*), great many; 15th, forenoon, *M. flava*, astounding numbers, late in afternoon in great flights overhead, going north to south; 27th, *M. alba*, some. The only migration of Wagtails over Heligoland in August and September, with one exception, appears to have been confined to these two well-known European species—the Blue-headed and White Wagtails of the Continent. The Grey Wagtail (*M. sulphurea*) was first observed at Great Cotes first week in October, and on Norfolk Coast, Sept. 25th.

TREE PIPIT, *Anthus trivialis*.—At Heligoland, Aug. 22nd, young birds; 23rd, same; 24th, same, but less numbers; 26th, Meadow Pipit (*A. pratensis*), great many (oftentimes with smart breeze), also many Tree Pipits; 31st, Richard's Pipit (*A. Richardi*), one. Sept. 1st, Tree Pipits, pretty large numbers; 9th, E., fine, Tree and Meadow Pipits, great many, and two *A. Richardi* seen; 15th, forenoon, Richard's Pipit, some, once seven together, none shot; late in afternoon, Meadow Pipits, great flights, Tree Pipits less; 16th, Tawny Pipit (*A. campestris*), two; 27th, Meadow Pipits, a few. Oct. 6th, Meadow Pipits with Larks in great flights passing overhead. At Coquet L.H., October, 9 a.m., half a score Titlarks. At Spurn, Sept. 6th, migrating with Swallows, but in separate flocks, bents full of Titlarks arriving from sea, came from N.E., wind W. At Lemn and Ower L.v., Sept. 13th, Titlarks, numbers on board, fifteen caught. At Swin Middle L.v., Aug. 29th, 6 p.m., two Titlarks and six species of small birds on board, left for W. At Casquets L.H., Aug. 18th, 2 a.m., about fifty struck. Sept. 6th, midnight to 3 a.m., twenty struck. Rock Pipit (*A. obscurus*), Sept. 28th, first seen on Lincolnshire coast; Sept. 22nd, on Norfolk coast.

SHORE LARK, *Otocorys alpestris*.—At Heligoland, Oct. 4th, about twenty; 5th and 6th, some; 17th, twenty to forty; 19th, great many; 20th, flights from twenty to one hundred; 21st, great many; 23rd, still larger flights; 26th, a few. Also great numbers in November and up to Dec. 18th; on Nov. 15th, thousands, in

flights of hundreds. On the English coast the occurrences of the Shore Lark have been numerous. At Farne Islands, one shot in the autumn. At Scarborough, Mr. Roberts states that since the severe weather in January, 1881, Shore Larks in small flocks have visited the coast, and several have been shot and taken to him. At Spurn, Dec. 12th, flock of thirteen seen. My informant, who is well acquainted with the bird, says, "resting apparently as I was within six yards of them." At Skegness, Lincolnshire coast, last week in October, eight shot. Near Bedford, Oct. 28th, several seen, two shot ('Field,' Nov. 6, 1880). On Norfolk coast a flock at Blakeney, which remained near the place for two months, and others near Yarmouth. At Dover two procured in December.

SKY LARK, *Alauda arvensis*.—The entrances of the migration of the Sky Lark at the East Coast stations are far too numerous to note separately. In many cases they occupy a large portion of the returned schedules, and individually far outnumber any other species. At Heligoland the migration commenced Sept. 25th, already great many overhead; 27th, 9 to 10 p.m., passing. Oct. 5th, morning, great many; 6th, afternoon, great flights overhead; 19th, late in forenoon, great flights passing on; 20th, with Starlings, hundreds of thousands passing overhead and over the sea; 21st, same; 27th considerable passage in the night; 28th, many thousands over the sea; and after this in flights through November and December. On our East Coast they are noticed at thirty-one of the stations making returns, from the Farne Islands to the Casquets, Alderney. At Farne Island L.H., Sept. 30th to Oct. 31st. At Coquet L.H., Dec. 19th. At Teesmouth 5 Buoy L.V., Sept. 25th to Nov. 21st. On Oct. 24th, all day, "great rush." Nov. 21st, "second rush." At Teesmouth, Oct. 6th to 30th. At Whitby L.H., Oct. 14th to Nov. 23rd. At Flamborough in October. At Spurn L.H., Sept. 15th to Jan. 13th. At Spurn L.V., Oct. 6th to 27th—from 9th to 15th every day continuous. At Great Cotes, September, last week, every day and on to Nov. 4th. At Outer Dowsing L.V., Oct. 13th to Dec. 6th; "great rush," Oct. 13th to end of month; "second rush," Nov. 12th. At Inner Dowsing L.V., Oct. 27th to Jan. 4th. At Dudgeon L.V., Oct. 4th to Dec. 15th; "great rush," Oct. 17th and 20th, and night of 27th. At Lynn Well L.V., Oct. 5th to 23rd, on seven days great numbers; 11th, 12th and 13th, continuous during day ("great rush"); after this, from Oct. 23rd to Jan. 3rd, in less numbers. On Jan. 1st, 2nd

and 3rd, with Knot; sixteen Larks and fifteen Knots killed against lantern. At Hunstanton L.H., Oct. 8th, great many. At Cromer L.H., Sept. 20th to Jan. 2nd, eleven struck and killed. At Leman and Ower L.v., Sept. 28th to Oct. 27th, on eleven days, day and night; Oct. 23rd, 26th and 27th, "great rush." At Hasbro' L.v., Sept. 1st to Oct. 22nd. At Hasbro' L.H., Sept. 13th to Dec. 27th, thirty killed. At Newarp L.v., Sept. 24th to Oct. 17th. At Cockle L.v., Sept. 27th to Oct. 22nd; Oct. 11th and 22nd, continuous. At Corton L.v., Oct. 7th to Nov. 7th; Oct. 22nd, continuous. At Galloper L.v., Oct. 9th to Nov. 11th, on seventeen days in large flocks, up to five hundred in a flock; Oct. 31st, 11 p.m., half a gale, thirty killed; Nov. 2nd, 10 p.m. to sunrise, about same number, and many on night of 6th, with other birds. At Kentish Knock L.v., only on Oct. 17th. At Shipwash L.v., Sept. 18th, Oct. 4th and 8th, Nov. 22nd; all day, continuous on Oct. 4th. At Swin Middle L.v., Oct. 21st to Jan. 12th. At Tongue L.v., Sept. 27th to Oct. 30th; "rush," Oct. 22nd. On Sept. 27th, hazy, fifty in ship round lantern at 11 p.m.; when stars came out they left. At Goodwin L.v., Sept. 27th to Nov. 7th. At Gull L.v., Oct. 18th to Nov. 2nd. At Southsand Head L.v., Aug. 27th to Nov. 9th. At East Goodwin L.v., Oct. 8th to Jan. 12th. Enormous numbers crossed at these four Goodwin Stations. At Casquets L.H., Oct. 2nd, 11 p.m. to 2 a.m., sixty killed.

The migration of the Lark was carried on all hours of day and night in all weathers from Aug. 27th to Jan. 12th. The "great rush" took place during the last fortnight in October, more crossing probably on the 22nd than any other day, and at Heligoland on 20th and 21st. A "second rush" a month later, on or about Nov. 21st, and a "third rush" on the outbreak of severe weather in the second week in January this year. General line of direction E. to W., sometimes N.E. to S.W., but generally, like the majority of immigrants this season, with a strong trend from points south of east. It is remarkable, as shown by the returns, how frequently Larks are associated in migration with Starlings, either in separate flocks or together; in fact, the two species seem to be inseparable. In a large majority of instances these two meadow-feeders are associated as if impelled to migrate by a common cause.

WOOD LARK, *Alauda arborea*.—At Heligoland, Sept. 28th, four.

SNOW BUNTING, *Plectrophanes nivalis*.—At Heligoland, Sept. 17th, a few first arrivals; Oct. 20th, great many; 25th and 26th, a few; Nov. 20th, still great numbers, but very few old birds. At Farne Inner L.H., Oct. 28th to Dec. 20th; "rush," Nov. 16th, and again Dec. 20th. At Teesmouth 5 Buoy L.V., from Nov. 7th to the end of month, nearly on every day, immense numbers passed; all came from N., and were going S.W. At Flamborough, Oct. 8th, first seen; Jan. 13th, great many flocks. At Spurn L.H., third week in October, a few; 29th, many, after great gale from E. and N.E. At Great Cotes, early in November,—1st to 5th,—many; 24th, enormous flocks. At Yarmouth, middle of October. At Harwich, Oct. 30th, many in Orwell river; Nov. 4th, first flock seen near Dovercourt (Zool., 1881, p. 26). None are recorded from stations south of Harwich. The flocks consisted mainly of the young of the year and old females; very few old male birds. The immigration of Snow Buntings on to the north-easterly coasts in *four* distinct rushes, *viz.*, at the end of October, in November, December, and January, has been attended with corresponding depressions of the barometer and outbursts of Arctic weather, *viz.*, the great gale E. to N.E., Oct. 28th, with heavy snow in Scotland; Nov. 18th to 20th, sharp frosts and heavy snow-storms; Dec. 14th and 15th, the same; and Jan. 11th and 12th, same. Mr. Gütke has observed for some years a very marked *decrease* in the number of Snow Buntings crossing Heligoland. There has been a very great *increase* in the number arriving on our east coast for the last six or seven winters, and it is probable that, like the Shore Lark and other Arctic birds, the line of migration now runs further to the west than formerly.

Other *Emberizinae* occurred as follows:—At Heligoland, Oct. 11th, Ortolan Bunting, *Emberiza hortulana*, many young; 24th, same; Sept. 1st, pretty large numbers; 8th and 9th, many; 15th, great many in potato-lands; 29th, Reed Bunting, *E. schoeniclus*, many; Oct. 4th, great many; 6th, same; 8th, great many; 11th, same. Yellow Bunting, *E. citrinella*, 28th, many; and same and Corn Buntings up to Nov. 20th, few old birds. Little Bunting, *E. pusilla*, Sept. 26th, one; 30th, one; Oct. 11th, one. On the east coast of England, at Great Cotes, Sept. 30th, *E. schoeniclus*, many. At Spurn, Oct. 26th, a few seen. At South-sand Head L.V., Aug. 29th, four to south.

CHAFFINCH, *Fringilla caelebs*.—At Heligoland, Sept. 17th,

great many beginning to pass; 25th, enormous numbers passing on high overhead in a westerly direction; 26th, hundreds of thousands high overhead; 27th, some; 28th, thousands so high overhead that they cannot be seen, only their call-notes heard, all day long; Oct. 6th, 7th, and 8th, great many; 11th, same; 27th, still many passing. Great numbers have also arrived on the east coast; they are noticed at fourteen stations, from the Farne Islands to the Goodwins. At Farne Inner L.H., Sept. 1st, 2 a.m., one killed against glass, S.W., misty. At Whitby L.H., Sept. 27th, "Finches," "great rush," with many other species. At Great Cotes, Oct. 13th, very large flocks of females and young of the year about this date. At Dudgeon L.v., Oct. 16th, one male caught on deck; 28th, same; Dec. 5th, one same, going W. At Lynn Well L.v., Oct. 5th and 23rd, many S.E. to N.W.; 25th, in smaller flocks to N.W. At Northrepps, Oct. 13th, Mr. J. H. Gurney saw a huge flock in a stubble-field on the cliff, which he thinks must have come in from the sea. At Lemn and Ower L.v., Oct. 19th, 8 to 12 p.m., o.m., six caught on deck. At Newarp L.v., 2 to 3 p.m., Oct. 6th, 14th, and 18th, each day to S.W. At Cockle L.v., Oct. 6th, two on board caught. At Corton L.v., 7 p.m., several males alighted on deck; 15th, 6 p.m., one male caught. At Galloper L.v., Oct. 9th to Nov. 6th, on several days, sometimes with Larks, twelve Larks, nine Chaffinches killed night of Oct. 9th, o. m., heavy rain. At Kentish Knock L.v., Oct. 7th, two at sunrise to S.W.; 15th, two, male and female, caught; 17th, W.S.W., three or four hundred very high to S.W. At Swin Middle L.v. Sept. 18th, sunrise to 10 a.m., Chaffinches with Linnets to W. At Gull L.v., Sept. 28th, 9 to 11 a.m., continuous flocks of Linnets, Starlings, Chaffinches, and Mountain Sparrows to W., many of each on deck. The main immigration of the Chaffinch was from the middle of September to end of October, the bulk of the immigrants crossing south of Yarmouth. The "great rush" on or about Oct. 13th.

BRAMBLING, *Fringilla montifringilla*.—At Heligoland, Sept. 25th, many; 27th, some; Oct. 8th, great many; and on 27th, still more, and also good many throughout November. On the English coast few have been observed. At Flamborough, Jan. 13th, some large flocks. At Lemn and Ower L.v., Oct. 6th, one male caught.

TREE SPARROW, *Passer montanus*.—None are recorded as

passing Heligoland. On our east coast they were observed at eleven stations, but none are recorded north of Spurn. In North-east Lincolnshire, Oct. 13th, very large flocks were seen about this date. At Dudgeon L.V., Oct. 5th, "Sparrows" to W. At Newarp L.V., Oct. 25th, six going W. by N. At Corton L.V., Oct. 7th, several alighted on ship for a short time, going E. to W. At Kentish Knock L.V., Oct. 9th, seven on board till squall had passed. At Shipwash L.V., Nov. 28th, flocks to N.N.W. At Tongue L.V., Sept. 28th, 11 a.m., o. m., about one hundred Sparrows on masthead; Oct. 24th, twenty to W. at noon. At North Foreland L.H., from October to third week in December, hundreds "mixed" were seen. At Goodwin L.V., Sept. 28th to Nov. 5th, on five days, often with Larks to W. At Gull L.V., Sept. 28th, continuous with other birds from 9 to 11 a.m. to W.; Oct. 16th, from 9 a.m. to 3 p.m., continuous to W. At East Goodwin L.V., Sept. 25th, Oct. 9th, and 11th, flocks flying about ship; 17th, flock from N.W. to S.E.; Jan. 8th, about one hundred from W. to E. towards French coast. From Sept. 25th to Nov. 28th, the majority passing across at the most southern stations the four lightships on the Goodwin Sands. It is possible that some of the entries of "Sparrows," where not distinctly specified, may refer to the Common Sparrow, which is now recognised as a regular immigrant.

HOUSE SPARROW, *Passer domesticus*. — At Heligoland, Mr. Gätke says, "Up towards the end of July all young Sparrows disappeared from the island," and "up to middle of September nearly all old Sparrows had also quitted the island." Oct. 10th, "Sparrows latterly influx," from which it appears that the local Sparrows leave, the young first, then the old, and their place is taken by a fresh arrival. At Spurn, last week in Nov., Mr. Hewetson saw an immense flock—hundreds upon hundreds—on the shore, evidently quite fresh arrivals; amongst them was a Reed Bunting. At Outer Dowsing L.V., Sept. 26th, 5 p.m., twenty House Sparrows came on board, travelling from S.E. to N.W.; and on Oct. 2nd, at 4 p.m., eight going E.S.E. to W. At Kentish Knock L.V., Oct. 10th, one Common Sparrow; and on 12th, two, till squall had passed, then to S.W. At Casquets L.H., Alderney, Oct. 13th to 17th, at midnight, Common Sparrows with Thrushes, Blackbirds, Starlings, and Wood Pigeons, to English coast.

GREENFINCH, *Coccothraustes chloris*.—At Heligoland, Oct. 27th, many; Nov. 20th, great many. At Corton L.v., Oct. 31st, one, a male, caught.

GOLDFINCH, *Carduelis elegans*—At Heligoland, Oct. 27th, some; also through November and December; on Dec. 17th, great many. At Great Cotes, some small flocks in North-east Lincolnshire in October and November, more than have been seen for many years. On Suffolk coast, mouth of Deben, Nov. 1st, seven.

SISKIN, *Carduelis spinus*.—At Heligoland, Sept. 16th, a.m., “flights in my garden of (say) fifty; p.m., flights of hundreds”; 17th, “hundreds of thousands”—“flights like clouds”; 25th, many; Oct. 7th, great many; 27th, many still passing; Nov. 4th, W., still some flights. On English coast of Spurn, Oct. 27th, small flock seen. At Northrepps, Sept. 16th, seen by Mr. J. H. Gurney. Have also been reported as more plentiful than usual in other parts of country.

LESSER REDPOLE, *Linota rufescens*.—In Lincolnshire there were very considerable numbers in our east coast marshes early in October; in one instance, on the 7th, I saw a flock of two hundred in a stubble-field near the coast. At Spurn, Oct. 28th, Mr. Wm. Eagle Clarke saw a flock near Kilnsea.

LINNET, *Linota cannabina*.—At Heligoland, Oct. 4th, great many, first comers; 6th, some; 28th, with Twites, great many. On the English coast, Whitby L.v., Sept. 27th, with many others. At Corton L.v., Oct. 5th, one E. to W. At Swin Middle L.v., Sept. 18th, sunrise to 10 a.m., with Chaffinches to W.; and on previous day, Sept. 17th, all day to N.N.W. with Swallows. At Gull L.v., Sept. 26th to Oct. 25th, on six days with other birds to W. and S.W.; continuous all day on Oct. 24th and 25th. At South-sand Head L.v., Oct. 18th and 21st, Linnets with others all day; 26th, all day with others to W. and N.W. Immense numbers appear to have crossed from Oct. 1st to 26th at the stations off the Essex and Kent coasts; none, or very few only, at stations north of this.

TWITE, *Linota flavirostris*.—Is not recorded on the English coast. At Heligoland, Oct. 16th, many passed, first comers; and on 17th, great many; 20th, great many; and on 25th, 26th, and 27th, lesser flights; 28th, many with Linnets.

BULLFINCH, *Pyrrhula europæa*.—At Heligoland, Oct. 7th, one,

young; 8th, one, young, in garden; 10th, some; 11th, a few; 19th, some; 25th, a few; and through November and December in small parties of ten to twelve; have not been seen on the island for ever so many years. At Spurn, some were seen last week in November; and during the last fortnight in the same month, many in North-east Lincolnshire. Mr. J. H. Gurney, writing from Reigate, Jan. 4th, 1881, says, "There are more Bullfinches in this part of Surrey than I think I ever saw." Extraordinary numbers were seen in Mayo and Sligo, Ireland, in the last autumn and winter (See 'Zoologist,' 1881, p. 133).

CROSSBILL, *Loxia curvirostra*.—At Heligoland, Oct. 7th, one young bird.

STARLING, *Sturnus vulgaris*.—Next to the Lark, this species undoubtedly takes the second rank numerically amongst the migrants. The young birds crossed Heligoland in large numbers from June 15th to July 5th. The old birds beginning to move about Sept. 11th, and from that time to Oct. 27th, enormous numbers passed. On the English coast they are recorded at twenty-five stations, from the Longstone to the Hanois L.H., Guernsey. At Longstone L.H., Nov. 19th, large flocks to W. At Farne Inner L.H., Sept. 30th, to Nov. 13th (Oct. 15th, rush), when they passed all day westward. At Coquet L.H., Oct. 1st and 11th. At Teesmouth 5 Buoy L.V., Nov. 27th, large flocks from S.E. to N.W. At Whitby L.H., July 23rd, one hundred young birds to S. At Flamborough L.H., great numbers in November. At Spurn L.H., Oct. 14th to Nov. 27th, Oct. 23rd and 24th, and Nov. 27th to 30th, all day from N. to S. At Spurn L.V., Oct. 17th, thirty came on board; 27th, Starlings and Larks; two dozen caught going S. At Inner Dowsing L.V., Jan. 4th, one dead on deck at sunrise. At Hunstanton L.H., Oct. 8th, 4 a.m., o. m., rain, E., hundreds with Larks round light, fifteen killed. At Cromer L.H., Jan. 3rd, 1881, 3 a.m., one killed. At Lemn and Ower L.V., Sept. 28th and 29th, and Oct. 19th, during night. At Hasboro' L.H., Sept. 13th and 14th, 11 p.m. to midnight, with Larks, twenty stunned, young birds; 27th, midnight, four killed, young; Dec. 27th, midnight, with Larks and Blackbirds. At Newarp L.V., Oct. 13th to 25th, on three days to W. At Corton L.V., Sept. 27th, Oct. 4th, and Nov. 17th, E. to W. At Galloper L.V., Oct. 13th to Nov. 11th, nearly every day large flocks going N.W., day and night, sometimes alone, at others with Larks and

small birds. At Kentish Knock L.V., Oct. 8th, 10th, and 13th, to W.S.W., with Larks and many other birds. At Shipwash L.V., Sept. 21st to Nov. 23rd, on several days, sometimes with Larks N. and N.W. At Swin Middle L.V., Aug. 28th, flocks to W. with other birds; and Oct. 30th, to W. with Larks. At South-sand Head L.V., Oct. 10th, continuous with others; also on 17th, 18th, 22nd, and 26th, to W. At East Goodwin L.V., Sept. 24th and 25th, hazy, flocks about ship with Sparrows on 25th; Oct. 16th, hundreds E. to W. At Casquets L.H., Oct. 13th to 17th, midnight, rain, Starlings amongst other birds to N.W. At Hanois L.H., Guernsey, Aug. 14th, night, with many others; Dec. 2nd, midnight, o. m., half a dozen struck. The young migrate first; the old in October and November. Have crossed in the greatest number at the more southern stations, travelling all hours of the day and night in westerly and north-westerly directions; constantly associated with Larks in their migrations. The majority crossed from Oct. 19th to 26th. Again there was a "second rush" near the end of November, and a third the second week in January, before the outbreak of severe weather.

ROSE-COLOURED STARLING, *Pastor roseus*. — At Heligoland, Sept. 17th, one, a young bird, occurred.

GREY CROW, *Corvus cornix*. — At Heligoland, Sept. 24th, commencing with flocks of thirty to forty, and passing at intervals to end of October, sometimes in immense numbers; Oct. 7th, towards evening an enormous flight, during night fifty caught by lanterns; and after this passing in smaller numbers to Nov. 2nd. On the English coast they were noticed at seventeen stations, extending from the Farne Islands to the mouth of the Thames. At Farne Inner L.H., Oct. 21st to Nov. 20th, to W. At Teesmouth 5 Buoy L.V., Sept. 10th, two E. to W.; Oct. 12th, great many E.S.E. to W.N.W. At Teesmouth, Sept. 25th, two seen; Oct. 16th and 20th, many. At Whitby L.H., Oct. 24th and 26th, with Blackbirds at daylight. At Flamborough L.H., Oct. 8th, enormous numbers seen. At Spurn, Oct. 12th to Nov. 9th, great many. At Great Cotes, Oct. 9th, 5.30 p.m., gale from N.E., large flock came in, travelling from E. to W., very high. At Lynn Well, L.V., Oct. 10th to 14th, continuous every day from S. to N.W.; again 22nd and 23rd, all day S.E. to N.W. At Hunstanton L.H., Oct. 10th, 11th, and 12th, many E. to W.,

wind E.N.E. At Northrepps, Oct. 13th, many to N.W. At Lemn and Ower L.v., Oct. 21st, 5 p.m., to N.W. At Cockle L.v., Oct. 11th, continuous to W.N.W., wind E.N.E. At Corton L.v., Oct. 10th, very high, E. to W., wind E.N.E.; 11th, continuous 9 a.m. to noon. At mouth of Deben, Oct. 29th to Nov. 1st, in numbers. At Galloper L.v., Oct. 24th to Nov. 9th, many flocks. At Shipwash L.v., Oct. 12th, 30th, and Nov. 3rd, flocks N.W. and N.N.W. At Swin Middle L.v., Oct. 22nd, noon to 3 p.m., with Rooks. At South-sand Head L.v., Sept. 16th, ten "Crows" to N.W.—may have been *Corvus corone*; Nov. 4th, two hundred Crows to N.W. The majority of the Hooded Crows arrived from Oct. 8th to 23rd, the greatest number on any given day probably on the 11th. The main body passed on to the east coast between Flamborough and Yarmouth, with northerly and easterly winds, and travelling from E. to W., N.E. to S.W., and S.E. and S. to N.W.

Rook, *Corvus frugilegus*.—Enormous as have been the number of Crows crossing the North Sea the Rook has probably quite equalled them. None were noticed at Heligoland, or indeed at any station north of the Humber; but from Spurn to the South-sand Head they are recorded at sixteen stations, from Oct. 10th to Nov. 12th, the greatest number crossing undoubtedly on Oct. 21st, and the majority during the autumn at the more southern stations. Comparing the immigration of the Grey Crow with the Rook we find that the former crossed more to the north than the latter did. Thus Grey Crows are recorded from the Farnes to the mouth of the Thames: the majority into Holderness, Lincolnshire and Norfolk; the Rooks from Spurn to the South Foreland, the majority into the southern counties. Each, however, came from, and travelled to, the same points of the compass—E. to W., or N.E. to S.W., or S.E. and S. to S.W.

DAW, *Corvus monedula*.—At Great Cotes, Oct. 19th, several, with Rooks, coming in from the sea. At Northrepps, Oct. 14th, going N.W. At Galloper L.v., Oct. 17th, 7.45 a.m., Rooks and Daws, three to four hundred.

JAY, *Garrulus glandarius*.—Nil Return. There was, however, a considerable influx into North-east Lincolnshire on or about the last week in October.

PIE, *Pica rustica*.—At Northrepps, Oct. 17th, Mr. J. H. Gurney observed two high up, going E.

SWALLOW, *Hirundo rustica*. — At Heligoland, Sept. 16th, passing S. At Farne Inner L.H., Oct. 1st, several all day. At Coquet L.H., July 10th, numbers; Sept. 20th, 6 p.m., four. At Teesmouth 5 Buoy L.V., July 27th, 6 to 7.30 p.m., wind S.W., moderate, six large flocks, fifty to sixty each, north to south; Sept. 15th, 4 p.m., large flocks to S. At Whitby L.H., Sept. 22nd, 4 p.m., last seen going S. At Flamborough L.H., Sept. 17th, midday, great many. At Spurn L.H., Sept. 6th, all day young Swallows passing along Spurn promontory towards S., each flock followed by Pipits. At Hunstanton L.V., Sept. 28th, large flock on lighthouse. At Lemn and Ower L.V., July 29th, 6 a.m., numbers passed, some alighting on board, one struck and killed. At Hasboro' L.H., Sept. 1st, 2 a.m., fog, flock, several caught as they beat against lantern. At Winterton L.H., Sept. 3rd to 9th, round lantern every day. At Swin Middle L.V., Sept. 15th, all day to N.W.; 17th, with Linnets all day to N.N.W.; 18th, sunrise to 9 a.m., two hundred to W. At North Foreland L.H., July 28th, 10 a.m. to 3 p.m., passing; 29th, six passed; Swallows also in numbers from five to forty were seen flying round lantern during the last week in September. At South-sand Head L.V., Sept. 23rd, twelve to W, At Casquets L.H., Oct. 7th, from 11 p.m. to 3 a.m., S.S.E., rain, Swallows, Landrails, Water Rails, Woodcocks, Ring Ouzels, and Common Thrushes were seen round light; amongst the birds striking the glass were one hundred Swallows. At Hanois L.H., Guernsey, Sept. 30th, a flight passed south. Swallows were noticed migrating at fifteen stations on the east coast and in the Channel from July 10th, at Coquet Island, to Oct. 7th, at the Casquets, the greater part in September. Migrate both by day and night, and in very considerable flocks; general direction north to south, but at Swin Middle L.V., S.E. to N.W. Swallows remained very late in the autumn of the past year in some localities. In North-east Lincolnshire, Nov. 9th, a pair seen. In Essex, Nov. 4th. In 'The Zoologist' for 1881, p. 62, the editor records the late stay of the Swallow at eight stations, all southern ones except Dublin, from Nov. 22nd to Dec. 11th. It is rather remarkable that, in North-east Germany, Swallows are recorded in the German newspapers as taking their departure nearly a month before the average time.

MARTIN, *Chelidon urbica*. — At Heligoland, Sept. 1st, with

Swifts passing on overhead, N.W., clear, little wind, warm. At Outer Dowsing L.V., Sept. 21st, sunset, two flying round lantern. At mouth of Deben, Nov. 1st, many Martins and Sand Martins seen. At South-sand Head L.V., Sept. 1st, twelve to S. One was seen at Henley-on Thames on Dec. 18th (Zool., 1881, p. 62).

SWIFT, *Cypselus apus*.—At Heligoland, June 1st, some passing; Sept. 1st, passing on overhead; 16th, great many. At Whitby L.H., Sept. 16th, 4 p.m., flock to S. At Spurn L.H., Aug. 27th, 6.30 a.m., great number to S.; Sept. 6th, again migrating; on June 7th, at 7 p.m., fifty were seen perched on gallery of lighthouse. At Cockle L.V., July 11th, two to N.W. Very few have been observed in comparison with the enormous flight which passed up the coast in the autumn of 1879.

NIGHTJAR, *Caprimulgus europæus*.—At Hasborough L.V., Sept. 24th, 10 p.m., one killed against lantern. Occurs every year at Spurn in the autumn as a migrant.

CUCKOO, *Cuculus canorus*.—At Heligoland, June 3rd, one old bird. At Whitby L.H., July 4th, one caught, a young bird. At Spurn, Sept. 7th, one seen, young. At Cromer L.H., July 28th, midnight, stunned.

WRYNECK, *Jynx torquilla*.—At Heligoland, Aug. 13th, one young bird.

HOOPOE, *Upupa epops*.—One recorded in the 'Field' of Nov. 6th as shot at Redcar, middle of September. At Bridlington, Sept. 15th, one. At Holt, Norfolk, Sept. 22nd, one, a male, in a turnip-field. At Woodham Mortimer, Essex, one shot Sept. 20th. At Crofton, near Wakefield, Oct. 29th, one shot and another seen.

BEE-EATER, *Merops apiaster*.—At Tetney Haven, seven miles S. of Grimsby, one on Aug. 16th (Zool., 1880, p. 511).

GREAT SPOTTED WOODPECKER, *Picus major*.—At Spurn, Oct. 27th, one shot, a few red feathers on the crown of the head, and in an advanced state of moult. At Great Cotes, Dec. 8th, one.

RING DOVE OR WOOD PIGEON, *Columba palumbus*.—At Heligoland, Sept. 25th, twenty to thirty. At Tongue L.V., Dec. 30th, 2.30 p.m., nine "Pigeons" going N. At Casquets L.H., Oct. 13th to 17th, midnight, Wood Pigeons from French to English coast going N.W.

TURTLE DOVE, *Turtur communis*.—At Flamborough, first week in October, one. At Great Cotes, Oct. 8th, N.E. gale and rain, one seen. At Casquets, Sept. 7th, 10 p.m. to 3 a.m., fifteen striking.

GOLDEN PLOVER, *Charadrius pluvialis*.—At Heligoland, July 3rd, E., passing over day and night in great numbers; 4th, about twenty young birds; 23rd and 24th, young birds; Aug. 10th, flights of hundreds, all young; 12th and 13th, northerly, fine, many high overhead; Sept. 3rd, great number of waders during night; 8th and 9th, great many; 16th, a.m., flights of dozens, p.m. flights of hundreds; Oct. 28th, many thousands over sea. At Farne Inner L.H., Aug. 12th to 28th, flocks to and from land every day; Nov. 23rd and 24th, all day. At Coquet Island L.H., Nov. 21st and Dec. 10th, all day. At Teesmouth, Sept. 25th, twenty seen. At Spurn L.H., Sept. 5th, flocks "Plover" N. to S. during day. At Great Cotes, Dec. 9th, immense flights, old birds. At Dudgeon L.V., Aug. 7th, 3 a.m. to midnight, in small parties, general direction W.; 25th, some; Oct. 28th, about one hundred to W. None at southern stations.* The young birds of the year migrate across Heligoland as early as the first week in July, and so on into August. The old birds later and in separate flocks. The migration of old birds as seen at Spurn going towards the north is exceptional, the rule on the east coast being a few old black-breasted birds in August and September, often with Lapwings, then flocks of young birds, and later in November the "great rush" of old birds.

GREY PLOVER, *Squatarola helvetica*.—At Heligoland, June 15th, 16th, and 17th, repeatedly; not mentioned afterwards in report. At Spurn L.H., July 25th, three on the muds; Aug. 29th, two. On Essex coast, Aug. 14th, Major Russell saw a flock or two, all having black breasts. The young arrive in August and September; old birds later in October and November; a few old birds having black or mottled breasts are often seen in July or early in August. Some birds of the previous year, or in their second summer, sometimes remain on the coast during the summer.

LAPWING, *Vanellus vulgaris*.—At Heligoland, July 3rd, with many others high overhead, day and night; 4th, in astounding

* My friend Major Seddon, of Waltham, informs me that, when at Spurn with his yacht, on the night of Aug. 22nd, he saw thousands of Golden Plover passing north along the sea-shore in detached flocks, flying in lines and arrow-heads; he was near enough to see that the upper parts were speckled with the "golden drop," and the under parts mottled black and white, as if changing from the summer to the winter dress.

numbers with Curlews. At Farne Inner L.H., Aug. 12th to 28th, with Golden Plovers to and from land daily. At Coquet Island L.H., Nov. 16th to Dec. 30th, on several days; "rush," Nov. 21st and Dec. 10th. At Spurn L.H., Sept. 5th, flocks N. to S. during day. At Great Cotes, Oct. 20th, gale from N., flocks E. to W. At Outer Dowsing L.V., June 21st, two came on board; left at 9 a.m. for W. At Dudgeon L.V., Aug. 7th, 3 a.m. to midnight, "Plovers," small parties, general direction W. At Lynn Well L.V., Nov. 7th and 23rd, Dec. 20th and 29th, S.E. to N.W. At Hasboro' L.H., Nov. 15th, Gulls and Plovers to S.; Dec. 17th, "Plovers" to S. At Cockle L.V., July 10th, two Lapwings to N.W. At Galloper L.V., Oct. 28th, 9.20 a.m., thirty "Pewit" to N.W. At Swin Middle L.V., Sept. 20th, "six birds like Crows."* At Casquets L.H., Oct. 7th, 12 p.m., flock to N.W. Appear to have crossed at irregular times, and at some stations in considerable numbers; from July 3rd, at Heligoland, to the end of December, at Lynn Well and Coquet Island.

DOTTEREL, *Eudromias morinellus*.—At Heligoland, July 24th, one shot. At Teesmouth, a dozen seen about middle of September. Very rarely observed at British stations during the autumn migration.

RINGED PLOVER, *Ægialitis hiaticula*.—At Heligoland, July 1st, great many with Redshanks the whole day passing on high overhead; 3rd, same, day and night; 5th, same. At Swin Middle L.V., very large flocks of "Oxbirds"† passed, going N.W., in October, November, December, and January.

OYSTERCATCHER, *Hæmatopus ostralegus*.—At Coquet L.H., Aug. 16th, N.E., great numbers all day. At Teesmouth 5 Buoy L.V., Aug. 16th, flock of "Mussel-crackers." At Hunstanton L.H., from Aug. 2nd for several weeks, large flocks of Oystercatchers and Curlews passing S.W. at ebb, returning E. at flood.

DUSKY REDSHANK, *Totanus fuscus*.—At Heligoland, June 15th, 16th, and 17th, repeatedly. Redshank, *T. calidris*, July 1st, great many whole day passing high overhead, and on 3rd, day and night, with many others; 5th, also many; Aug. 10th, one Dusky Redshank, a young bird, shot; Sept. 3rd, night, great many *Totani* and *Tringæ*; Sept. 8th, great many also.

* To which my correspondent quaintly adds in a note, "the six birds like Crows which passed on the 20th, cried 'pee-weet' as they passed."

† Dunlin?

KNOT, *Tringa canutus*.—At Teesmouth 5 Buoy L.V., Sept. 10th, first seen. At Teesmouth, July 30th, ten or twelve old birds. At Spurn, July 24th, one, an old male, in somewhat faded plumage, killed against telegraph-wire. At Great Cotes, Aug. 16th, large flocks of young birds in the Humber; November, first week, old birds. At Lynn Well L.V., Jan. 1st, 2nd, and 3rd (1881), 9 p.m. to midnight, Knots with Larks, fifteen killed.

CURLEW SANDPIPER, *Tringa subarquata*.—At Heligoland, July 4th, some few.

PURPLE SANDPIPER, *Tringa striata*.—Several in October and November at Spurn, also on Lincolnshire and Norfolk coasts.

TEMMINCK'S STINT, *Tringa Temmincki*.—Sept. 29th, seen on North Norfolk coast.

SANDERLING, *Calidris arenaria*.—At Spurn, Aug. 16th, in small flocks, young birds. In September and October, first fortnight very numerous, afterwards less.

GREY PHALAROPE, *Phalaropus fulicarius*.—On Lincolnshire coast, Oct. 21st, one, a female. At Harwich river, Nov. 17th, one seen.

WOODCOCK, *Scolopax rusticula*.—At Heligoland, Sept. 25th, six to eight shot; 29th, some; Oct. 15th, six to eight; 16th, afternoon, about twenty shot; 21st, N.E. and N.N.E., stormy, some with Blackbirds; 22nd, S.W., squally, very great many flying about, seventy to eighty shot; Nov. 9th, S.W., one dozen shot during day; 19th, still some. At Farne Inner L.H., Oct. 20th to 29th, N. or E., on six days, one or two; Dec. 27th, one. At Coquet Island L.H., Oct. 30th, 7 a.m., one; Nov. 10th, 3 a.m., N.W., one killed; 16th, 9 a.m., two. At Teesmouth 5 Buoy L.V., Oct. 13th, 22nd, and 26th, 9 to 11 a.m., one or two each day going E. to W. At Teesmouth, Oct. 5th, 6th, 19th, and 20th, one each day. At Flamborough L.H., Sept. 2nd, one seen near lighthouse; Oct. 19th, great flight, twenty shot, "small and very dark-coloured birds." At Spurn L.H., Oct. 5th, two; 19th to 22nd, upwards of one hundred shot near Spurn; 27th, five seen. On Lincolnshire coast, Oct. 19th, near Skegness, forty-three shot, seventy altogether during week. At Outer Dowsing L.V., Nov., 23rd, N.W., 2 p.m., three from E. to W.; Dec. 6th, 2 p.m., two, same direction. At Inner Dowsing L.V., Oct. 29th, one dead on deck at sunrise. At Lynn Well L.V., Oct. 28th, one with a Lapwing killed at midnight. Near Cromer, Oct. 19th, great

flight, twenty shot in neighbourhood. At Corton L.V., Nov. 9th, noon, five to N. very low. On Essex coast, many seen between Oct. 29th and Nov. 1st; three came on board a smack off mouth of Deben. At Casquets L.H., Oct. 7th, 11 p.m. to 3 a.m., with other birds round lantern. Woodcocks began moving early in September; the "great flight" on to the east coast from Flamborough to Yarmouth was on the night of Oct. 18th or early morning of 19th, north-east gale, with snow in the north, and was followed by other flights on the next two or three days. Over Heligoland the great flight was on the afternoon of Oct. 22nd, with wind S.W., and squally. They were observed at fourteen stations, from the Farne Islands to the Casquets; are reported as scarce north of Flamborough and south of Essex, the main stream evidently coming into Holderness, Lincolnshire, and Norfolk.

GREAT SNIPE, *Gallinago major*.—At Farne Inner L.H., Nov. 3rd, one on island.

COMMON SNIPE, *Gallinago caelestis*.—At Farne Inner L.H., Nov. 27th to Dec. 27th, many. At Great Cotes, "great flight" from Oct. 25th to end of month, only remaining a day or two. On Essex coast, Oct. 29th to Nov. 1st, large numbers, but only remaining a few hours.

JACK SNIPE, *Gallinago gallinula*.—At Farne Inner L.H., Nov. 9th, two to N.W.; 18th, two, same. At Great Cotes, Nov. 2nd, first seen. On Norfolk coast, Sept. 30th, one seen; are very scarce on the east coast this winter.

BAR-TAILED GODWIT, *Limosa lapponica*.—At Teesmouth 5 Buoy L.V., Sept. 17th, flock of twenty. At Teesmouth, Aug. 16th and 23rd, Sept. 1st and 5th, flocks each day. On Essex coast, Aug. 14th, a few of the immature second year birds—probably had remained on the coast all through the summer.

CURLEW, *Numenius arquata*.—At Heligoland, July 4th, "astounding numbers early in the morning"; July 5th, some; Aug. 11th, 12th, and 13th, many passing overhead. At Farne Inner L.H., September, several. At Coquet L.H., July 30th, two seen; 31st, one score, northwards. At Teesmouth 5 Buoy L.V., Sept. 15th, great many. At Whitby L.H., Aug. 2nd, 11 a.m., flocks going south, "supposed to be young birds." At Flamborough, great numbers last week in August. At Spurn L.H., Sept. 8th, four round lantern going N. to S.; 17th, 3 a.m., with Plover, two Curlews killed. At Hunstanton L.H., large flocks

on coast from Aug. 2nd; Oct. 6th, o.m., rain, 7.30 p.m., one struck and caught. At Cromer L.H., Aug. 21st, 11.30 p.m., two struck, stunned. At Hasborough L.H., Oct. 8th, noon to 3 p.m., E., flights going S. At Winterton L.H., June 17th, 11 p.m., one seen going to W., passed close to lantern; Sept. 12th, 10 a.m., a dozen to W. At Kentish Knock L.v., Aug. 6th, one very high to W. At Swin Middle L.v., Aug. 26th to Sept. 17th, on five days at about 3 p.m., going N.W.; Jan. 2nd and 3rd, fog, on both nights, many with other birds round lantern; killed three Curlews, one Duck, thirty-two Larks, two Ox-birds; total, thirty-eight. At North Foreland L.H., July 27th, four to N.W.; Sept. 9th, five to N.N.W.; Dec. 4th, thirty to forty about. At North-sand Head L.v., Aug. 1st, noon, "shoals" E. to W. At South-sand Head L.v., Sept. 3rd, twenty to W.; 27th, twenty or thirty to W. At East Goodwin L.v., Sept. 6th, eight N. to S. The main body migrates in August and early in September; general direction E. to W., or up the coast from N. to S.

WHIMBREL, *Numenius phæopus*.—At Teesmouth, July 4th, several flocks; 21st, eight or nine flocks. At Spurn L.H., July 25th, several. At Great Cotes, passing in July, August, and September, very high to south.

HERON, *Ardea cinerea*.—At Coquet L.H., July 28th, 5 p.m., one; Aug. 13th, 3 a.m., two; Sept. 4th, 6 a.m., two; Dec. 26th, 9 a.m., one. At Teesmouth, Redcar, Sept. 21st, five; 24th, one; Oct. 23rd, 4 p.m., N.E., mod. gale, two. At Flamborough L.H., June 12th, two. Only at the more northern stations. That some arrive on the east coast in the autumn there can be no doubt; a few years since one was brought in alive to Grimsby, taken at sea on board one of the Hamburg boats.

WATER-RAIL and LAND-RAIL, *Rallus aquaticus* and *Crex pratensis*.—At Casquets L.H., Oct. 2nd, 11 p.m. to 2 a.m., some killed; Oct. 7th, 11 p.m. to 3 a.m., several with Water Rails, some killed.

WHOOPEE, *Cygnus musicus*.—At Teesmouth 5 Buoy L.v., Oct. 29th, 10.30 a.m., wind strong from N.N.E., six, all white. At Flamborough, during the severe weather early in January, 1881, several flocks came into Bridlington Bay, numbering from six to twenty in a flock. At Spurn, Dec. 31st, two Whoopers, one shot. Several in the Humber during the first half of January. At Inner Dowsing L.v., Jan. 21st, 1 p.m., five N.E. to S.W. At

Corton L.v., Jan. 10th, 1881, a flock of about thirty very high to N.W. The severe weather commencing Dec. 30th brought considerable numbers of Wild Swans on to our east coast.

WILD GEESE, *Anser*.—Under this general term numbers of Geese are recorded at east coast stations. At Heligoland, Sept. 5th, great many overhead; Oct. 19th, great flights. *Anser brachyrhynchus*, Oct. 15th, one young bird shot. At Teesmouth 5 Buoy L.v., Sept. 15th, flock of fifteen "Grey Geese" N. to S.; 25th, six "Grey Geese" to S. At Teesmouth, Oct. 16th, 7 a.m., flock; 19th, 7 a.m., same. At Flamborough L.H., several flocks "Grey Geese" early in October. At Outer Dowsing L.v., Dec. 2nd, 11 a.m., five Wild Geese N.N.E. to S.W. At Lynn Well L.v., July 3rd, eight Grey Geese E. to W.; Oct. 3rd, twenty to south. At Winterton L.H., June 19th, 7 p.m., fifty flying very low. At Gull L.v., Sept. 21st, forty to S.; Oct. 19th, 10 a.m. to 3 p.m., three flocks to S.; 30th, flock of forty to W. At East Goodwin L.v., Nov. 22nd and 23rd, two small flocks E. to W. and N. to S. At Casquets L.H., Sept. 7th, 2 p.m., Geese going W. Migration south in September and October, the main body in the latter month. At Winterton a flock was seen on June 19th, and a small flock at the Lynn Well L.v., July 3rd, which looks very much as if some remained on the English coast throughout the summer, as is the case with the Scoter and many of the *Limicolæ*, as Grey Plover, Godwit, Knot, and Whimbrel.

EGYPTIAN GOOSE, *Anser ægyptiacus*.—At Farne L.H., Nov. 2nd, N.N.E., squally, 10 a.m., two seen flying northward. My informant also says that he shot a pair on the island in October, 1876.

SNOW GOOSE, *Chen hyperboreus*.—At Heligoland, Dec. 25th, "one on cliff, not shot, no doubt about it."

BRENT GOOSE, *Bernicla brenta*.—At Teesmouth 5 Buoy L.v., Sept. 25th, 11 a.m., first seen; Nov. 21st, flock of sixteen to W. At Spurn, great many in Humber, inside Spurn, in December and January; amongst these there was an unusual number of the white-bellied variety. On Essex coast, Oct. 6th, first heard of; 20th, one hundred or more seen on Buxby Sand.

ANAS.—Under the general head of "Wild Duck," immense numbers of Ducks have been observed at various of the east coast stations. At Farne Inner L.H., Nov. 1st, "Mallard" flock to N. At Coquet L.H., Aug. 20th, large flocks all day to S.; Oct. 6th,

one Eider; 22nd, N.; Dec. 23rd, N.; 31st, N.W., large flocks all day from N. to S. At Teesmouth 5 Buoy L.V., Aug. 16th, six Teal; 26th, large flock from N.E.; Sept. 10th, twenty-six Sheldrakes, same day large flock of Widgeon; Oct. 12th to 22nd, immense number of Widgeon; Dec. 16th, large flock of Teal to S.E. At Teesmouth, Oct. 28th, Ducks in endless flocks morn and noon, all kinds, N.E. hurricane, hail, snow, rain. At Flamborough, Jan. 3rd to 7th, both Geese and Ducks to south in great numbers. At Spurn, Nov. 4th, great number of various sorts in Humber; and during the last half of December and in January, enormous flocks of various sorts driven into the river by stress of weather. At Outer Dowsing L.V., July 20th, 28th, and Aug. 10th, about 7 p.m., forty or fifty each day S.E. to N.N.W. At Lynn Well L.V., Sept. 25th, great quantities S.E. to N.W. At Winterton L.H., Aug. 23rd, twenty-one Sheldrakes to E. On Essex coast, Aug. 7th, Widgeon, six young birds seen; 28th, many, wind N.N.W. veering to N.N.E. At Galloper L.V., Nov. 9th, twenty "Smee Ducks"; Widgeon during night, At Kentish Knock L.V., Sept. 29th, calm, "Wild Ducks," flock at midnight N.E. to S.W. At Swin Middle L.V., Aug. 31st to Sept. 20th, on fourteen days "Wild Ducks" all going N.W. or N.N.W.; Sept. 5th, "great rush." At North Foreland, Sept. 25th, twenty to thirty to N. along shore; Oct. 6th, thirty or forty to S.W. At Goodwin L.V., Sept. 27th to Oct. 29th, "Wild Ducks" going E. to W. or N.N.W.; Nov. 4th to 29th, from N.W. to S.E. Migration extending from about the middle of July to the end of October. The greater part arriving in September and October, not only from the north and north-east, but also from S.E. and S.S.E. on to the English coast.

BLACK SCOTER, *Ædemia nigra*.—The migration of this species appears greatly to have exceeded that of any other Duck. They have been seen in large numbers during the autumn at various stations on the coast and at sea, passing as a rule towards the south. At Teesmouth, Oct. 2nd, two Black Scoters seen. At Lynn Well L.V., Oct. 17th and 24th, large flocks of Scoters all day from S. to N.W. and S.E. to W. The direction in this case caused by birds passing over from North-west Norfolk to Lincolnshire coast. Jan. 1st, one killed against lantern. At Newarp L.V., Sept. 22nd to Oct. 15th, several days, flocks going to S.W. At Cockle L.V., Sept. 27th, 6 to 10 a.m., in large flocks to N.W.

At Corton L.v., Nov. 16th, noon, hundreds N. to S.; Dec. 12th to 28th, numerous flocks from N.N.E. to W.S.W. and S.E. to N.W. At Tongue L.v., Dec. 29th, 9 a.m. to noon, several flocks to W. At Gull L.v., July 22nd and 23rd, flocks to S.E.; Aug. 20th to Dec. 3rd, on several days to W.S.W. and S. At South-sand Head L.v., July 21st, two flocks, thirty and fifty to S., and from this to Oct. 16th, frequent flocks going as a rule S. At East Goodwin L.v., July 5th, 6th, 9th, and 10th, first two days, small flocks E. to W.; on the 9th, a thousand or more going N. to S.

COLYMBIDÆ.—At Farne Inner L.H., Sept. 10th, two. Great Northern Diver, *Colymbus glacialis*, Nov. 2nd, six "speckled" about island. At Teesmouth, several Red-throated Divers, *Colymbus septentrionalis*, early morning. Mr. J. H. Gurney informs me that when Mr. F. D. Power was off Cley, on the Norfolk coast, this autumn, on Oct. 1st, he saw a remarkable flight of Red-throated Divers along coast eastward; they flew forty to fifty yards high, but rarely came near the boat; one shot had a perfect red throat.

PODICIPITIDÆ.—At Hunstanton L.H., Sept. 2nd, 9 p.m., o.m., Little Grebe, *Podiceps fluviatilis*, struck and caught. At Hasboro' L.H., Dec. 3rd, 2 a.m., fog, Little Grebe killed, being the second in eighteen months. Slavonian Grebe, *Podiceps auritus*, one, a female, was shot near Easington, Spurn, on Jan. 11th, 1881, and Great Crested Grebe, *P. cristatus*, in Whitby Harbour on the 16th of the same month.

ALCIDÆ.—At Heligoland, Nov. 26th, Common Guillemots in great numbers on the cliff, their breeding quarters; Dec. 10th, early morning, cliffs covered; 13th, thousands, at least half black-bearded.

CORMORANT, *Phalacrocorax carbo*.—At Hunstanton L.H., Aug. 24th, eight passing E.

GANNET, *Sula bassana*.—At Spurn L.v., Oct. 1st to 16th, many to S. At Outer Dowsing L.v., Oct. 27th, 9 a.m., eight to S. At Cockle L.v., Oct. 16th, several; 25th, fifteen to W.; 27th, great numbers. At Corton L.v., Oct. 16th, many to S. At Casquets, Aug. 22nd, and on Dec. 8th, many to N.N.W. Was seen off the Casquets as early as Aug. 22nd. The main migration appears to have taken place in October, from N. to S. along the east coast.

STERNINÆ.—At Heligoland, July, Caspian Tern, *Sterna Caspia*, frequently seen. At Farne Inner L.H., Aug. 28th, both the

Sandwich and Arctic Terns left the islands. At the Longstone L.H., on the extreme outer reef of the Farnes, the Sandwich Tern was seen last on Sept. 8th, and the Arctic Sept. 14th. At Coquet Island L.H., Aug. 14th, N.N.E., great number of Terns all day about island. At Teesmouth 5 Buoy L.v., Aug. 16th, great numbers this day; 29th, same.

LARINÆ.—At Heligoland, the Siberian Herring Gull, *Larus affinis*, was seen off the rock on June 5th, N.W., strong. Little Gull, *Larus minutus*, Sept. 5th, enormous numbers on the water. Ivory Gull, *Larus eburnea*, Nov. 4th, westerly, seen on water. At Farne Inner L.H., Sept. 10th, the Gulls left islands. At Whitby L.H., Sept. 2nd, Gulls had all left, both young and old. At Filey, Ivory Gull, *Larus eburnea*, a fully mature example, a male, was shot in September; a young bird in the spotted plumage was also obtained in the same month. At Flamborough, Sept. 5th to 6th, Lesser Black-backed Gulls to south all day; wind S.W. by W.; equal proportion of young and old. At Spurn L.v., July 29th and 30th, "Smelt Gulls" all day; Sept. 28th, large numbers of Gulls continuous to south. At Lynn Well L.v., Aug. 21st, 22nd, and 23rd, great quantities all day from S.E. At Yarmouth, Mr. J. H. Gurney, writing Jan. 26th, 1881, says, "A correspondent at Yarmouth had recently twenty-seven Glaucous Gulls in the flesh, seven of which were mature." At Hasboro' L.H., Dec. 18th, 8 p.m., "Little Gull" struck and broke its neck. At Cockle L.v., Oct. 16th, Gulls during day; 27th, same. At Shipwash L.v., Nov. 29th, 10 a.m., large numbers to W. At South-sand Head L.v., July 29th, an unusual number seen.

STERCORARIINÆ.—At Teesmouth 5 Buoy L.v., Aug. 29th, two Skuas passed. At Redcar, Sept. 16th, twenty Richardson's Skuas passed; Oct. 28th, Mr. T. H. Nelson, writing in the 'Field' newspaper for Nov. 6th, 1880, states that, during the night of the storm on Oct. 28th, he saw considerable numbers of the Pomatorhine Skua, amounting to several hundreds, flying close to the esplanade at Redcar, and struggling to make headway against the gale; they consisted almost entirely of mature birds of the white-breasted variety, only three or four being dark birds, but whether immature or adult he could not ascertain. At Spurn L.v., Aug. 1st to Sept. 24th, a few Skuas passed going S.; Oct. 1st to 16th, many passed same direction. At South-sand Head L.v., July 29th, an unusual number of Skuas seen.

PROCELLARIIDÆ.—At Coquet L.H., July 22nd, 11 p.m., misty, one Petrel caught against glass of lantern, examined and set at liberty. At Redcar, Oct. 28th, two Stormy and one Fulmar Petrels picked up during great gale. At Flamborough, first week in October, Stormy Petrel. At Spurn, Oct. 28th, Stormy Petrels after great gale. At Galloper L.v., Nov. 6th, 2 to 4 p.m., twelve Stormy Petrels about ship. At Gull L.v., Oct. 9th, 2 a.m., N., several struck glass, none killed.

Independent of these very numerous notes on known species, the schedules contain many notices of birds the species of which were either not known or not recognised. At the Hasborough L.H., Oct. 26th, 10 p.m., E., o.m., a great many various small birds; eight killed were Larks and Thrushes. At Swin Middle L.v., Sept. 9th and 12th, flocks of small birds passed all night to N.W. At Hanois L.H., Sept. 8th and 27th, fog and rain, evening to 9 p.m., great rush of small birds of many sorts.

GENERAL REMARKS.

The report for 1880 compared with that of the previous year shows very similar results, as in 1879 a considerable proportion of the immigrants crossed at the more southern stations, or at the narrowest portion of the North Sea. If we divide the east coast into three divisions, one north-easterly from the Farne Islands to the Humber, mid-east from the Humber to Yarmouth, and south-eastern forward to the South Foreland, we find that in 1879 the main body of migrants passed in the south-eastern division; in 1880 they have been tolerably equally distributed over the mid and south-eastern. During the principal month of migration, October, the wind blew persistently day by day and week by week from northerly and easterly quarters, and to this cause we may fairly attribute the deflection of migrants to the south. In support of this I may quote the letter of Mr. Thos. O. Hall of the Longstone Lighthouse, who, writing under date Feb. 15th, 1881, says:—"The chief flight undoubtedly took place on the 15th and 16th of October, at which time I was on shore. I have been resident on the Farne Islands thirteen years, and during that time never remember seeing so few birds as we have had this autumn. I have remarked that when the flight takes

place with the wind at E. or N.E., the body of birds is to the south of us about Whitby and southward."

Notwithstanding the enormous number of immigrants arriving, as shown in our returned schedules from each station, we may be quite certain these returns only represent an almost inappreciable percentage of the actual number on passage. On days of uncertain light or on clear fine starlight nights, when migration is carried on at a considerable height, immense numbers of birds might pass any station for hours without a chance of observation; and it is quite possible that, if the whole three hundred miles of coast were studded with floating posts of observation at the distance of half a mile, equal average results would have been obtained, our present stations on the light-vessels affording no more especial line of advantage than any other imaginary line drawn across the North Sea. Incredible although it may appear, we believe that the vast majority of the immigrants coming to us in the autumn in one broad front from east to west are such as cross with the intention of remaining the winter in some part or other of the British Islands, and naturally take the place of our own resident summer species which have left, or are about leaving us, for the south.

As in 1879 the main line of migration has been a broad stream from east to west, and covering the whole of the English east coast, this is the line mainly followed by the *Passeres*. Taking this line as a basis, we find birds also occasionally coming from points north of east; but in the vast majority of instances the migration has had a decidedly southerly trend, coming from points south of east, and even direct from the southward. Again, there is in the autumn always a steady stream of migrants which closely follows the coast-line from N. to S., composed of birds either moving from more northerly districts of our islands, or of such immigrants coming from the east as strike the coast in more northern latitudes and then follow it to the south. The great wide E. to W. stream of migration is composed of some few well-known species which regularly come to us in the autumn, the great body undoubtedly remaining to winter; placed in order of rotation according to their numerical superiority or otherwise, we find *Alauda arvensis*, *Sturnus vulgaris*, *Corvus cornix* and *frugilegus*, the *Turdidæ*, including two native and two northern species, with sparrows, linnets, and chaffinches compose

the bulk of the immigrants. Others, as *Ruticilla phœnicurus*, the *Saxicolæ*, and other soft-billed insect-eaters, although coming from the eastward, persistently follow the coast-line to the south. All the *Limicolæ* and other shore birds, as well as the Geese, Ducks, Divers, Gulls, and sea-fowl generally, move from north to south as a general rule, the sea-fowl at some distance at sea, the waders along the coast. Although so far we have no stations, excepting Heligoland, on the European coast of the North Sea, we may, I think, fairly presume that there is similarly another stream of birds passing down the coast-line of Europe. Migration as observed on that island for many years points to the undoubted fact that the line followed by birds is, as a rule, from E. to W., and doubtless some portion of these Heligoland birds keep moving westward or south-westward, till eventually they strike our east coast. There are, however, many species which make Heligoland the western boundary of their autumn wanderings, and crossing, as they do, that island in enormous numbers, must eventually follow the coast-line to the south, for the simple reason that they never occur on our own coast, except as very rare or occasional wanderers; such are *Motacilla alba* and *flava*, *Ruticilla suecica*, *Emberiza hortulana*, *Plectrophanes lapponicus*, *Anthus Richardi*, and, in a less degree, *Muscicapa luctuosa* and *Otocorys alpestris*. These all, then, must pass southward along the European coast, as do doubtless an immense majority of those countless Sparrow-hawks, Siskins, and more familiar birds which cross the island in the autumn migration; and just as occasionally some species, whose line of migration lies farther to the eastward still, turn up as wanderers to the old rock from the regular track, so do occasionally now one and now another of the regular Heligoland immigrants get blown across to our side.

The observations taken at some of our southern stations both in 1879 and 1880 show that, in the autumn, there is what may be called a double stream of birds crossing each other near the entrance of the English Channel, that is, from the Essex and Kent coast towards the S.E. on to the French and Belgian coast, and again in the opposite direction from the Belgian land to the coast of Kent. During the severe weather in the early part of 1881, as well as in December, flocks of birds came to us direct from the French coast, or from the south to the north. These must be considered purely local migrations, caused by outbursts of severe weather.

W It is a curious fact that in nearly every case of birds passing the Casquets L.H. in the past autumn, they were travelling in a N.~~E.~~ direction, or from the French to the English coast, a line of migration which does not seem to be in proper accord with what we should imagine migrating birds would or rather ought to take. On reference to the chart of the Channel it is apparent that any flocks leaving the French coast at or near Cape de la Hague, and crossing Alderney, when once off the Casquets might as readily and easily steer for the Start Point on the English side as across the wide break in the French coast for Port Sillon, each being about equal distances from the Casquets.

As in 1879 birds have crossed in all hours of the day and night, and in all winds and weathers, the returns also show, as did the preceding, that they seldom fly dead to windward, except with light breezes, and that strong head winds are prejudicial to their passage. The line of flight mostly adopted is within three or four points of the wind; they will go on well, even with a beam wind or some points short of beam, if not too strong. Small birds have often much difficulty in making head against a strongly-opposing wind. Mr. John Cutting, writing from the light-vessel on the Galloper Bank, says, that out of the number of small birds passing that station in October and November against strong adverse winds, he could not think they would ever reach land, they made such very slow progress, the wind being too strong and the distance from land so great. Even such strong-winged birds as the Grey Crow do not always cross in safety; I have been told by an old fen farmer that, many years ago, when a great gale swept the Lincolnshire coast, at the time the Hooded Crow crossed, the coast was subsequently strewed with their bodies cast up by the sea.

Birds are noticed at the stations as sometimes flying high, sometimes low; often it will be observed with northerly and easterly winds they will fly high, and with winds in opposite quarters, low. The state of weather at the time of migration has more, we think, to do with the height at which birds travel than the direction of the wind. On clear light nights they travel high, as a rule, but in fog, and thick murky weather, rain or snow, not far above the waves. On thick nights, indeed, lost birds will wheel for hours round a lightship, but with the first break in the clouds or streak of early dawn are on their course again. At the

Casquets, which is a revolving light, the larger birds follow the rays, but do not often strike the glass.

With such favourable passages as light head winds afford, our immigrants are so little fatigued that they will not alight on reaching land, but keep on their course into the interior. I have watched for hours flock after flock arriving on the east coast, coming directly from westward, Rooks, Starlings, Lapwings, and Snow Buntings, and keeping on in a direct westerly direction as far as the eye or a good glass were able to follow. Often, too, when on the hills, miles from the sea, I have seen migrating flocks passing inland, Larks in straggling flocks, carolling cheerily as they pass; there is no bird which migrates so cheerily and light-heartedly as the Lark, ever ready to burst into song on the least occasion. At other times, with adverse winds, I have watched migrants scarce able to struggle on shore dropping in the first shelter, or even on the bare wind-swept coast. At Lynn Well light-vessel large numbers of migrants passed day by day, and for the entire day, during October, from S.E. or S.S.E., and even S. to N.W. From the position of this station off Lynn Deepes at the bottom of the Wash, under the shelter of the north-westerly trend of the coast, these migrants must have first crossed the northern part of the county of Norfolk, without alighting, on their way to the fens of Lincolnshire and Cambridge, and this both by day and night.

“Yet stoop not, weary, to the welcome land,
Though the dark night is near.”

It is very remarkable how suddenly the stream of migration commences running, and how suddenly it stops again. We watch, at early morning, a flock of Larks or Hooded Crows come to land; others soon follow, and then for some hours—it may be from 8 a.m. to 1 p.m.—there is a constant arrival of migrants; and then migration, at least for that day, is over, and not a single wanderer will be seen.

As a rule, the young of the year migrate some weeks in advance of the old birds; this holds good with all orders and species. In the spring the males often migrate in advance of the females.

The time of migration of any particular species extends over a considerable period; sometimes it is over in four or five weeks, in other cases going on for months, and even half a year; for,

practically, such birds as the Lark and Starling are migrating all the year round. In every case the migration of a set species will continue, day by day, or week by week, till it attains the maximum by a "great rush," the main body passing, and then gradually falling off, till the migration of that species is completed.

Independent of the normal or ordinary migration, we have frequently local migrations, due to sudden changes of weather, or in search of fresh feeding-grounds. These "great rushes" of immigrants, coming helter-skelter on to our east coast, are often accompanied or followed very closely by outbursts of severe weather; and a sudden increase of cold in winter will almost clear a whole district of its birds; in fact, all birds are very susceptible to changes of weather, and, if closely watched, will indicate by their movements the coming change. On Jan. 12th, in this year, when in the Humber marshes, I noticed Larks and Snow Buntings passing from N. to S. from 9 a.m. to 2 p.m., separate flocks for some hours, and after 11 p.m., when the snow commenced, continuous.

Birds in the early autumn do not, it is evident, migrate for lack of food, for the young of the *Limicolæ* are on our coast at a time when the supply of insect-food in high northern latitudes is the most abundant; and our own insect-eating birds are often away long before there is, or can be, any falling off in food. On the same grounds it is not changes in the seasons which can induce young birds, having no knowledge from experience, to return south in the heat of the Arctic latter-summer; as to the *how* and the *why* of the whole matter, we must be content for the present to say nothing, but continue to collect facts.

In 1880 the main body of the migrants crossed between the 15th and end of October, the greater number perhaps on the 17th of that month.

WEST COAST OF SCOTLAND.

PRINTED forms, letters, and remarks were forwarded to thirty-eight stations on the west coast of Scotland and the Isles, being two more than in 1879, *viz.*, Bahama Lightship and Langness Lighthouse, both in Isle of Man.*

We have received in all returned, filled-in schedules from twenty-six stations, being two more than last year.

Only four stations have not sent in returns, which sent them in last year,† but, to make up for this, we have gained six from stations which sent us none last year,‡ besides adding one from one of the new stations.§

A marked improvement is apparent in these returns, and it is evident that very general interest is being taken in the work. Altogether, our west coast returns are quite satisfactory, and it gives us much pleasure to think that the first year's reports have really interested our obliging correspondents. We hope that the present general report will succeed in enlisting the whole body in the service. We can as yet only repeat, that we believe that interesting and curious results will in time be arrived at; but we deprecate any attempt at present to arrive at these, desiring first a firm basis of facts to build upon, which can only be obtained by continued attention and careful record, for a few years longer, of a large mass of statistics.

The stations from which co-operation was asked are the following, commencing with the most northerly—Cape Wrath. Those from which returns have been received are marked with a *; those which sent returns both last year and this have two **; those which sent none last year but have done so this year have a † prefixed; those which sent returns last year but none this year are printed in *italics*. Stations added this year have the date, 1880, preceding them.

* Mr. Philip Kermode received the Isle of Man returns, and forwarded them to me afterwards for incorporation with the Scottish ones.

† Devaar; Pladda; Lamlash; Little Ross.

‡ Stornoway; Ushenish; Kyleakin; Lismore; Turnberry; Douglas Head.

§ Bahama Bank (L.V.).

WEST COAST OF SCOTLAND.

MAINLAND.

Height of centre of
light above water.

81. **Cape Wrath.	...	...	...	400 ft.	John M'Gill.
82. **Rhu Stoir.	...	...	...	195	William Wither.

OUTER HEBRIDES.

83. **Butt of Lewis.	...	...	...	170	George Edgar.
84. †Stornoway.	...	...	...	56	John Grierson.
85. **Island Glass.	...	...	...	130	William Innes.
86. **Monach Island.	...	...	{ Upper 150 Lower 62 }		James Youngclause.
87. †Ushenish....	...	...	...	176	Peter Carrie.
88. Barra Head.	...	...	...	683	

MAINLAND, SKYE, AND INNER HEBRIDES.

89. Rona, Skye.	...	...	...	222	
90. †Kyleakin, Rossire.	...	...	...	53	David M'Culloch.
91. **Isle Ornsay, Skye.	...	...	...	58	James Loughten.
92. **Ardnamurchan Point, Argyleshire				180	David Laidlaw.
93. { Hynish Signal Tower, Tiree. }	...	...	...	150	William Crow.
94. ** { Skerryvore, off Tiree. ... }	...	...	...	150	William Crow.
95. **Dhuheartach, S. W. of Ross of Mull				145	James Ewing.
96. **Sound of Mull, Mull.	...	...	...	55	William M'Lellau.
97. Corran Ferry, Loch Eil.	...	...	...	38	
98. †Lismore Island, Oban.	...	...	...	103	Alexander Murray.
99. *Fladda, Easdale....	...	...	...	42	
100. **Rhuvaal, Islay.	...	...	...	147	David Spink.
101. *M'Arthur's Head, Islay.	...	...	...	128	
102. **Skervuile, Jura.	...	...	...	73	John Ewing.
103. **Rhinns of Islay.	...	...	...	150	Andrew Lyall.
104. **Lochindaul, Islay.	...	...	...	50	William Mail.
105. Mull of Kintyre.	...	...	...	297	
106. Sanda, Kintyre Sound	...	...	...	165	
107. Devaar, Kintyre.	...	...	...	120	
108. Pladda, Arran.	...	...	...	130	
109. Lamdash, Arran.	...	...	...	46	
110. †Turnberry, Ayrshire.	...	...	...	96	Andrew Nisbet.
111. **Corsewall, Wigtown.	...	...	...	112	Robert Laidlaw.
112. **Loch Ryan, Wigtown.	...	...	...	46	Ralph Ewing.
113. **Portpatrick, Wigtown.	...	...	...	37	James Beggs.
114. **Mull of Galloway, Wigtown.	...	...	...	325	N. Morrison.

115.	<i>Little Ross, Kirkcudbright.</i>	...	175 ft.	
116.	**Point of Ayre, Isle of Man.	...	106	James Blythe.
117.	†Douglas Head, Isle of Man.	...	104	Alexander M'Donald.
118.	Chickens Rock, Isle of Man.	...	122	
119.	*1880.—Bahama Bank, Isle of Man (L.V.)‡			— Johns.
120.	1880.—Langness Lighthouse, do.			

SPRING MIGRATION, 1880.§

SEPARATE REPORT ON EACH SPECIES.

STRIGIDÆ.—At Skerryvore, one Brown Owl appeared on 10th May, at 2.30 p.m., in showery weather.

FALCONIDÆ. — At Douglas Head, || one "Black Hawk" (Sparrowhawk?) was noted at 8 a.m., in clear weather, with light E.N.E. breeze.

HIRUNDINIDÆ. — The earliest date on which Swallows are recorded from any west coast stations is April 7th, and this at one of our most northerly stations, *viz.*, Butt of Lewis. This is followed by April 17th at Douglas Head, one of our most southern stations in the Isle of Man; seen at 12 noon; wind light S.E. breeze, clear or showers; these were not again observed. Again, on April 24th, their arrival is recorded at Rhinns of Islay. Thereafter none are noted until 6th May, at Loch Ryan, in Wigtownshire, when a flight of fifty was observed, followed by twenty and fifteen on the 8th and 14th; winds from N.W. through N. to E. and fresh, clear to haze. At Skerryvore, one was seen on 10th May, in calm, hazy and rainy weather. On 11th, 12th and 13th, eight flew about the Point of Ayre. On 24th, four were seen *flying south* past Ardnamurchan station. On 22nd, one at Monach Island; winds from S.W. to N.W., fresh. The remaining records are in June. On June 14th, at Ardnamurchan, two again seen flying southwards; and on 22nd,

‡ Light-vessels being only a few feet above the sea, I have not indicated the exact elevation, which, however, is usually about 30 feet.

§ In writing out the data of the spring migration, I take the most southerly stations first, reversing the sequence of the autumn records.

|| It is noted on the schedule from this station that the lighthouse, "being inland, little or any observations on the migration of birds can be noted accurately."

at Skerryvore; calm, hazy weather. Possibly these June records of birds flying south may belong to the autumn migration. It thus appears that a spring *rush* took place in the earlier part of May—from the 6th to the 14th. About the same time, *viz.*, May 20th, a flock of “Martin Swallows,” *Hirundo urbica*, appeared at the Butt of Lewis during light W. wind, with haze; they stopped about three hours and then flew off, going S.W.

Note.—Swallows and Martins were first observed at Ballina, Co. Wicklow, Ireland, by Mr. R. Warren, on April 19th.

SWIFT, *Cypselus*.—First noted at Ballina by Mr. Warren, on May 12th.

WHEATEAR, *Saxicola œnanthe*.—Records from three stations only in spring, *viz.*, Skervuile, Monach, and Butt of Lewis. Earliest date at Skervuile (most southern of the three), May 1st, where one was seen at lantern at midnight; wind light S. Next date is May 4th, at Monach, when about twenty, mixed with Larks and Wagtails, were seen and two killed between 8.30 p.m. and 3 a.m.; wind light from N. to W. The latest and only other record dates May 20th, at Butt of Lewis, where five were seen; wind light W., clear.

WAGTAIL, *Motacilla Yarellii*.—Two stations, *viz.*, at Kyleakin and Butt of Lewis. At Kyleakin, April 1st, twenty-six rested at 4 p.m., wind E.S.E., haze; 2nd, twenty-four rested at 8 a.m., wind S.E., haze. At Butt of Lewis, April 13th, a flock at 7 a.m., stopped a few days and left flying south, light E. wind, clear; and a few days later, “one lighter than the rest” left, going south. At Kyleakin, April 17th, twelve were seen flying S.E. at 7 a.m., light breeze, with fog; and on 18th, at 1 p.m., twelve more rested and then flew off south, wind light S.W., and fog.

STARLING, *Sturnus vulgaris*.—I have but few records of the spring migration, *viz.*, from Lochindaul, Fladda, and Dhuheartach. The earliest at Fladda, April 4th, when twenty-four were seen at 10 a.m., breeze fresh, with showers, and clear. At Dhuheartach, April 13th, between midnight and 8 a.m., three birds rested; night foggy, and wind light N. At Lochindaul, May 18th, some were seen, wind moderate, and weather foggy.

SKYLARK, *Alauda arvensis*.—At Dhuheartach and Monach, April 13th, ten at night, wind light N., cloudy, seven killed; and May 1st, one at midnight, wind S., haze; and at these

stations, on May 4th, flock, mixed with Wheatears and Wagtails, from 8.30 p.m. till 3 a.m., wind light W. to N., haze and rain.

CUCKOO, *Cuculus canorus*.—The following are the stations where it was noted as first seen or heard, commencing in the south:—At Point of Ayre, May 1st, light airs and haze. At Lochindaul, May 16th, E., clear; the reporter adds, "but is earlier in Islay." At Rhinns of Islay, April 21st, wind light W. At Skervuile, May 10th, first seen, wind N., clear. At Stornoway, May 4th. At Kyleakin, May 5th. At Rhu Stoir, June 15th, wind light N., haze.

Note.—First noted at Ballina, Ireland, by Mr. Warren, on May 12th.

OYSTERCATCHER, *Hæmatopus ostralegus*.—At Lochindaul, Dhuheartach, and Island Ghlais. At Dhuheartach, April 14th and 17th, 8 and 10 a.m., ten and seventeen resting or feeding, wind light N.W., haze or fog. At Lochindaul, May 20th and 21st, 10 a.m., resting, light wind, fog. At Island Ghlais, June 30th, 6 p.m., two feeding, calm, and heavy showers.

CURLEW, *Numenius arquata*.—So far as a spring migration can be separated by the data at command, the whole season has apparently being occupied by Curlews in moving about, the results are as follows:—Beginning on 16th, south, we find spring records at Lochindaul, Rhuvaal, Dhuheartach, Monach, and Skerryvore. The first note dates March 1st, at Rhuvaal; eight seen, S.W. gale and rain. The second at Dhuheartach, April 13th, 4 p.m., when three were seen, wind light, cloudy. Thereafter at Lochindaul, May 14th. At Skerryvore, May 23rd. At Monach, June 13th. At Lochindaul, June 14th. At Skerryvore, June 23rd. Winds variable E., N.W. to S.W.

WHIMBREL.—"May fowl" arrived on Monach, on their way north, upon May 8th, when three were seen flying about, wind light N., clear. On May 25th, several parties of from three or four to six seen flying between Monach and Haskeir rocks, wind fresh S.W., clear. The note is added, "Arrive in May, leave in July."

Note.—Mr. R. Warren notes their first appearance at Ballina on May 1st.

SNIPE.—At Dhuheartach, April 13th, three Snipe killed, strong N. breeze, cloudy.

CORN CRAKE, *Crex pratensis*.—The Corn Crane was heard at Kyleakin on June 11th, and at Stornoway on May 4th, clear and fine; and at Lochindaul on May 18th, at night.

Note.—At Ballina it was first noted by Mr. Warren on May 2nd.

WILD GOOSE.—At Rhu Stoir, May 12th, 10 a.m., twelve Wild Geese seen, three males and three females; light N. airs, clear.

DUCKS, *Anatidæ*.—At Rhuvaal, Island Ghlais, and Rhu Stoir. At Rhuvaal, March 8th, great numbers daily seen, where, however, they became scarcer between April 20th and 30th. At Rhu Stoir, June 18th, 10 a.m., six Eiders, three males and three females, wind light N., clear; and July 28th, 8.30 a.m., thirty "Wild Ducks," wind N.E., haze and rain.

TERNs.—Two evidently paired birds seen at Rhu Stoir on May 18th, light to fresh variable winds. On May 26th, about 2 p.m., some scores of Terns were seen at Monach during S.W. gale, and were the first that arrived to breed there; and on June 14th, lots of nests containing two to three eggs were seen. At Skervuile, May 10th, Terns were first observed this spring, wind light E., and haze; and by 31st great numbers had passed; some were again seen on June 18th, in similar weather. At Rhinns of Islay, May 12th, three seen at noon, fresh E. breeze; and all during June, large numbers of "Tick Terns" fishing in Lochindaul. At Stornoway, June 5th, they kept arriving at all hours, and were the first to come to the breeding grounds.

Note.—Mr. J. T. Garrioch notes the spring arrival of Terns at Lerwick, in Shetland, *from the north*, on May 22nd, in 'The Zoologist' (*q. v.*, 1880, p. 302); and, in a letter to me, he substantiates his observation. Mr. Robert Warren notes the first appearance of Sandwich Terns at Ballina, Ireland, on March 24th, and of Common Terns on May 14th.

AUTUMN MIGRATION, 1880.

SEPARATE REPORT ON EACH SPECIES.

FALCONIDÆ.—Two Sparrowhawks appeared at Rhu Stoir, in attendance upon flocks of Finches and Larks, on Oct. 20th, during light variable breezes, with snow. Also at Skerryvore, a Hawk—probably of the same species, or a Merlin—lived on the small birds on Oct. 14th and 15th; whilst at Dhuheartach a

Hawk makes a regular visit, to prey upon the birds which rest on the rock. (See our first Report for 1879, 'Zool.,' May, 1880, p. 190.)

SWIFT.—At Ushenish, North Uist,* June 13th, 1 p.m., five Swifts seen flying south, with S. wind, and haze.

Note.—Mr. R. Service notes the species as unusually abundant in 1880. He observed a large flock of Swifts on Aug. 4th, proceeding in a southerly direction. The most of the local birds, however, still remained on the 11th.

SWALLOWS, *Hirundinidæ*.—Swallows were no longer seen after July 16th, at the Point of Ayre, Isle of Man, on which day twenty young were noticed, until again on Aug. 15th, when eight were seen flying about. At Turnberry, from thirty to forty were seen during the daytime on Aug. 26th, in light E. airs; and again fifty to sixty on Aug. 31st, and forty to fifty on Sept. 2nd. Numbers were also seen at Mull of Galloway and at Loch Ryan. Swallows collected on Oct. 4th and flew away S.W., whilst at Portpatrick great numbers were seen resting and then flying off S. on Oct. 15th. This S.W. corner of Scotland appears to be a point of departure of the species, and of several others; and I would invite special attention at stations all along the Wigton coast-line.† All the above observations on the autumn movements of Swallows were made during the daytime, and in light E. to N.E. winds. A rush appears to have taken place end of August and beginning of September, and a later one as late as the middle of October.

Note.—In 1879 the most northerly station was Ardnamurchan, and the appearance of Swallows much more general. The earliest record in 1879 of autumn migration was on July 29th, and the latest Sept. 25th, as against this year, July 16th and Oct. 15th. Careful attention to the collecting of migrants at these Wigton headlands would surely result in some interesting data. Mr. Robert Service writes me that all the headlands, also along the Stewartry coast-line, are gathering-places for the land-birds before proceeding southward. At daybreak, in

* Though this dates early, I cannot but assign it here, and not to a spring movement.

† See R. Gray and Thos. Anderson's 'Birds of Ayrshire and Wigtonshire,' p. 5.

September or October, Mr. Service has often watched departing flights of birds going off southward or seaward, over the Solway Firth. Large congregations of Swallows were observed by me at Kinross on telegraph wires on Aug. 3rd, and I was told that they congregate in the same place every autumn before leaving. There must have been many hundreds.

The following really belongs to the East Coast Report, and comes in under Mr. Hardy's notes from Berwickshire and the Borders:—Mr. Hardy has abundant evidence of the departure of Swallows in the border counties. He writes to me as follows:—“Old Cambus, Oct. 28th.—On Sept. 25th and 26th Swallows were here, and a pair of Martins were then on the coast, seven having been seen on the 26th. The main party assembled on the coast on the 21st and 22nd, and were not again visible, excepting this small party. I went down to the cave where the nests were, and evidently they were feeding young birds there. On the 30th they had not left a steading about a mile above Gilsland. They were present on Oct. 2nd and 3rd near Rosely Castle, eight miles south of Carlisle. On the 4th they were assembling on the roof of the Mansion House of Marchmont, Berwickshire, in great numbers, during snow and sleet. The ‘Kelso Chronicle’ of Oct. 15th says, ‘Swallows were absent three weeks from Kelso, but again, in Kelso and the country round, their presence that week had been conspicuous. They had assembled in flocks.’ The same paper of Oct. 22nd states that, ‘On Oct. 17th a good many Swallows were flying about Jedburgh.’ At Brampton, Cumberland, they were seen on Oct. 16th, ‘circling round the church for several days previous.’ On Sept. 22nd, Swallows still at Horsley, in the valley of the Eye, and a Martin still had young in a nest in the corner of a window.”

Besides the above, it is worth while to take notice of an account of migration that appeared in an early volume of the ‘Proceedings of the Zoological Society,’ relating to the South-west district of Scotland:—“An extract of a letter from Capt. Fayrer, C.M.Z.S., was read. It was dated on board H. M.’s Packet ‘Arrow,’ Port Patrick, Oct. 23rd, 1831, and referred to the migration of certain birds from that neighbourhood. That of the Larks commenced about Oct. 12th. ‘Their numbers,’ says Capt. Fayrer, ‘are beyond anything I would venture to state, but millions. . . . They start at daylight, steer directly across to

the Capelona Islands, off Belfast Loch, and seem to prefer the wind directly against them. Very large flocks of Starlings have arrived within the last few days; they start before sunrise, but steer to the southward. The Lapwings have also arrived, but these birds do not take their flight till day has set well in; they appear to go directly across. I see all these birds at each end of their passage (twenty-one miles), and few, I think, perish." (P. Z. S., 1831, p. 145.)

WREN.—Returns from Skerryvore, Dhuheartach, Skervuile, and Turnberry. The earliest date available was at Dhuheartach, Aug. 18th, when one was seen flying S. at noon, during light S.W. wind and haze. None are again reported until Oct. 1st, when "Wrens" were seen mixed with Larks and Thrushes; winds variable, light, and haze. Then at Skerryvore, Oct. 9th, one flying about at 11 a.m., light N.E. breeze, clear; and at Turnberry, Oct. 12th, one struck the lantern at midnight, wind light N.E. airs. In the autumn migration of 1879 (*q. v.*, *loc. cit.*) records came from Monach Island and Dhuheartach. Earliest Aug. 17th, latest Dec. 9th.

GOLDCREST.—At Turnberry, Sept. 24th, 3 a.m., one struck, but was not killed, wind light S., and haze; and at Corsewall, Sept. 27th till 30th, there appears to have been a migration. On 27th, two were seen to strike the lantern at 2 a.m., in fresh south breeze and haze; on 28th, two also struck in clear weather, light S. breeze; and on 30th, eight remained around the lights from 8 p.m. till daylight, wind light S.E., and haze. From the Mull of Galloway, the negative note is given, "None seen this year." In 1879, numbers were reported (see Report, 1879) at Mull of Galloway on July 18th—only date.

Note.—Mr. R. Warren, *in lit.*, notes the unusual scarcity of Gold-crested Wrens at Ballina at the end of July, 1880.

ROBIN, *Erithaca rubecula*.—The most northern station where it is noted is Cape Wrath, where one bird arrived upon Oct. 20th, and remained until Jan. 11th (when the schedule was returned), or later. It came at 11.30 a.m., with an E. wind and snow. My correspondent adds, "It is much thought of." I have ten records from eight stations, *viz.*, Cape Wrath, Stornoway, Kyleakin (2), Isle Ornsay, Dhuheartach, Rhuvaal, Lismore, and Turnberry. These date from Aug. 18th (Dhuheartach) and Sept. 4th (Kyleakin) to Dec. 31st (Stornoway), where one was observed for

several days previous to that date. Other dates are, Sept. 8th, (Isle Ornsay), 24th (Turnberry), Oct. 20th (Cape Wrath, as above), Nov. 7th (Kyleakin and Lismore), Dec. 15th (Lismore), Dec. 27th (Rhuvaal). All the observations were made during the daytime, except at Lismore and Turnberry. In August the wind at Dhuheartach was light S.W. on 18th, with haze; the one Robin seen flew off S. after resting. At Kyleakin, Sept. 4th, four birds seen were flying S.W., wind light W., clear. At Turnberry, Sept. 24th, one struck at 3 a.m., in light S. breeze, and haze. At Isle Ornsay, one seen. At Cape Wrath, in October. At Kyleakin, Nov. 7th, three, wind S.E., clear; and numbers seen at Lismore mingling with Starlings and Larks all night, wind strong S.W., haze and rain. At Rhuvaal, Dec. 27th, after stormy weather, two flew about and stayed for a few days; and at Stornoway, Dec. 31st and a few days previously, one was seen. On 15th, numbers were round the lights at Lismore, along with Thrushes, Blackbirds, Grey and Green Linnets, in large flocks, wind strong N.E., and snow. In 1879, Robins were not reported from stations further north than Kyleakin.

WHEATEAR, *Saxicola œnanthe*.—I have eight or nine records from three stations on the west coast in autumn, *viz.*, Butt of Lewis and Dhuheartach. The earliest date is Aug. 13th, when one was seen at Dhuheartach between 7 and 8 p.m., arriving with light N. wind, and remaining; and about one hundred, mostly young birds, left the neighbourhood of the Butt of Lewis, where—about a mile from the lighthouse—they had been collecting for some days before. Up to Aug. 17th and 18th, a few—seven on 17th and six on 18th—were seen at Dhuheartach about 8 a.m., wind light and haze, where they rested and flew off south. On Aug. 19th, one was killed on the lantern of Douglas Head lighthouse at 11 p.m., wind E.N.E., and haze. At Dhuheartach, Sept. 10th, thirty rested, light S. wind, and haze; and between Sept. 16th and Oct. 1st, large numbers were seen at the lantern of the Butt of Lewis lighthouse, and many were caught and released. Skerryvore was the most northerly station in 1879. Aug. 15th was the earliest record in 1879, and the latest on Sept. 28th.

Note.—Late occurrences of the Wheatear are noted by Mr. Hardy in Berwickshire. On Sept. 17th they were seen at the shore and not again afterwards, but a few were present at

Berwick, behind the pier, on Oct. 12th. This is the latest date I have on the east coast of Scotland. I place the note here—under the west coast report—for special comparison with the following:—Wheatear.—An unusually late stay of this species is recorded by Mr. Service in Wigtonshire (*vide* 'Zoologist,' Feb. 1881, pp. 54, 55). Since the note appeared in 'The Zoologist,' I have had some more correspondence regarding these late Wheatears—7th December. Mr. Bruce is strongly of my opinion, that these birds *were really migrating* when they flew away northwards, as they were seen still carrying on when fully a mile away. Before this they had remained for two or three days with Bullfinches. About six weeks afterwards "these same Bullfinches" took a similar route and disappeared; they were seen departing. I am inclined to agree with my friend and fellow-worker, Mr. Cordeaux, that these Wheatears probably belonged to the larger race, which have more arboreal habits than our own. If this is so, the observation made by Mr. Bruce still further bears out the probability of their foreign origin. As regards the more arboreal habits of the larger race, I have explained elsewhere ('Ibis,' 1876, p. 310) that arboreal habits of such species as Gulls, Curlews, Snipe, Snow Buntings, &c., in North-east Russia, are probably brought about by the flooded conditions of the country there, at the time of the arrival in spring of these migrants. The habit no doubt grows and even becomes hereditary, and is carried into other countries and other climes in autumn. Larger races usually indicate more northern extension, and, in my opinion, abnormal arboreal habits of certain species indicate that they are natives of a land subject to constantly recurring floods. For these reasons I am still inclined to adhere to my opinion that these Wigtonshire Wheatears, at the late date of Dec. 9th, 1880, were resting during their regular migration, and departed again upon an extension of that same migration. They were, in my belief, strangers, and not bred in the country.

HEDGESPARROW.—See under Linnet.

WAGTAIL.—At Dhuheartach, a rush of Wagtails was observed upon Aug. 17th, 18th, 24th, and 26th, wind light and from S.W. on 17th and 18th, when twelve were seen each day flying in a south-easterly direction—to E.S.E. and S.E. on 24th—when two or three rested upon the rock. We had no records of this in 1879.

THRUSHES, BLACKBIRDS, AND RING OUZELS.—Numerous returns from eleven stations, *viz.*, Rhu Stoir, Butt of Lewis, Stornoway, Monach, Kyleakin, Rhuvaal, Lochindaul, Corsewall, Point of Ayre, Douglas Head, and Bahama L.V. Earliest date July 19th, at Point of Ayre, when about 160 young Thrushes (*Turdus musicus*) were seen to go off at 9 a.m., flying S. Latest dates Jan. 8th, 9th and 10th, 1881, when large flocks of Blackbirds, Thrushes and Snow Buntings flew about all day; and all left on the 10th when the haze and fog cleared away; fresh E. breeze during this time. Between these dates, a migration appears to have taken place on Sept. 21st to 30th, shown, however, by records from only one station, *viz.*, Stornoway. There, a good many Blackbirds and Thrushes arrived on Sept. 21st and left on 30th. These were accompanied also by Stormcocks (*Turdus pilaris*, or Fieldfare); weather and wind not noted; but see notes from Mid-Atlantic, *infra*. On 29th also, a number of Thrushes seen hovering round the lights at Douglas Head, along with Starlings and Blackbirds, in fog and haze. A desultory migration appears to have been carried on throughout October; I have the following records:—At Rhu Stoir, Oct. 1st, forty, besides Linnets, stayed four days (this comes also under the rush at end of September), wind variable, light breezes. At Bahama L.V., Oct. 8th, three were killed at 10.20 p.m., wind light E.N.E. breeze, and cloudy. At Butt of Lewis, in the north, Oct. 15th, a good many arrived and stayed till Jan. 15th, 1881, or later. At Kyleakin, Oct. 20th, two were seen flying south, with strong S.E. wind; and a few at Lochindaul. At Corsewall, one seen on 7th and one on 8th, one killed; strong N.E. wind and haze. In November, the earliest dates occur at the most southern stations; thus at Point of Ayre, Nov. 2nd and 3rd, about three hundred Blackbirds and Thrushes, mixed with Starlings, kept about the locality till 4 a.m. on the 3rd; wind S. to S.E., very foggy. The direction of flight on departure was not noted, but they were seen to pass off about 7.30 a.m. Also at the Bahama L.V., on the 3rd, five were killed and others fell overboard. At Corsewall, on the same dates, one and two were seen, wind fresh E., and haze. At Kyleakin, Nov. 4th, seven Blackbirds seen flying south at 9 a.m., wind S.E., and sleet; again on 11th, two seen flying S., wind E., haze. At Monach, Nov. 16th, one in the garden, wind S. to N.N.E., strong, with sleet and snow. In December,

at Monach, a few Blackbirds were seen. Thus on Dec. 3rd, one male seen resting on the lantern at 10 p.m., wind strong W., haze. Another female on Dec. 4th, 2 p.m., flying about the garden, wind fresh S.S.W., haze and rain; and two Blackbirds, accompanied by Starlings, at 1 p.m., wind fresh S., clear in the garden and on the shore. As already noted, a still later flight was noted in January, 1881, at Point of Ayre, Isle of Man.

Note.—Thrushes, amongst other birds (*vide* Robins, Linnets, Snipe, Wagtails, &c.), were recognised by Capt. Roy in Mid-Atlantic, 400 miles on this side of Newfoundland. To Mr. Robt. Gray I am indebted for some interesting and useful notes regarding the occurrences of birds in Mid-Atlantic:—"The ship 'Rutland,' of Greenock, Capt. Roy. When about 400 miles on this side of Newfoundland, during continued heavy gales from the east, Capt. Roy observed numbers of birds taking refuge on the 20th September. He had had head-winds all the way home to England, and birds more or less numerous round the ship till the 25th October. When he was 400—500 miles from Ireland, a violent storm arose and blew prodigious flocks of birds before it. The deck and rigging were covered. Many died, and many were killed and used as food. The survivors, after staying a few days, were carried off by the force of the wind. Capt. Roy observed one Robin, lots of Linnets, Snipe, Thrushes, Wagtails, &c. Heavy rains accompanied the storm." Mr. Gray continues, "My brother-in-law, on his way to Boston in one of the Cunard steamers, saw a Jackdaw and a Starling come on board on Oct. 23rd, during a gale from the east, when 550 miles from the Irish coast, easterly winds having prevailed for several days. On Oct. 24th, 850 miles from land, one Starling perched for a few minutes. A small bird like a Linnet hovered about the rigging, but did not perch. One Water Rail was captured and detained ten days, 1200 miles from land, and two Sandpipers. Writing again on Dec. 21st, he tells me that on the outward passage, lat. 42° N., long. 54° W., he had in view at one time from five to six hundred Gulls, various species—an extraordinary number to be so far from land. When about 1080 miles from Ireland, going out, two *Crossbills* flew on board. Both were captured."

Thomas Anderson (son of Thomas Anderson, joint author with Mr. Robert Gray of 'The Birds of Ayrshire and Wigtownshire') and Mr. Gray inform me, a good observer, and who has

for many years kept a bird-log, at Mr. Robert Gray's request. Being chief-engineer on board a Cunard liner, he has crossed the Atlantic some four hundred times, during most or all of which time he has kept careful notes. It is hoped that he or Mr. Gray will give us the benefit of these notes before long, as they cannot fail to be of great interest and use to students of migration.

Mr. T. E. Bruce, of Slogarrie, observed some Missel Thrushes flying south on March 4th, 1881, and on the same day Snow Buntings. Great storm of snow on March 4th and 5th, from N.E.; this no doubt a local and temporary migration caused by the severe weather. The Missel Thrushes having previously arrived on spring migration, compelled to return again.

CORVIDÆ.—The returns are from Monach, Sound of Mull, Rhinns of Islay, Portpatrick, and Bahama (L.V.) Earliest at Portpatrick, Aug. 16th, flocks flying round between 11 a.m. and 4 p.m., wind light E., and clear (probably only a local movement). Latest at Monach, Dec. 29th, when about a dozen were seen at noon flying south over the island. At Sound of Mull, in October, about two hundred "Daws" are reported flying N.E. on the 9th, wind light E. and clear; and at Rhinns of Islay, on the 10th, flocks of Black Crows (Rooks?) seen flying W., wind light, clear. At Bahama L.V., on 24th, one flying E. at 7.25 a.m., wind N.W., and showery. But in November there appears to have been a rush; also on Nov. 5th, ten "Crows" seen at Bahama L.V. flying W.N.W. at 8 a.m., wind moderate N.W. by N. (the strength registered is 4); and at the same station, on the 25th, about two hundred and fifty "Crows" were seen flying from E. to W., with a W.S.W. wind, strength 6, and weather gloomy. In my return from Monach I find that six "small black Crows," which may have been either Rooks or Jackdaws, were seen passing over the island, flying north-west or north, in the direction of the Lews, driven along by a strong S.S.E. gale upon Nov. 20th.

Note.—In 52° 50' north lat. and 22° 21' west long., being 475 miles off the Irish coast, after six weeks' easterly gale and winds, wind E.S.E. for ten hours previous, two Rooks flew to the barque 'East.' One fell exhausted on deck, and the other into the sea. The former was shown to me by the Captain—Capt. Younoun—on board the 'East' at Granton. The above, as related to me, was upon Nov. 19th; and it may be interesting in connection with this to read the notes supplied by Mr. R. Gray, as given

under Thrush. Of a later observation at Monach, on Dec. 29th, I have already spoken.

STARLING, *Sturnus vulgaris*.—I have received many returns of this species, as is usually the case in autumn. Commencing at our most northerly stations, I have returns from Cape Wrath, Rhu Stoir, Stornoway, Island Ghlais (or Glas), Monach, Kyleakin, Fladda, Rhinns of Islay, Lochindaul, Corsewall, Point of Ayre, Douglas Head, and Bahama (L.V.) The earliest dates are August; arrive and remain all the season afterwards at Lochindaul; but at Rhinns of Islay, adjoining, arrive in September and remain; resident thereafter. At Corsewall, Aug. 4th, a flock flying south, fresh S. wind. At Kyleakin, Sept. 12th, three, moderate S. wind, and haze. At Cape Wrath, Sept. 14th, twenty young, flying from E. to W. (see remarks on occurrences in Mid-Atlantic, under Thrushes, *antea*, p. 80); on 17th, a large flock at 10 p.m., wind strong S., with haze and rain; stayed a few days and then left. At Corsewall, Sept. 28th, a flock flying S., strong breeze, clear. Sept. 29th and 30th, a number seen hovering round the lights of Douglas Head Lighthouse at midnight, with Thrushes and Blackbirds, and none seen after daylight came in. At Kyleakin, Nov. 3rd and 5th, forty adult and young rested, wind light N. to light S., clear, and sleet. Also on Nov. 2nd and 3rd, whilst numbers were striking all night till dawn at Corsewall, a large number were flying round Point of Ayre lights, mixed with Thrushes and Blackbirds, and thirty-six were killed; and on same date, one was killed at lantern of Douglas Head: and six killed and fell overboard at Bahama L.V., out of a large flock of mixed Thrushes and Starlings. At Monach, Nov. 6th, one adult rested, wind light N.W., drizzle. At Monach, Nov. 17th, twenty-four young, N.N.E. gale, sleet and snow; left on 18th. At Stornoway, Dec. 19th and 20th, large flocks, wind E., sleet and rain. At Monach, Dec. 27th, a flock of young birds, along with a large flock of Larks, flying about the garden and shores at 1 p.m., wind S., fresh and clear; and again on Jan. 14th, 1881, a great many flocks, mixed old and young, at 10 a.m., flying to and fro between the island and North Uist, apparently being local movements caused by heavy snow in Uist. In 1879, the most northerly record comes from Ardnamurchan, whereas this year, as is usually the case, they are much more general. The earliest date in 1879 was Aug. 14th, at Loch Ryan and M'Arthur's

Head, whilst this year it was the 4th, at Corsewall. The latest in 1879 was Dec. 18th, at Skervuile. This year, in December, at Stornoway.

FINCHES, *Fringillidæ*.—At Rhu Stoir, Sept. 17th, large flocks at 10 p.m., strong S. wind, haze and rain; stayed a few days with Starlings and then left. Crossbills (*vide* Mr. Anderson's notes on Mid-Atlantic, *antea*, p. 80). Mr. Robt. Gray afterwards informed me that the two Crossbills captured are of the American species (*Loxia leucoptera*), judging from Mr. Anderson's description. The same species was captured by the late Dr. Dewar on board ship (Royal Phyl. Soc., and 'Birds of West of Scotland'); and at same locality Finches were seen on Oct. 20th, light variable winds, and snow. Only returns in 1879 were from Dhuheartach on Aug. 24th, and Oct. 4th and 8th.

TREE SPARROW. — On Lismore, Nov. 15th, a small flock observed, strong N. wind, clear.

CHAFFINCH.—Only one record on west coast is given, *viz.*, at Bahama L.V., Oct. 11th, when one is recorded flying N.W. at 8 a.m., wind E.N.E., and haze.

LINNETS.—Returns from Skerryvore, Lismore, and Point of Ayre. Earliest date Sept. 12th, when a rush appears to have taken place past Point of Ayre between that date and Sept. 29th; principally, however, on Sept. 12th and 20th, when young birds to the number of fifty or sixty—on the 20th mixed with Hedge-sparrows—were seen flying W. on both days about 8 a.m., wind light W., clear. They appeared plentiful also on the 28th, but a few only seen on 29th. Again in same locality there appeared to be a rush on Oct. 18th and 24th, when twenty and one hundred Greenfinches were seen, in light and fresh W. wind; and at Skerryvore, Oct. 14th, twelve "Grey Linnets" flew about the rock, wind light E., with haze. On Nov. 13th, a small flock frequented Lismore during the day, wind strong S.W. to W., and rain; and at the same station, Dec. 15th, both Grey and Green Linnets, mixed with Robins, Larks, Thrushes, and Blackbirds, flew about; wind strong N.E., and snow. In 1879, Sept. 9th is the only date given at Rhuvaal and Lamlash.

SNOW BUNTING, *Emberiza nivalis*.—Records have been kept at Rhu Stoir in the north, and southward at Monach, Dhuheartach, Corsewall, and Point of Ayre. The earliest occurrence was at Dhuheartach on Sept. 19th, when one bird was seen; wind fresh W.

From Oct. 1st to 8th, at Rhu Stoir, about forty arrived and stayed till the latter date; wind on day of arrival N.W. gale with sleet. On Oct. 1st, at Monach also, they were first seen, one at 10 a.m.; wind fresh S.S.W. and cloudy. At Point of Ayre from fifty to sixty were seen at 7.30 a.m., mixed with Thrushes and Blackbirds, fresh S.E. wind, clear, on Nov. 2nd and 3rd. On Nov. 6th, at Monach, one at 10 p.m., N.W. wind and drizzle of rain. On Nov. 16th a few seen at 2 p.m. during a S. to N.N.E. gale, and the latest record is at Corsewall, on Jan. 5th, 1881, when one was seen and struck the lantern at 3.30 a.m., light N.E. wind, haze. In 1879 most northerly station, Monach Island. Earliest date same as this year (1879, Monach; 1880, Dhuheartach). Latest date in 1879, Dec. 10th (Corsewall), against Jan. 5th, 1881 (Corsewall), in 1880.

Note.—The unusually large and sudden immigration of Snow Buntings into Great Britain attracted general attention. From the middle of November onward they were extremely abundant, and they ushered in the severe winter and low temperatures of January, 1881.

SKY LARK, *Alauda arvensis*.—A good many returns from the following stations:—Rhu Stoir, Kyleakin, Dhuheartach, Skervuile, Rhinns of Islay, Turnberry, Corsewell, and Bahama L.V. The earliest, Sept. 30th, at Corsewall, at 9 p.m., when two were seen, which remained till dawn on the lantern along with Golden-crested Wrens. The latest at Turnberry on Jan. 4th, 1881, when one struck at 8 p.m., light N.E. wind with haze. In October, on the 1st, at Skervuile, some were seen mixed with Thrushes and Wrens; winds variable and light, with haze. On the 3rd, at Turnberry, two struck, and one killed between 10 and 11 p.m., wind light E. and clear. On 12th, at Bahama L.V. a flock seen flying W. at 9.20 a.m., wind light N.E., with haze. On 13th twenty seen at Dhuheartach at 1 a.m., wind light N., cloudy. On Dec. 27th a large flock was seen flying about the garden and shores at Monach along with young Starlings and two Blackbirds, at 1 p.m., wind S., fresh breeze, clear. In 1879 the most northerly station was Dhuheartach. Earliest date in 1879, Sept. 19th; latest Dec. 6th; but it must be remembered in this and all such comparisons that in 1879 our returns were sent in sooner than in 1880.

Note.—Local migrations of large extent, brought on by heavy

falls of snow and consequent scarcity of food, have been frequently noted this season. When crossing the Firth of Forth on the 15th December I saw many large flocks of Larks, both in the morning and afternoon, flying steadily from N.N.W. to S.S.E. or N.W. to S.E. Many Larks were afterwards seen feeding near Leith, and notice of the fact sent to the papers by another witness. The line of flight, as I have said, was from N. of West to S. of East. I note the fact as having significance, even in a local migration, at this locality.

ROCK PIGEON.—July 10th, sixteen Rock Pigeons at Island Ghlais, flying S., 8 p.m., light N., haze and showers, refers probably to a local migration. At Skerryvore two “wild pigeons” (Rock Doves?) seen during calm hazy weather on June 24th.

LAPWING, *Vanellus cristatus*.—At Rhuvaal, Lochindaul, and Portpatrick. Aug. 4th, at Lochindaul, large flocks seen all through the month after this date: resident. Sept. 1st, two killed at Rhuvaal, 11 p.m., strong S., haze. Sept. 9th, flocks flying S. at 9 a.m. at Portpatrick; wind S.E., hazy. Sept. 15th, Lochindaul, flocks all day; strong N. wind, clear. One at Monach on Dec. 27th, wind S., flying S. More northerly in 1879, *viz.*, Rhu Stoir and southwards. Earliest date Aug. 20th; latest Dec. 11th.

Note.—In Ireland Lapwings began to assemble on the shores by July 22nd, as observed by Mr. Warren.

GOLDEN PLOVER, *Charadrius pluvialis*.—Only two records this year from Island Ghlais and Point of Ayre: Dec. 3rd, twenty to thirty at 9 a.m. flying S.W., light airs, showers, at the former; Jan. 12th, 1881, at the latter, a flock flying E., wind strong E., clear. Two or three flocks were seen upon Monach on Dec. 27th, at 1 p.m., flying along to shore, wind S., fresh breeze. A considerable movement appears to have been observed at Monach on this date. In 1879 three stations, most northerly being Skerryvore. Earliest date July 27th, at Portpatrick; latest on Oct. 18th, at Skerryvore.

RINGED PLOVER.—On Aug. 13th twelve “Dotterels” arrived upon Dhuheartach. These remain on the rock all winter, unless driven off by severe weather.

HERON.—Two Herons seen at 2 p.m. at Rhu Stoir, N.W. gale, snow showers. At Monach four Herons rested on the shore on Oct. 28th, about 2 o'clock, wind strong N.E., with snow showers;

they had left by next day. Common and of daily occurrence at Kyleakin.

CURLEW, *Numenius arquatus*.—Of this species we have many records, and it does not seem easy to distinguish between migration data and residence. However, I give the leading points for further comparison. They occurred, or are recorded, at Cape Wrath, and thence south at Island Ghlais, Monach, Kyleakin, Skerryvore, Dhuheartach, Rhuvaal, Skervuile, Lochindaul, Portpatrick, Point of Ayre, and Bahama l.v. They seemed to fly in all directions, indicating to a great extent only local migration. From April and May, on through June and July, and all the autumn months they occur rather distinctly as resident, or as passing flocks, and it seems almost impossible to separate the movements in the end of summer which should be assigned as part of the spring migration from those in the beginning of autumn which more rightly belong to the autumnal migration. As will be seen, however, I have attempted to do so, assigning all June records to the former and July records to the latter. The earliest record, then, in autumn stands as July 15th, when forty were seen flying W. at 4.20 p.m. at Island Ghlais, wind light N., clear. The latest recorded are on Dec. 25th, 26th and 27th at Rhu Stoir, flying south; winds N. or light and variable with showers. The general courses pursued were southerly or from N.W. to S.E., or from N.E. to S.W., some flying direct W., however, and others direct S.; but at Portpatrick, on Aug. 19th and 23rd, flocks were seen flying north and also south, indicating a local migration. On Aug. 19th the wind was light S., haze, and on 23rd light E., clear. Numbers passed Dhuheartach between Aug. 12th and 17th, all going in southerly directions, from S. to S.W. and S.E. On Monach they were unusually abundant this year all September, and more than a dozen were shot. "Rushes," so far as such data are of value, appear to have taken place in August, 12th to 17th, or even later,—say to 23rd,—and locally, at Lochindaul, on Aug. 4th and 5th, and in September, as 10th and 25th, at Dhuheartach, and "unusually abundant all September on Monach." In November, on the 3rd, at Bahama l.v., Curlews were flying round the vessel all night. On Aug. 15th four seen circling round Dhuheartach in calm, clear weather, and on the 18th two seen flying south in light W. wind and haze. On Nov. 2nd, at Douglas Head, one was killed

on lantern at 10.30 p.m., wing strong S.E. and haze. On Nov. 6th one "Sandpiper" was killed at lantern at Island Ghlais in a fresh W. breeze. In 1879 most northerly station was Island Ghlais; this year much more general. Earliest date in 1879, Aug. 3rd; latest Nov. 20th.

SNIFE.—I have returns only from three stations, Island Ghlais, Kyleakin and Douglas Head. The earliest at Kyleakin, Oct. 11th, when two appeared in light E. wind and rain; at the same station, Nov. 16th, one was killed on lantern at 2 a.m., in light S. wind and haze. At Douglas Head, Nov. 18th, one killed at midnight in snow, N.E. breeze. At Island Ghlais, Nov. 27th, one was killed during a W. gale and haze and rain.

WOODCOCK, *Scolopax rusticola*.—Commencing in the north we have records of occasional birds at Cape Wrath, Rhu Stoir, Island Ghlais, Kyleakin, Ardnamurchan, Lismore, and Point of Ayre. The earliest occurrence is noted at Island Ghlais, Sept. 23rd, seen half a mile from lighthouse. Then we have occurrence at Point of Ayre, where one was killed at the lantern on nights of Nov. 2nd and 3rd, at 7 o'clock, light S.E. wind, very foggy. At Lismore, Nov. 20th, one seen at 11 a.m., light N.W. wind, clear. The rush appeared most conspicuous from Dec. 10th, when one was killed at Ardnamurchan, at 5.30 a.m., in strong W. wind, with thick rain; at Kyleakin, Dec. 11th, when two were seen at 2.30 p.m., moderate N.E. wind, snow lying on the ground; and at Rhu Stoir, Dec. 25th, 26th and 27th; on 25th, three, flying south, light N. wind, snow; 26th, one, variable, and light showers of snow; 27th, two, light, variable and clear; lastly, at Rhu Stoir, Jan. 12th, two, light S.E. wind, clear.

Note.—Northernmost Station, Island Ghlais, 1879. Earliest record, Oct. 11th (Rhinn of Islay), 1879; latest record, Dec. 12th, 1879. So long ago as the date of the "Lays of the Deer Forest," 1848, numbers of Woodcock are recorded as settling about the lamps of the northern lighthouses, and evidence is given from Cape Wrath (*loc. cit.*, 'Notes,' vol. ii., p. 262).

WILD GOOSE.—At Portpatrick, Aug. 6th, one was seen flying S.E., in light E. breeze; at the same station, Jan. 13th, ten were observed flying S., with a strong N. breeze. At Point of Ayre, Jan. 11th, about twenty were seen flying S., with light N.E. breeze. At Monach, Nov. 30th, eight were seen at 8 p.m., flying westward, and settled on some rocks off the island, wind

S.E., fresh, rain; and Jan. 9th, 1881, fifteen at 9 a.m. flying northwards, wind S., light, clear. At Douglas Head, Dec. 17th, eight Geese were seen flying from E. to W. at 12 a.m., calm, clear. At Butt of Lewis, Jan. 6th, six Wild Geese at 9 a.m., light S.W. wind, clear; came to the village about a mile off, stopped two days; left, going S. At Island Ghlais, Jan. 4th, fifty Wild Geese flying S., 1 p.m.; wind N., fresh, clear. At Rhuvaal, Dec. 12th, six dozen seen, after stormy weather, in light S.W. breeze.

Note.—On Jan. 29th, 1880, four dozen, old and young, resident on Islay, were by Feb. 15th, 1880, reduced to about two dozen. It is recorded in the Wernerian Societies Memoirs, in a report from the light-keeper at Lismore lighthouse (which report was not published in full), that most birds of a flock of Brent Geese were killed against the building, and that one bird passed through quarter-inch glass “like a shot” (Mem. Wern. Soc., read Jan. 24th, 1835).

SWAN, *Cygnus*.—At Rhu Stoir, Dec. 25th, 2 p.m., flying S.E., light N. wind, snow storm. (At Loch Inver, Jan. 1st, 1881, two seen at a loch there.) At Butt of Lewis, Jan. 16th, two, stayed four days at a village four miles off and left on 20th or 21st, flying S.; wind N.E., sleet.

DUCKS, *Anatidæ*.—At Monach, Skerryvore and Dhuheartach. At Dhuheartach, Oct. 12th, nineteen Eiders—sixteen males and three females, noon, fresh N. wind, clear; engaged in fishing. At Monach, Oct. 27th, two flocks of Eiders, male and female, 3 p.m., wind N., cloudy; “first arrival here from breeding-grounds.” At Dhuheartach, Oct. 28th, forty fishing round, light N.E. wind; Oct. 29th, the same flock. These remain all the season, usually arriving about Oct. 12th, but they do not land here; later in arrival this year.

GREAT NORTHERN DIVER.—At Monach, May 25th, two—male and female—Great Northern Divers seen, wind S.W., fresh, clear. These birds are seen at intervals all through the year, three being the largest number Mr. Youngclaus has seen at one time; he has shot three during the last five years.

RED-THROATED DIVER.—At Monach, May 22nd, twelve were seen feeding in pairs along the shore; wind N.W., fresh, showers.

ROCK BIRDS, *Natatores*.—Razorbills, Guillemots, Puffins. In

speaking of these I believe the simplest way will be to take the spring and autumn migration together, and I here simply write down the results as they appear in the schedules. Cape Wrath, April 20th, about 1000 Razorbills, 2000 Puffins, and 2000 Guillemots arrived to breed; wind S., showers. Aug. 29th, about 2000 Razorbills, 4000 Puffins, and 4000 Guillemots left; wind S.E., clear. Or in other words, about twice as many left in autumn as came in spring. "These birds have building cliffs about three miles east of the Cape. The time of the day they come is not known, nor the directions in which they come and go. They come in one night, and go in one night." At Island Ghlais, July 10th, about ninety Puffins, 4 p.m., flying S., haze, doubtless a local migration for food; July 11th, about 200 Puffins, 1 p.m., wind N., flying S.W., clear; July 22nd, numbers feeding on herring-soil in shore; Aug. 9th, numbers feeding on herring-soil in shore. At Ushenish, May 30th, numbers passing; local migration, strong S. wind. At Kyleakin, May 10th, numbers of Guillemots passing E. all day; strong E.N.E. wind. At Skervuile, July 21st to 27th, Marrots seen. Those seen at Island Ghlais are almost undoubtedly bred at the Shiant Isles (see former Report, 1879).

Note.—I have no return this year from Dunnet Head, owing to the absence of Mr. Geo. Maclachlan, the new keeper not having sent me one, which I much regret.

GULLS.—At Cape Wrath, April 12th, 300 "Sea Gulls" arrived here for breeding on the cliffs below the lighthouse, between 7 a.m. and 8 a.m., wind E., clear; July 12th, from 300 to 800 Sea Gulls leave and passed to W., between 3 a.m. and 10 p.m., wind E., haze and rain; April 20th, 200 Kittiwakes arrived; Aug. 29th, 600 Kittiwakes left, wind S.E., clear. At Island Ghlais, July 22nd, 500 to 600 Gulls and Kittiwakes, Puffins, &c., feeding, 10 a.m. to 8 p.m.; wind S., light, clear; probably from Shiant Isles. (See Mr. Anderson's notes on Gulls in mid-Atlantic, under Thrush, *antea* p.80). At Sound of Mull, Aug. 13th, 200 Kittiwakes, 3 p.m. to 6 p.m., flying N.W. in flocks of twenty to thirty; light W. wind, clear. At Rhuvaal, March 1st, about four dozen, 10 a.m., S.W. wind to gale, rain and sleet; May 1st, about one dozen, 9 a.m., S.W. wind, clear; Oct. 13th, twelve, flying S., 7 a.m., variable, light, haze; Nov. 1st, Gulls (and Curlews), 9 a.m., W. wind, clear. At Skervuile, June 8th, one

Black-headed Gull, 9 am., N.W. wind, light breeze, rain, "not often seen here;" July 17th, "Boatswain Bird," 10 p.m., first seen, also Kittiwakes; July 21st to 27th, "Boatswain Gulls" seen; Aug. 2nd, great numbers of ditto seen. At Corsewall, Nov. 1st, one Kittiwake seen, 9.45 p.m.; fresh E. breeze. At Stornoway, July 21st, a flock, apparently migrating, flying N., 9 p.m., light N.E. wind.

TERNs.—At Monach, Aug. 15th to 20th, great flocks were congregating previous to departure; winds light, clear; and by 25th all were gone, except a few detained by late young ones (see spring migration, under Tern). They are also reported to have left the neighbourhood of Stornoway lighthouse by Aug. 15th. On Aug. 26th, sixteen "Sea Swallows" arrived at Bahama light-vessel, at 2.20 p.m., in hazy weather; wind light S.E. by E.

GANNET, *Sula bassana*.—In the same way I give the data as shown in the schedules. At Cape Wrath, April 14th, 800 to 900 flying E., for breeding at Soulisterry, from 7 a.m. to 8 p.m.; wind E., clear. At Douglas Head, April 18th, one, light N.E. wind, clear; July 14th to Aug. 28th, 60 to 900 daily, flying W., 7 a.m. to 9 p.m. *Note*.—I am informed by Mr. Gray that Mr. Anderson traced the Gannet as far south as the latitude of South Spain, where one day the ship passed through acres of them; they seemed dead beat, as if after a toilsome flight during a succession of autumn gales. At Rhu Stoir, July 1st to Aug. 31st, large flocks going N. daily along the coast, largest numbers about end of July; generally passing between 7 and 9 p.m.; none seen going south. At Butt of Lewis, April 13th, three Solan Geese seen, 9 a.m., the first seen; May 20th to Sept. 15th, increased daily till May 20th, and then on till middle of September, it would be impossible to count them from dawn till dusk: they passed in long strings of fifty to sixty in a flock at not more than a quarter of hour's interval between the flocks; they all flew west. A number (about one-fifth of the whole) fly east, and take no notice of the others in their flight; these are single birds: not one seen after Oct. 15th. At Island Ghlais, July 12th, 150 Solan Geese "flying S. and N.," 7 a.m. to 8 p.m., light airs, W., clear; July 13th, 200 "flying S. and N.," 7 a.m. to 7 p.m., fresh N. wind; July 15th to 31st, 1600 to 2000 flying both N. and S.,

variable; daily average about 100. (*Note.*—The expression “flying S. and N.” probably means *from S. to N.*) At Skervuile, March 1st, at 8 a.m., S.W. gale, rain and sleet; Oct. 26th, last seen 10 a.m., fresh N.E. wind, clear. At Lochindaul, May 14th, one seen fishing, wind E., clear, dry.

CORMORANTS.—At Cape Wrath, April 16th, thirty “Scarts” arrived, 10 a.m., E. wind, showers. At Stornoway, Sept. 14th, seven flying S.W. at noon, light S.W. wind, clear; Sept. 21st, flock of ditto at 2 p.m., light W. wind, flying S.W., raining; Oct. 26th, flock of ditto flying W., 11 a.m., N. gale, snow; Dec. 24th, flock of ditto flying S.E., N. wind, fresh, snow. The above probably refer to local migrations.

UNIDENTIFIED.—At Portpatrick, between Oct. 7th and 28th, a migration appears to have gone on at intervals of small birds: thus on the 7th “flocks of small birds,” at 7 a.m., strong N.E. breeze, clear, flying S.W.; the same on the 14th, flying S.W., in light easterly wind, and clear; the same on the 15th, flying W., in light S. winds, clear; the same on the 28th, light N.E. wind, hazy, direction and flight not noted. Again, flocks of small birds on Dec. 25th, at the same station, flying E., were observed, in strong N. breeze; and flocks flew round all day on 26th, in light E. wind, and clear. In August, on the 25th, at 5.45 p.m., fifty-two (species unknown) seen flying S.S.W., at Bahama l.v., light E. by S. wind.

GENERAL REMARKS.

In our general remarks, in 1879, we took notice of the scarcity of birds at many important stations, such as the Butt of Lewis, Monach Island, &c. This season shows a considerable increase upon last year’s returns, and the horizontal lines of migration—or rays of the fan—seem to have spread out wider and reached farther north in 1880 than in 1879; and this increase of observations on the west coast, be it noted, is irrespective, apparently, of the scarcity upon our Scottish east coast. We also receive accounts of immense numbers of birds being seen this season in mid-Atlantic, the dates of their appearance there agreeing very accurately with dates of observations at the land stations. In the 1879 migration the scarcity was accounted for by the prevalence of N.W. winds

deflecting the lines, and passing down *upon the right shoulders* (so to speak) of the passing birds.*

This year the prevailing winds and gales were from east and north-east, and while these winds do not appear to have *compressed the horizontal lines so much* as the north-westerly did in 1879 the birds appear to have passed at greater elevations, and been borne away in the gales far out to sea. The migration does not appear to have come in such great throbs or rushes in 1880 as in 1879, but to have been more dispersed and more regular; this, no doubt, is a natural consequence of the waves being more spread out in 1880 than in 1879. The great easterly gales continuing for weeks together over the Atlantic and North of Europe, so disastrous to our shipping, undoubtedly carried many migrants far to the westward, and the mortality amongst them must have been very great indeed, if we judge from the few records that have reached us from sea-going vessels. These easterly gales also have, no doubt, affected the direction of the migration to a considerable extent, and indications of its agency may be found in the occurrence on our shores of certain wanderers from foreign lands, such as the Esquimaux Curlew, on September 21st, in Kincardineshire (*vide* Zool., 1880, p. 485); a Red-legged Hobby, on September 20th; a Turtle Dove in Kincardineshire; and Great Snipes, Great Grey Shrikes,† &c., about the same dates (*loc. cit.*). These gales may be said to have continued almost without cessation during the whole migrating season, all through September, October, November, and December. In November a new bird to our British list occurred,—the Desert Wheatear, *Saxicola deserti*, Ruppell,—as will be found duly recorded by Mr. John James Dalgleish.‡ It was obtained near Alloa on November 26th. Its native haunts are far to the southward and eastward, and in North Africa, Egypt, Persia and India.

Mr. Cordeaux has already shown to us the apparently abnormal statistics on the south coast of England, birds crossing *towards* England and flying north-west all through the migratory

* Even the strong-winged Wild Geese and Swans are observed when flying well up in the wind to drift to one side a little, having the appearance of flying *left-shoulder first* instead of head first.

† Unusually abundant in Heligoland.

‡ Proc. Ryl. Phyl. Soc. Edin., 1880-81, vol. vi., p. 64.

season between August 16th and December. I am inclined to look upon these data as indications of the wide-spread waves of the general migration, extending both farther north and farther south. According to the amount of pressure at the starting-points [or possibly the increased area northward occupied in a particularly fine nesting season, as in 1880] will the wideness of the area be which is passed over by the migratory flocks. I think the rules known to apply in the dispersal and extension of range of species are, in some respects, applicable also to the greater and more extensive waves of migration.

I could say more regarding the peculiarity of nesting sites being occupied year after year by the same pairs of birds, or of well-known sites being vacated for a few seasons, and again occupied; or I might dilate upon some curious statistics of the continuous recurrence of foreign species at the same localities, or along the same line of country, but I fear to occupy space with theory only, until we have a larger accumulation of solid material.

As regards severity of weather apart from winds, unusually early winter was reported from Scandinavia, it having begun there in October (*vide* 'Field,' Oct. 16th, 1880, p. 590).

Attention should be drawn also to the admirable work being done on the subject of migration by Mr. J. J. Dalglish (Bull. Nuttall. Orn. Club), and by Mr. Percy E. Freke (Sc. Proc. Ryl. Dub. Soc., vol. ii., n. s., p. 373, and vol. iii., n. s., separate?). These gentlemen also now propose to colour, or have already finished, maps showing the distribution of the occurrences of American birds in Europe recorded in their papers, which cannot fail to be of much service in our work. We would like to see not only American species mapped out in Europe, but rare European occurrences in Great Britain.

Finally, in endeavouring to arrive at conclusions regarding the causes of migrational phenomena in 1880, we have taken into consideration—1st. The value of the heights of lanterns above the sea, as against the colour and intensity of lights in 1879; and we have taken more account of the vertical area of birds' flight in 1880 than in 1879. 2ndly. We have compared the effects of prevailing north-west winds in 1879 pressing laterally upon the lines of migration to those of 1880, which being easterly and north-easterly have had the contrary effect of

spreading out the migration again, or at least has not deflected it to the same extent; and also, the effect of causing birds to migrate at greater elevations, and, where the gales have been most severe, to bear them away above the range of vision and carry vast numbers out to sea, until, weary and exhausted, they have ceased to be able to guide themselves, and again, involuntarily, lowered, to be picked up senseless and stunned on board the ships, or to perish in thousands in the ocean. And lastly, we have hinted at the wideness of the migratory waves depending upon the pressure at the starting-points, or upon the larger north and south area occupied in the breeding-season of 1880, besides some other minor details.

WEST COAST OF ENGLAND.

FORMS of enquiry and letters of instruction were sent to thirty-nine lighthouses and light-vessels on the west coast of England; from twenty-nine returns have been received; from five, letters mentioning the scarcity of birds.

The following are the stations from which co-operation was asked, commencing with the most northerly. Returns have been received from those marked with an *, and from those marked with a † letters without returns :—

110. †St. Bees; on the Head, L.H. Fixed; visible 25 miles. Robert Pizey.
111. *Morecambe Bay, L.V.; revolving red light, flash every 30 seconds. Fog signal, one blast every 2 minutes. Henry Clavell.
112. *Air, L.H.; on the Point. Fixed, visible 9 miles, white, except over West Hoyle Bank, between the bearings of S.E. $\frac{1}{4}$ S. and W. $\frac{3}{4}$ S., where it shows red. C. H. Aveston.
113. Menai, L.H.; on Trwyn du Point. Fixed, red; visible 9 miles. Bell in fog; three times in quick succession every 15 seconds.
114. *Skerries, L.H.; Highest Island. Fixed, visible 16 miles. Fog signal, one blast every 3 minutes. J. Garrett.
115. *Holyhead Breakwater, L.H.; 66 $\frac{1}{2}$ feet above high water. Red; flashes every 7 $\frac{1}{2}$ seconds; visible 13 miles. Appears as a fixed red light at a distance of 3 or 4 miles. Bell in fog (three times in quick succession) every 15 seconds. Fog horn nearly continuous *when mail packets passing into harbour*. Richard Prichard.
116. *North Stack, Fog Horn Station, L.H. Bell sounded during fog; small white light revolving in 1 $\frac{1}{2}$ min., occasionally shown 40 feet above sea and 30 yards N. of S. Stack L.H. Gun fired every 10 minutes during fog when mail packets approaching. John Harvey, gunner.
117. *South Stack, L.H.; on S. Stack rock off N.W. point of Holyhead Island; revolving every minute; visible 20 miles. W. R. Burgess.
118. *St. Judwall, L.H., 151 feet above high water, occulting, light of 8 seconds duration, followed by eclipse of 2 seconds, white

- and red ; also a fixed red light (not occulting) from a window 16 feet below the high light. William Davies.
119. *Caernarvon Bay, L.V. ; revolving with white and red flashes at intervals of 20 seconds, in order of two white and one red ; visible 10 miles. Fog signal, one blast every 2 minutes. W. Bowen.
120. *Bardsey, L.H. Fixed ; visible 17 miles. Fog syren one blast every 5 minutes. Thomas Bowen.
121. Cardigan Bay, L.V. Red ; revolving every 30 seconds ; visible 10 miles going in.
122. *Bull Point, L.H. White triple flashes. Fog signal, three blasts quickly every 2 minutes. George Knott,
123. *South Bishop, L.H. ; revolving every 20 seconds ; visible 18 miles. Gong in fog. John White.
124. *Smalls, L.H. Fixed, white ; visible 17 miles. Bell sounded during foggy weather, and a rocket every half hour. W. Boulton.
125. *Great Castle Head, L.H. (2). Fixed, white, 112 and 76 feet above high water.
126. *Milford (Low), L.H. Fixed, red. G. Baker.
127. Milford (High), L.H. Fixed, red, 48 feet above sea.
128. *Caldy, L.H., S. of Island. Fixed ; visible 20 miles ; bright to seaward, red in direction of Old Castle Head and Woolhouse Shoal. W. Ebben, P. K.
129. *Helwick, L.V. ; revolving every minute ; visible 10 miles. Fog horn, blasts of 5 seconds duration at regular intervals of 2 minutes. Thomas Cornell, mate.
130. *Scarweather, L.V. ; revolving red, three times a minute, 38 feet above level of sea ; visible 10 miles. Fog syren, two blasts quickly every 2 minutes. Henry Jenkins.
131. *Nash (Low or W.), L.H. Fixed ; visible 17 miles. John Richards.
132. *Nash (E. or high), L.H. Fixed ; visible 19 miles ; red. Hy. Nicholas.
133. Breaksea, L.V. Flashing every 15 seconds ; 38 feet above sea ; fixed red light at a lower elevation. Gong in fog.
134. *Flatholm, L.H., S. point of Island. Fixed ; visible 18 miles. W. Dale, P. K.
135. *Usk, L.H., W. side of entrance to river. Fixed ; visible 11 miles ; white and red. Amos Russell.
136. †Avon, L.H., E. of entrance. Fixed ; visible 13 miles ; white seaward. William Taylor.
137. *Burnham, L.H. (2). Upper intermittent ; visible 15 miles. Lower, fixed ; visible 9 miles. William Lewis.
138. *Bideford, L.H. (2). Low light visible from half-flood to half-ebb, 14 and 11 miles. Leading lights for crossing the Bar. Edward Roberts.

139. Lundy Fog Gun Station. During fog and thick weather, rocket every 10 minutes; explodes at height of 600 feet. John Morgan.
140. *Lundy, L.H., $\frac{1}{2}$ mile from S. end of Island (2), in one tower. Upper visible 30 miles, revolving every 2 minutes. Low light fixed, only visible between bearings of S. by E. and N.E. James Parsons.
141. †Hartland Point, L.H., 120 feet above high water; revolving, 30 seconds, two white and one red. Fog signal, blasts of 5 seconds duration every 2 minutes. John Griffiths.
142. †Trevose Head, L.H., on N.W. extremity (2). Fixed; visible 20 and 17 miles. W. Bowen.
143. *Godrevy, L.H. Flashing every 10 seconds; visible 15 miles. A fixed red light in same tower, 27 feet below flashing light; visible from S. by E. to S.E. Richard Trahair.
144. *Bishop Rock, L.H., on S. W. Rock. Scilly. Fixed; visible 16 miles. Bell in fog every 10 seconds.
145. *Scilly, L.H., St. Agnes, on summit of Island; revolving every half-minute; visible 17 miles. E. L. Davis.
146. *Sevenstones, L.V. White, revolving. Syren fog signal, three blasts quickly every 2 minutes. Daniel Norton.
147. *Longships, L.H., on highest rock off Land's End. Fixed; visible 16 miles. Bell in foggy weather. William Jones.
148. †Wolfrock, L.H., 8 miles S.S.W of Land's End, 110 feet above high-water mark; revolving alternate flashes of red and white; visible 16 miles. In fog a bell. W. D. Crask.

To the Elder Brethren at Trinity House our thanks are due for their kind permission to make use of the light stations for taking observations; and to the Trinity Superintendents, Mr. Davison (Holyhead), Mr. Evans (Weyland), and Mr. Tregarthen (Penzance), we are obliged for willing assistance.

The observers at the various stations are deserving of thanks for the pains they have taken to keep an accurate record of the facts coming under their notice. The reports are all interesting, those which show a paucity of birds equally with those that record the passing of many. Excluding the *Anatidæ*, notes have been taken of about fifty-two different species.

SEPARATE REPORT ON EACH SPECIES.

Of the Raptores we have heard but little. A male Falcon (Peregrine ?) was seen at Sevenstones Oct. 13th, at noon, flying S.W., before a moderate breeze from N.E.; at Smalls, Oct. 7th, a Kestrel was observed flying round the tower; in Morecambe Bay, Oct. 4th, 7.30 a.m., a Sparrowhawk flying from N.N.E., a gentle E.N.E. breeze, rested on board the light-vessel. At St. Bees a hawk or two, we are told, may be seen occasionally; "they build on the cliffs thereabouts."

OWL, *Otus brachyotos*.—At North Stack, Oct. 13th, an Owl, probably the Short-eared, was seen, at 8.55 a.m., flying S.W., before a mod. N.E. breeze. At Smalls, Oct 15th, a little Horned Owl was observed resting on the rock; Nov. 6th, at 4 p.m., another on the S.E. rock.

FIELDFARE, *Turdus pilaris*.—Distinguished on one or two occasions; possibly some of the notes on "Thrush" may refer to this. From Bishop Rock, Oct. 13th, Fieldfares were seen at 10 a.m. passing W. before a mod. E. breeze. At Smalls, Oct. 15th, from 1 a.m. to daylight, Grey Thrushes were noticed, with Redwings, Starlings, and Blackbirds; breeze gentle to moderate, E.S.E. to S.E. At Air (River Dee), Nov. 7th, "large quantities passed at sunrise."

SONG THRUSH, *Turdus musicus*.—Recorded from five stations. At Caernarvon Bay, Oct. 1st, two were killed; hazy. At South Bishop, Oct. 5th, 10 p.m. to 2 a.m., a mod. N.N.E. breeze, rain and mist, Thrushes and Blackbirds were passing, and, of the former, seven killed. At Morecambe Bay, Oct. 8th, 10.20 a.m., one Song Thrush passed S.S.W., very tired; a strong N.E. breeze. At Nash (E. or high), Oct. 13th, one was killed; a fresh N.N.E. breeze, with mist. At Bull Point, Oct. 14th, 3 a.m., overcast and misty, light air S.S.W., one female is reported as striking. At Caernarvon Bay, Nov. 2nd, a young Thrush and Lark were killed at 9.10 p.m.; gentle E.S.E. breeze, hazy. At Bull Point, Nov. 3rd, two struck at 2 a.m.; fresh E. breeze, clear. At the same time there appears to have been a rush farther south. At South Bishop, Nov. 2nd, from midnight to morning, a fresh S.E. breeze, very misty, a very great quantity of Thrushes, with Blackbirds, Starlings, and Larks, of which many were killed; and, with breeze still S.E., but moderate,

continuous flocks of same all day flying towards N.E.; Nov. 3rd, from 9 p.m. to midnight, a gentle E. breeze, rather misty, large quantities, with Larks, Blackbirds, and Starlings (many killed). At Nash (E. or high), Dec. 1st, one was killed; fresh W. breeze, but clear. At Godrevy, Jan. 14th, 12 to 4 p.m., Thrushes were seen, with Lapwings and Starlings: this is the only instance recorded in afternoon, the others being at night, the weather in most cases misty or hazy, and the wind ranging from N.N.E. to S.E.

REDWING, *Turdus iliacus*.—Separately noticed at one station only—Smalls. Oct. 8th, 7.30 p.m., some were seen among Starlings and Larks, N.E. to E., misty; twenty of the birds killed. Oct. 9th, from midnight to 5 a.m., several, with Larks and Starlings; eleven struck; breeze mod. to strong E. to E.N.E., clear. Oct. 15th, from 1 a.m. to daylight, large numbers, with Starlings, Blackbirds, and Greenfinches. Oct. 29th, one was caught. Nov. 2nd, several, with Sky Larks, Starlings, and Blackbirds; sixteen struck and were caught. Nov. 3rd, three males and five females were distinguished among Blackbirds, Starlings, and Larks. Nov. 5th, one male; mod. N. breeze. Except the first, the instances occurred from midnight to sunrise, with moderate N.E., E., and S.E. breezes, and generally with clouds, mist, or drizzle.

BLACKBIRD, *Turdus merula*.—Reported from ten stations. The earliest date is Aug. 12th, when one was seen at Scarweather at 1 p.m., mod. S.S.E. breeze; the latest at Skerries, Dec. 4th, when Blackbirds and Snipe appeared, and a few were killed. The one occurrence only is noted in August, and we do not again hear of its appearance till at Skerries, Sept. 27th, 29th, and 30th, when Blackbirds were seen (the two later dates in company with Starlings). At Caernarvon Bay, Oct. 1st, Blackbirds and Thrushes were seen, and two killed; light westerly breeze, hazy. At S. Bishop, Oct 5th, from 10 p.m. to 2 a.m., N.N.E., rain and mist, Blackbirds and Thrushes struck, and seventeen Blackbirds were killed. At Helwick, Oct. 8th, one was killed. At Caldy, Oct. 10th, one male was discerned flying about the lantern; a mod. E. by S. gale, squally and cloudy. At Bull Point, Oct. 12th, two females struck, but were not killed; a mod. E. breeze, clear; and, on Oct. 14th, one female. At S. Bishop, Oct. 13th, nine were killed, with five Larks. At Helwick,

Oct. 14th, one and a Linnet. At Smalls, Oct. 15th, numbers struck, with Starlings, Thrushes, and Finches; and, at Godrevy, two, with two Starlings and one Thrush, not killed. At Helwick, Nov. 2nd, several killed, with Larks and Starlings; and, from midnight to morning at S. Bishop, a fresh S.E. breeze and very misty, a very great quantity of Blackbirds, Larks, &c. (see Song Thrush). At Godrevy, Nov. 3rd, one struck, not killed. At Smalls, Nov. 2nd, two were seen at midnight; 3rd and 5th six (two males and four females), and one female. At Nash (E. or high), Dec. 1st, one was killed. At Skerries, Dec. 4th, a few. The time of the occurrences noticed, except of the three in report, which were at sunrise, was from midnight to morning, and they took place almost always in cloudy or misty weather, with generally a mod. breeze more or less easterly, viz., N.N.E., through E. to S.S.E. The greatest number of instances noticed is in October, when we have returns from seven stations, but the birds are only seen by ones or twos; they seem to have appeared in numbers from Nov. 1st to 3rd; in December we have only two instances.

Then the *Turdidæ* have been noticed from Morecambe Bay (from St. Bees we have the general remarks that an occasional Blackbird or Thrush is to be seen) to Godrevy. The movement appears to have been pretty evenly distributed, perhaps to have spread gradually from N. to S., and to have lasted from Aug. 12th to Jan. 14th, being most active from Sept. 27th to Nov. 27th, with a decided rush on Nov. 2nd and 3rd. The direction of flight is seldom given, the notices almost all referring to birds killed or striking. The greatest slaughter occurred at S. Bishop on Nov. 1st, when, of Blackbirds, Thrushes, Larks, and Starlings, 162 were immolated, and on Nov. 3rd 172. The time when the occurrences were observed lies between twilight and sunrise, but is chiefly about midnight, the weather being generally hazy, misty, or overcast, with mod. breezes from E.N.E. through E. to S.E. In the majority of instances the birds were accompanied by others of their own family, or by Starlings or Larks.

STONECHAT, *Saxicola rubicola*.—At Morecambe Bay, Aug. 29th, 4 p.m., moderate breeze E. by S., one came on board. The note is added that it is "very seldom seen here." This is the only occurrence noted.

WHEATEAR, *Saxicola œnanthe*.—At Bishop Rock, Aug. 17th,

1.30 a.m., three struck the glass, light E. breeze, cloudy; Aug. 22nd, midnight, mod. E.S.E. breeze, cloudy and misty, Wheatears strike; none killed on either occasion.

CHIFFCHAFF and GOLDCREST, *Sylvia hippolais* and *Regulus auricapillus*.—At Scarweather, July 30th, 1 p.m., a Goldcrest was seen. At Flatholme, Oct. 14th, a large quantity of Goldcrests and Chiffchaffs were seen at 9.40 a.m., gentle E. breeze, blue sky, but clouds and mist. Mr. Dale reports that, at this station, "These little birds generally make their appearance about the beginning of October, and remain till about the middle of November. In spring again, from about March 20th to May. Numbers are killed by striking the lantern on dark nights."

TITMOUSE, *Parus cæruleus*.—At Burnham, Aug. 16th, 3 p.m., mod. N.N.E. breeze, "a large flock of Blue Tits perched on the trees, &c." At Caldy, midnight, a Titmouse (species not identified) was seen flying about the glass.

WAGTAIL, *Motacilla* (sp. ?)—Returns only from Morecambe Bay. Aug. 26th, 6.15 a.m., one alighted on deck; 27th, 7 a.m., one passed E., and at 8.30 a.m. one E.N.E.; 30th three, and 31st six passed; Sept. 1st two were seen, and on 4th six; 12th, one passed W., a gentle breeze W.S.W.; 16th, five, S.E., a strong breeze from N.; 27th, flocks, with Linnets, were observed during the forenoon, a light breeze S. by W., and several small birds killed. These occurrences all happened between 5 and 8.30 a.m. In almost every case the weather was cloudy, misty, or foggy, with gentle breezes, varying, but mostly E.S.E. or easterly. The direction of flight S.E. and E.S.E.

SKY LARK and MEADOW PIPIT, *Alauda arvensis* and *Anthus pratensis*.—On two occasions the Meadow Pipit is distinguished; possibly some of the notes on "Larks" may refer to it. From Morecambe Bay, Sept. 8th, 6 a.m., four Titlarks are reported flying S.W., a gentle breeze E.N.E. From Smalls, Nov. 3rd, mod. E. breeze, one was seen in company with Blackbirds and Redwings. Of Larks, the earliest appearance noted is Aug. 27th, when, at Morecambe Bay, seven passed flying S. by E., light E.S.E. breeze; Sept. 1st, 5.30 p.m., about thirty passed Nash, flying S., a gentle W.N.W. breeze; and on 3rd, at noon, about twenty passed N., light E.S.E. breeze. These occurrences are noticed from both stations. At Caernarvon, Sept. 4th, one was killed. At Lundy, Sept. 9th, a number, with Chaffinches, were

seen, fresh E.S.E. breeze, rain and squally; these were noticed from both stations. At Scarweather, same day, two were seen. At Morecambe Bay, a dozen passed flying S. At Skerries, Sept. 23rd, 9.30 to 11 p.m., many Larks and Linnets were striking, but none killed. At Scarweather, Sept. 24th, mod. W. breeze, a large number of Larks. From the two stations at Nash, Sept. 25th, a large flock of Sky Larks were observed passing N.E. At Skerries, Sept. 26th and 27th, Larks were seen. At Caernarvon, Sept. 29th, 9.15 a.m., a flock passed S.E. At Caldy, same day, 10 p.m., two male Sky Larks and a White Gull were flying about the lantern, light S.E. breeze, fog. At South Bishop, Sept. 30th, four larks were killed, fog. Through September they appear, as the month advanced, to have been noticed in greater numbers and farther south. The appearances are nearly all in the daytime; breezes light or gentle, varying from W. through S. to E. Direction of flight, when noticed, towards S. or S.E., except at Nash, where, on Sept. 3rd, some passed N., and on 25th some N.E. At Godrevy, Oct. 4th, 1 to 2 a.m., mod. E.N.E. breeze, a Lark, Petrel, and two foreign Wrens were seen, and three birds killed. At Nash, Oct. 5th, 9 a.m. to 3 p.m., continuous flocks passed S.E., with mod. E.N.E. breeze, and rain; the same direction followed, though wind veered round to W.S.W. At Helwick, Oct. 8th, 2 a.m., one was killed, strong E.S.E. breeze, rain and lightning. At Smalls, same date, 7.30 p.m. to midnight, continuous flocks of Sky Larks, Redwings and Starlings, and about twenty struck; 9th, midnight to 5 a.m., Sky Larks and Redwings, eleven struck, mod. to strong E. to E.N.E. breeze, clear. At Nash, Oct. 10th, a flock of Sky Larks was observed from both stations flying N.W., strong N.E. breeze; 13th, with mod. E.N.E. breeze, a like flock going E. At South Bishop, Oct. 13th, 1 to 4 a.m., light S.E. air, clouds and mist, five Larks and nine Blackbirds met their fate. At Smalls, Oct. 12th, about thirty struck the roof (with Starlings) from 1 a.m. to daylight; and at Skerries, at intervals during same day, small flocks were seen passing towards the land. At Morecambe Bay, same day, about 10.20 a.m., a flock of Larks passed S.S.W. At Helwick, Oct. 15th, 4.30 a.m., several Larks and Starlings were seen. At Morecambe Bay, Oct. 16th, 2.30 p.m., a flock passed E.N.E. At Caernarvon Bay, Oct. 19th, 1 to 4 p.m., continuous flocks passed E.S.E., fresh E. by N. breeze. At Helwick, Oct. 21st, gentle

N.E. breeze, a flock from S.W. to N.E. At Caernarvon, Oct. 22nd, 11 a.m. to 4 p.m., mod. E. gale, with haze, flocks of Larks and Starlings passed S.E.; 24th, 9 a.m. to 4 p.m., similar flocks passed S.S.E., with a mod. N.N.W. breeze. At Helwick, Oct. 30th, 11 a.m., light N.N.E. breeze, "several hen Larks" passed from S.W. to N.E. At South Stack, same day, 7 a.m. to noon, fresh N.W. breeze, clear, continuous flocks (with Starlings, Linnets, and Chaffinches) passed to N.W. Throughout October the movement appears to have been active and pretty general along the coast; the time of occurrence in the greater number of cases between 9 a.m. and 4 p.m.; the direction of flight, when recorded, generally easterly; in most instances mist, rain and fog, with—generally—moderate E.N.E. to E. breezes. At Morecambe Bay, Nov. 1st, five passed S.E., mod. N.N.E. breeze; 2nd, three in same direction, mod. S.E. breeze. At South Bishop, from midnight to the morning of 2nd, fresh S.E. breeze, very misty, "a very great quantity of Larks, Thrushes," &c., and "continuous flocks" all day, flying towards N.W.; 3rd, 9 p.m. to midnight, enormous quantities, &c. (see "Song Thrush.") At Caernarvon, Nov. 2nd, 9.10 p.m., a young Lark was killed, gentle E.S.E. breeze, hazy; 3rd, 1 to 4 a.m., still hazy, two Larks killed. At Helwick, Nov. 2nd, 1 p.m., fresh S.E. breeze, "a flock of hen Larks" passed to N.E., and at 8 p.m., several more, of which some were slain; overcast and misty. At Nash (W. or low), Nov. 14th, noon, flights of Sky Larks and Starlings passed overhead, strong W.S.W. breeze, clouds and mist. These are all the instances reported in November; most of them occurred at night, and, being of birds striking, the direction of flight is not recorded; the winds generally moderate and from E. to S.E.; on every occasion with mist, haze, or fog. After Nov. 14th we have no record till Dec. 3rd, when flocks of Larks passed Skerries at midnight, gentle S. breeze, misty. At Scarweather, Dec. 8th, 11 p.m., two Larks, mod. W.N.W. breeze, gloomy and misty. At Lundy, same day, S.W. breeze, a great number of Sky Larks were seen, and Mr. Parsons adds, "these are seen daily," but for how long is not stated. At Caernarvon L.V., Dec. 13th, 2 to 5 a.m., four young Larks were killed, mod. N. by W. breeze, drizzling rain. At Milford, Jan. 11th, a quantity of Larks, Plovers, and Starlings arrived and remained all day. At South Stack, Jan. 12th, strong N.E. breeze and passing showers of snow,

continuous flocks of Larks and Starlings passed all day; and on 13th, a large quantity was on the island all day. This is the latest instance recorded. In all, we have returns from fifteen stations, of which all but Milford and the two at Nash are off the coast. The direction of flight, judging from the instances given, seems to have been chiefly towards S.E. and S. (this would be towards the mainland). The chief movement seems to have been from Sept. 9th to Nov. 3rd, and increasing towards November. In the majority of cases, with the breeze moderate, from E. to S.E. and S.; in some from N. and N.E. to E.; generally with mist or gloom.

YELLOWHAMMER, *Emberiza citrinella*.—At Morecambe Bay, Oct. 12, five passed about midnight, flying S.S.W., gentle breeze from N. to N.E. by E.

CHAFFINCH, *Fringilla cœlebs*.—At Lundy, Sept. 9th, 1 p.m., a great number, with Sky Larks, fresh E.S.E. breeze, rain. At Smalls, Oct. 25th, mod. W. breeze, till midnight, some struck and fell overboard; three and a Starling caught. At South Stack, Oct. 30th, fresh N.W. breeze, flocks, with Starlings, Larks and Linnets, passed flying N.W.

MOUNTAIN SPARROW, *Passer montanus*.—This species is distinguished only in the returns from North Stack. Sept. 24th, 8.40 a.m., a flock passed S.W.; 26th, 2.30 p.m., with mod. S.W. breeze, a flock passed N.W.; Oct. 12th, 8.40 a.m., two flocks flying N.E.; 15th, 7.30 a.m., six passed S.W., mod. S. breeze; Dec. 24th, 3.10 p.m., fresh N.W. breeze, thirty passed E.; Jan. 12th, 2.30 p.m., a flock passed S.W., before a strong N.E. breeze, with snow.

COMMON SPARROW, *Passer domesticus*.—At Nash, Sept. 27th, 6 a.m., a flight passed N.N.W. (observed from both stations), light N.E. breeze. At North Stack, Dec. 3rd, 11 a.m., a flock of Sparrows was seen flying N.E., against a mod. S.W. breeze.

GREENFINCH, *Coccothraustes chloris*.—At Smalls, Oct. 15th, 1 a.m. to daylight, many struck the roof, along with Starlings, Blackbirds, &c., mod. E.S.E. to S.E. breeze, misty; Nov. 5th, before sunrise, mod. W. breeze, cloudy but clear horizon, two males and one female were caught alive, together with Thrush, Blackbird and Starling.

LINNET, *Linota cannabina*.—From the two stations at Lundy we learn that, from 8th Sept., a great many Linnets "mixed" have

been seen daily, and on Oct. 30th have left the island. The earliest recorded is Sept. 1st, when at Skerries, 9 p.m. to 3 a.m., fresh S.W. breeze, clear, small flocks appeared with Finches, many strike, and a few are killed; 23rd, 9.30 to 11 p.m., mod. S.W. breeze, clear after fog, small flocks with Larks, many strike, but none are killed. At Morecambe Bay, Sept. 17th, 7 a.m., four Grey Linnets pass S.E., mod. N.W. by W. breeze; 21st, noon, nine going N., light S. by W. breeze, misty; and on 27th, during the forenoon, fog, flocks of Linnets and Wagtails pass, and *several small birds are killed*. At Caldy, Sept. 24th, some Linnets were seen. At Smalls, Oct. 29th, one was caught with a Redwing, fresh N.E. breeze, cloudy but clear horizon. At South Stack, Oct. 30th, 7 a.m. to noon, fresh N.W. breeze, Linnets, Larks, Starlings, and Chaffinches passed in flocks to N.W. From Godrevy, we hear from Mr. Trahair that "several flocks of Green and Red Linnets come on the island from September to latter part of December."

STARLING, *Sturnus vulgaris*.—We have more notices of this bird than of any other. Its occurrence seems to have been general and frequent. Twenty-two stations have reported on it, besides St. Bees, whence Mr. Pizey writes, "An occasional Starling or Lark may be sometimes seen on the lantern-window"; and Trevoise Head, where, Mr. Bowen states, "Starlings and Crows can be observed all the year; they build their nests about the cliffs." The earliest date given is July 24th, where, at Scarweather, 11 a.m., a flock was observed, clear, with breeze from E.N.E. This, however, is the only occurrence noticed till Aug. 29th, when, at Sevenstones, a large flock passed S.W. at 5.20 a.m., fog, light N.N.E. air. The next date is Sept. 10th, when, at Nash, a large flock passed overhead at 6 p.m., fresh S.W. breeze. From this date several instances occur in the Bristol Channel, but it is Sept. 28th before we hear from a station as far north as Skerries. The occurrences then become frequent and general along the coast, increasing to Nov. 3rd, after which they gradually decrease in numbers and frequency till Jan. 14th, when, at Godrevy, a great number, in company with, Lapwings, Thrushes, &c., were seen from noon to 4 p.m., fresh E.S.E. breeze, and clear horizon. The greatest number of individuals are recorded from Oct. 16th to 21st, and again Oct. 29th to Nov. 3rd; we have the greatest number of occurrences

noted in November, and especially from 1st to 3rd. In September we have returns from six stations, Flatholm to Skerries. The flight when noticed being (except in one instance) in daylight—mostly from sunrise to about 11 a.m. Direction of flight scarcely ever noticed. Wind various, generally light, and never exceeding a fresh breeze; weather in some cases clear, but more generally overcast to misty. The next date, after 10th, is Sept. 17th, when, at Flatholm, fresh W.N.W. breeze, a small flight appeared and remained on the island till 19th; 22nd, from both stations at Nash, a flock of young Starlings is reported as flying N.E., fresh W. breeze, misty; 23rd, a flock of Starlings, mixed, was seen at North Stack, light N.W. breeze, drizzly rain; 24th, continuous flocks were seen from Flatholm; after this no further occurrence is noted in Bristol Channel till Nov. 1st. At Skerries, Sept. 28th, 29th, and 30th, Starlings were seen at sunrise, light W.S.W., S.E. and N.E. breezes. Throughout October we have constant notices. At Morecambe Bay, Oct. 1st, two flocks of young, mixed, passed S.W., light W.N.W. breeze. At Nash, Oct. 3rd, continuous flocks all day passed N., against a light N. to N.E. breeze; and at Flatholm, 3.30 p.m., mod. N. breeze, blue sky but cloudy, there was a small flight, and *four old birds were killed*. At Caldy, Oct. 4th, 8 a.m., strong E. by S. breeze, about twenty were seen (first appearance). At Lundy, Oct. 6th, strong E. breeze, rain, a great number appeared and were seen daily till 29th, after which only one or two seen. At Smalls, Oct. 8th, 7.30 to midnight, fresh N.E. to E. breeze, misty, Starlings, Redwings, and Sky Larks passed in continuous flocks (about twenty struck). At Morecambe Bay, Oct. 10th, one seen; 11th, one passing S.E. very tired, fresh E. by N. breeze. On 11th, we first hear of them so far south as Scilly, where Starlings and Woodcocks passed at 8.30 a.m., fresh E.S.E. breeze; and on 12th, at Bishop Rock, Starlings at 10 a.m. These, however, are the only instances recorded from these two stations. At Smalls, Helwick, and Caldy respectively, during the nights of Oct. 14th, 15th, and 16th, several struck and many were killed. At Caernarvon, Oct. 16th, "continuous flocks of Starlings and Spinxes" (?) passed during the day, gentle S.S.W. breeze, and hazy. At South Stack, Oct. 17th, 6.30 a.m., light E. breeze, a very large flock passed. At Morecambe Bay, Oct. 21st, 5.20 p.m., gentle E.N.E. breeze, clouds but clear horizon,

two to three hundred passed W.N.W. At Caernarvon Bay, Oct. 22nd, mod. E. gale, hazy, a flock with Larks passed S.E.; and on 24th, during the day, similar flocks S.S.E.; wind now mod. and from N.N.W. At Flatholm, same day, 8 a.m., gentle E.N.E. breeze, small flights appeared and remained till Oct. 26th, at 7.30 a.m., when they departed S.W., fresh W.S.W. breeze, cloudy. At South Stack, Oct. 29th, 7 a.m., fresh N.N.E. gale, clear, very large flocks passed; 30th and 31st, fresh N.W. breeze, continuous flocks passed to N.W. At Sevenstones, Oct. 30th, 3.30 p.m., light E. air, clear, several flocks were seen flying to W. and N.E. At Nash, Nov. 1st, 9 a.m., gentle N.N.E. breeze, clear, a flock of Crows and Starlings passed overland. At Smalls, same day, from sunset to midnight, three were seen about the lantern. At Morecambe Bay, Nov. 2nd, 4 p.m., from two to three dozen passed, flying S.; and at the same hour, at Helwick, a flock of male Starlings passed, flying from S.W. to N.E., and at 8 p.m. several were killed. At Longships, 7 p.m., a few fluttered against the glass; at Caldy, 10.30 p.m., one was noticed flying about the lantern; at Godrevy, 11 p.m., four struck, several others hovering around; and at Smalls, before midnight, mod. E. breeze, misty and drizzling, eight were seen with other birds. At South Bishop, from midnight (of 1st), when they first arrived, till morning, a very great quantity, with Thrushes, &c.; and all day after, continuous flocks of same flying towards N.W. Again, on the 3rd, enormous quantities of Starlings came at midnight (of 2nd) and continued till morning, and at 6 a.m. the Starlings began to fly E. At Caernarvon also, Nov. 3rd, nine young Starlings were killed, gentle E.S.E. breeze, hazy; and at Smalls, before sunrise, twenty-three female and four male Starlings, among Blackbirds and Thrushes, were counted; several struck and went overboard. At Nash, 9 a.m., large flights passed overland, with Crows; and at Godrevy, 2 a.m., two, with Thrushes and Blackbirds, struck. Thus there appears to have been a decided "rush" lasting from Oct. 29th, 7 a.m., to Nov. 3rd, 9 a.m. From Nov. 1st to 3rd alone, we hear from no less than eleven stations. It was on the 2nd and 3rd that the slaughter, already mentioned (see "Song Thrush"), took place at South Bishop, and Starlings were numbered among the slain. On Nov. 6th, eight were killed at Lundy, many others striking; and after this we have almost

daily returns from the two stations at Nash, of flights, the direction, when noticed, being overland. At Helwick, Nov. 15th, a flock passed N.E. At Bull Point, Nov. 18th, a flock was seen flying E. At Godrevy, Nov. 29th, mod. S.W. breeze, clear, a flock flying S. Throughout December we have almost daily returns from Nash, of flights passing overland (on 10th and 25th they are noticed as passing S.) At Godrevy, Dec. 2nd, 5 to 8.30 p.m., light S.S.W. breeze, misty, seventeen male and female, mixed, struck. At Caernarvon Bay, Dec. 16th, 1 to 4 a.m., strong W.N.W. breeze, three killed; 27th, 9 to 11 p.m., gentle E. by N. breeze, two young Starlings were killed; 28th, 9 a.m. to 11 p.m., gentle N.N.E. breeze, misty, flocks passed, flying N.W.; and on 31st, between 10 and 11 p.m., strong N.W. by N. breeze, misty, three were killed and fell overboard. At Lundy, Dec. 25th, fresh N.N.W. breeze, clear, a great many Starlings came on the island during the night. At Nash, Jan. 7th, 2 a.m., fresh E. breeze, misty, several struck; 11th, 10 a.m., misty, some seen with flocks of Plovers and Peewits. At Milford (Low), same day, a quantity with Plovers and Larks arrived, and remained all day. At South Stack, Jan. 12th, fresh N.E. breeze, with passing showers of snow, a large quantity of Starlings and Larks, old and young, passing all day; 13th, on the islands all day. At Godrevy, Jan. 14th, noon to 4 p.m., fresh E.S.E. breeze, clear, a great number with Thrushes and Lapwings were seen.

CHOUGH, HOODED CROW and ROOK, *Fregilus graculus*, *Corvus cornix* and *Corvus frugilegus*.—From Caldy Mr. Ebben reports, "The Chough breeds upon the island, and never goes away." We do not hear of it from any other station. The Hooded Crow is only once distinguished, but may perhaps be referred to under the general style of "Crow," the Rook being sometimes distinguished by that of "Black Crow." At S. Stack, Oct. 22nd, 11.30 a.m., fresh E. breeze, clear, a flock passing to N.W. Of the Rook or, indeed, of Crows generally, the first appearance noted is Sept. 9th, when "Black Crows" were seen at Caldy, 9 a.m., a strong breeze E. by S., misty. At N. Stack, Sept. 12th, 6 p.m., three Black Crows flying N.E., before a mod. S.W. breeze; 19th, 5.20 p.m., four passed S.E., a fresh N.W. breeze; 24th, 9 a.m., ninety were seen flying E., before a strong W. breeze. From this station we have no further record till Dec.

20th. At Nash, Sept. 10th, 3 p.m., about 100 Rooks passed N.; 13th, from the low station, hundreds were seen flying overland; 22nd, 9 a.m., a flight of young Rooks, Starlings and Jackdaws flying N.E., fresh W. breeze; 24th, at noon, a flock passing S.E.; 30th, 3 p.m., from both stations we hear of a flight passing N.E.; Oct. 2nd, 2 p.m., fresh N. breeze, misty, large flock of Crows pass S.W.; the only instance reported from Nash for October. At Morecambe Bay, Oct. 3rd, 5.30 p.m., fifteen common Rooks passed, flying E.N.E., fresh N.E. breeze; 5th, same hour, mod. gale E. by N., overcast, misty and rainy, twelve going E.S.E.; 10th, 11 a.m., fresh E.N.E. breeze, two passed S. by E. At Bull Point, Oct. 12th, 7 a.m., fresh E. breeze, two dozen Black Crows, old and young, seen flying W., before fresh E. breeze; only record of a W. direction of flight. The next occurrence dates Nov. 1st and 3rd, 9 a.m., when, at Nash, large flights, with Starlings, passed overland. We next hear, on 13th, of similar flights flying overland at noon; a fresh W. gale, mist and showers. From the low station (only) we have like returns on 20th, 24th, 25th, and 28th, 29th, 30th, between 9 a.m. and noon, winds various, clouds or mist. There are no returns from any other station. At the same station, Dec. 1st to 10th, 9 a.m., mod. breezes, more or less W., overcast and misty, like flights overland. At Holyhead, Dec. 16th, 9 a.m., flights of Black Crows passed E. across the bay, against a strong E. breeze. On Dec. 18th, from both stations at Nash, and on 20th, 23rd and 25th, from the low stations (9 a.m.), flights of Crows and Starlings are reported; winds various, generally mist. On Dec. 25th, the high station reports such a flock passing S. at the same hour, fresh E. breeze, clear; and on 28th, 30th and 31st, same hour, with breezes from W.S.W., E. and N., overcast, showery or misty, flights of Crows and Starlings were seen from both stations. At N. Stack, Dec. 20th, 9.5 a.m., a flock passed, flying E., fresh N.W. breeze; 30th, 2.15 p.m., a flock flying S.E., fresh N.W. breeze. This is the latest return. Besides Caldy and Nash, in the Bristol Channel, the returns are from four stations off the coast, viz.:—Bull Point, N. Stack, Holyhead, and Morecambe Bay. The direction of flight is from E.N.E. through E. to S.E. At Nash the direction seems to vary greatly, but is mostly reported as being "overland."

COMMON WREN, *Troglodytes vulgaris*.—At Scarweather, Aug.

10th, one was found in the morning lying dead on deck, W.N.W. breeze. At Nash (W. or low), Sept. 8th, in the early morning, one struck; mod. N.E. breeze, clouds and mist. At Smalls, Sept. 14th, 1 a.m. to daylight, gentle E. breeze, overcast, but clear horizon, a Wren, Starling and Larks struck; and on 15th, about same time, gentle breeze, E.S.E. to S.E., Blackbirds, Starlings, Thrushes, Greenfinches, and Wrens, a large number striking the glass, but very few the roof.

SWALLOW, *Hirundo rustica*.—Earliest notice, Aug. 31st, from Caldy, as also the latest, Nov. 11th, "when Swallows disappeared." At Caldy, Aug. 31st, Swallows seen from 7 a.m. to 9 a.m., N.N.E. to N. wind, blue sky, but clouds; Sept. 5th, mod. W.S.W. breeze, about twenty; and on 17th, at noon, W. wind, a few noticed. At Nash (E. or high), Sept. 15th, large flocks passed E., a strong N. breeze and rain; and, the note added, "not seen after this date"; 21st, 26th and 30th, Swallows are reported from Caldy, with various winds, not strong, and generally with clouds and mist. At Morecambe Bay, Sept. 24th, mod. W. breeze, cloudy, but clear, two dozen were seen flying S.E. At Caernarvon Bay, Sept. 25th, mod. S.W. breeze, clear, a flock flying S.W. At S. Bishop, Sept. 28th, light N.E. air, twenty were seen. In October we have only two dates. At Godrevy, Oct. 12th, 1 p.m., a small flock hovering about the island, fresh N.E. breeze, clear; and at Helwick, 4.30 p.m., fresh E.N.E. breeze, misty, a flock passed, flying from S.W. to N.E. At Caldy, Oct. 18th, Swallows seen. The eight stations reporting give each but a solitary instance, except Caldy. Five of the stations are off the coast; the remaining three in the Bristol Channel. The direction of flight is not once reported from Caldy. When from the other stations reported it is S.E. or S.W., except at Helwick, N.E.; Oct. 12th, at 4.30 p.m. This would be the course to the nearest land.

SWIFT, *Cypselus murarius*.—At Flatholm, Sept. 15th, 10 a.m.. mod. W.N.W. breeze, clouds, but clear horizon, a large flight appeared; on 16th, they disappeared.

GOLDEN PLOVER, *Charadrius pluvialis*.—Earliest record Sept. 5th, when, at Caldy, two Plovers were seen; mod. W.S.W. breeze. The next occurrence noted is at Scilly, Oct. 4th, Plovers and Lapwings; mod. E.S.E. gale, rain. At Nash (E. or high), Oct. 14th, fifteen or twenty; 21st, a large flock passed W.;

Nov. 20th, 10 p.m., six flew round the light several times. We have no further record till from both stations at Nash, Jan. 3rd, several were observed flying W.; 10th, from 8 a.m. to 4 p.m., gentle N.E. breeze and mist, flocks of Plovers and Peewits, overland, passed S.W. Also, at Scilly, 4 p.m., Plovers and Lapwings; and on 11th, calm and misty, flocks of Peewits and Starlings passed N.W. At Milford (Low) a quantity of Plovers, Larks and Starlings arrived, and remained all day. From Bardsey we hear that, on Feb. 11th, flocks of four or five Golden Plovers were seen flying about the Island; fresh N.E. gale. Except at Nash, Nov. 20th, and Scilly, Jan. 10th, these occurrences were all noticed from 8 a.m. to 11 a.m., and on every occasion with mist or rain, and with light or gentle E. breeze (except at Caldy, W.S.W.). The direction of flight, recorded only from Nash (E. or high), is W., except on Jan. 10th, S.W., and 11th, N.W.

LAPWING, *Vanellus cristatus*.—Earliest notice at Sevenstones, Aug. 26th, 10 a.m., fifty were seen flying to S.W., light N.W. breeze, haze. The next is dated at Scilly, Oct. 4th, Lapwings and Plovers were seen at noon, a mod. E.S.E. gale, rain. We next hear from Caldy, Nov. 3rd, when one was seen flying near the light; a strong E. breeze, mist. Another space of time, and at Nash, Nov. 21st (E. or high), 8 a.m., a large flock is seen overland, mod. E. breeze; and at Burnham, 8 a.m., large flocks of Peewits were noticed flying from N., light N. breeze, mist. We do not again hear till Dec. 20th, when, at Lundy, a number of Lapwings were seen at 9 a.m., mod. E.N.E. breeze; and the other Lundy station reports, "about thirty came on the island during the night." Again, on the 30th, Mr. Parsons notes a flock came on the island the night previous. At Skerries, Dec. 29th, light S.E. breeze, misty, rain, a few Lapwings about all night. This is the only record from a station further N. than Bristol Channel. At Nash (E. or high), Jan. 3rd, gentle E. breeze, mist, a large flock of Peewits passed W.; 6th, a similar flock, N.W.; 10th, during the day misty, light N.E. breeze, flocks of Peewits, with Plovers, passed overland S.W.; and on 11th, at 10 a.m., misty and calm, flocks, with Starlings, passed N.W. At Scilly, same day, 4 p.m., Lapwings and Plovers were seen. At Sevenstones, Jan. 11th, two large flocks passed W.; a light W.N.W. breeze, hazy. At Godrevy, Jan. 14th, we first hear of a

great number seen during the day, with Starlings, Thrushes, &c. ; fresh E.S.E. breeze, clear, frost, and a little snow on the ground. Of the nine stations reporting, Nash has the most instances ; the greater numbers occur in January. The direction of flight when noticed, from N.W. through W. to S.W., the wind, except at Sevenstones, being from N.E. and E.S.E., but more generally E. ; force, mostly two to five.

SANDERLING, *Calidris arenaria*.—At Godrevy, Sept. 10th, 11.30 p.m., two were killed ; light S.W. breeze, clear horizon.

OYSTERCATCHER, *Hæmatopus ostralegus*.—At Air, Aug. 6th, a large quantity seen about 1 p.m., gentle E.S.E. breeze, mist ; Oct. 4th, a large quantity flying E. throughout the day, light S.E. breeze, mist ; Oct. 29th, 10.30 a.m., with mod. N. gale, clear, a similar flight E. From Bideford, Sept. 1st, we have the following record :—“ Hundreds of Sea-pies, Common Gulls, Curlews, and a few Shags, visit the mussel-beds all the winter, being seen every day and night from half-ebb to half-flood, coming from N.W. in all weather.”

HERON, *Ardea cinerea*.—From Helwick only have we any record, Sept. 26th, 6 a.m. : “ A flock flying from S. to N.W.” ; cloudy, but clear horizon, with light W. breeze.

BITTERN, *Botaurus stellaris*.—Of this now rare bird we have a solitary instance. At Godrevy, Jan. 14th, two were seen during the day (with numbers of Lapwings, Starlings, and Thrushes) ; may they live long and be happy !

CURLEW and STINT, *Numenius arquata* and *Tringa* (sp. ?).—At Air, earliest date Aug. 9th, 10 p.m., clear and calm, a large quantity passed ; and Godrevy, Jan. 11th, the latest. At Noon, Aug. 14th, three were seen at Bishop Rock. At Bideford, Sept. 1st, some seen, and thereafter daily, with hundreds of Sea-pies and Gulls, from N.W. At Usk, Sept. 8th, we hear of their appearance, when through the day they were seen in great numbers with Gulls, E. and N.E. breezes ; 10th, mod. S. breeze, they were observed through the day with Gulls and “ Pearls ” (*Tringa ? minuta*) in great numbers ; 17th, from 5 a.m. to 9 a.m., W.N.W. to N.W., two ; they appeared in very large flocks ; and from Sept. 24th, to Oct. 8th. At Morecambe Bay, Sept. 12th, 6.30 p.m., one was seen flying S. against a moderate breeze. At Nash, Sept. 15th, 9 a.m., two passed N.E., strong N. breeze and showers ; 18th, 6 p.m., two passed N.W., before a mod. N.W. gale, showery

(these are noticed from both stations). At Skerries, Sept. 26th, light S.W. breeze, Curlews were seen at sunrise. At Air, Oct. 4th, a large quantity going E. all day; misty. Through November and December we hear from Usk of large flocks (with numbers of Stints). At Skerries, Dec. 4th, 1 a.m., light S. air, misty and rain, Curlews were seen with Blackbirds and Snipes; 20th, a few all day, mod. W.S.W. breeze, fine; 29th, light S.E. breeze, mist and rain, a few all night. At Nash, also on 29th, 4 p.m., four passed W., mod. N. breeze, drizzle. The only record subsequent to this is from Godrevy, Jan. 11th, 9 a.m., when four were seen on the island, light E.S.E. breeze and mist; and Mr. Trahair adds, "they frequent the shore after the breeding-season." Most of the instances were noticed in the daytime; the winds various; but in the Bristol Channel, where recorded (Nash and Usk), from N. to W.N.W., force, four to six; while off the coast (Morecambe, Air, and Skerries), E.S.E. through S. to W.S.W., and light.

WOODCOCK, *Scolopax rusticola*.—At Lundy, Nov. 19th, 10 a.m., from both stations, four Woodcocks and three Snipes were seen, mod. N.E. breeze, clear; and Mr. Parsons adds, "one has been seen once or twice since." At Scilly, Oct. 11th, 8.30 a.m., fresh E.S.E. breeze, Woodcocks and Starlings appeared. At Nash (E. or high), Jan. 14th, at noon, two passed W., with five Wild Geese, before a mod. E. breeze, mist. At Bardsey, Jan. 20th, gentle E. breeze, with snow; one struck.

SNIBE, *Scolopax gallinago*.—At Nash (E. or high), Oct. 24th, 9 a.m., two were seen flying W.; gentle N.E. breeze, misty. From the two stations at Lundy, Nov. 19th, three Snipes and four Woodcocks were seen. At Skerries, Dec. 4th, 1 a.m., light S. air, misty and rain, Snipes and Blackbirds were seen, and a few killed.

CORN CRAKE, *Crex pratensis*.—At Burnham, Aug. 14th, at midnight, a Land Rail was killed; light N. breeze, clear horizon.

WATER RAIL, *Rallus aquaticus*.—At Smalls, Oct. 15th, one was seen on the rock.

WILD GOOSE, *Anser ? palustris*.—At Scilly, Sept. 26th, 7 a.m., calm and cloudy, nineteen were seen. We hear no more till Nov. 3rd, when, at Helwick, 11 a.m., one was seen passing from S. to N., mod. E.N.E. breeze; and on Nov. 6th, about the same hour, a flock passed from S.W. to N.E., mod. N.W. breeze, drizzly rain and showers. At Morecambe Bay, Nov. 23rd,

9.30 a.m., two flying S.E., strong S. breeze. At Scarweather, Nov. 10th, 4 p.m., fresh N.W. by W. breeze, four were seen. There is no return for December. At Nash (E. or high), Jan. 2nd, 9.30 a.m., two passed W.; and on 14th, at noon, five and two Woodcocks passed W., mod. E. breeze. At Hartland Point, Jan. 5th, a few were seen flying E. At Sevenstones, Jan. 11th, 4.15 p.m., light N.N.W. breeze, haze, several flocks passed, flying to westward.

SHIELDRAKE, *Tadorna vulpanser*.—At Air, March 21st, 1880, at sunrise, mod. S.E. breeze, clear, about forty-five pairs. Mr. Aveson adds, "they arrive annually for breeding."

WILD DUCK, *Anas boschas*, *Oidemia nigra*.—Returns from eleven stations. In some few instances the "Black Duck," probably the Common Scoter, is separately distinguished, viz.:—At Morecambe Bay, Sept. 5th, 6.15 a.m., five flying W., mod. W.S.W. breeze, mist; Oct. 1st, 9 a.m., light W. air, gloomy, misty, six flying W.S.W. At Scarweather, Sept. 20th, 6 p.m., fresh N.W. by N. breeze, four were seen; Nov. 25th, 3 p.m., mod. W. gale, two passed up N.E.; 30th, 10 a.m., gentle S. breeze, four were seen. At Burnham, Dec. 21st, 9 a.m., light N.N.W. breeze, flocks of the Black Surf Duck were seen on the water. In the other cases the species are not distinguished. The earliest date given is Sept. 18th, when, at Morecambe Bay, 3 p.m., seven Wild Ducks passed E., strong W.N.W. breeze; 27th, 7 a.m., six passed N.; 29th, same hour, three passed W., calm and fog. At Caernarvon, Oct. 6th, strong E.N.E. breeze, Wild Ducks passed N.N.E. At Godrevy, Oct. 8th, fresh E. breeze, clear, two flocks of Ducks and Mallards passed W. during the day; 10th, 7.15 a.m., wind from same quarter, one flock, S.W. At Nash (E. or high), Oct. 26th, 7 a.m., fresh E. breeze, two passed W. Throughout November the notices are more frequent. At Caernarvon, Nov. 1st, 10.40 p.m., fresh N.W. breeze, hazy, one was killed. At Morecambe Bay, 2nd, 7 a.m., one passed S.E. against a mod. S.E. breeze; slight fog. At Helwick, 4th, 8 a.m., gentle N.E. breeze, two flocks passed from S.W. to N.E.; 8th, about same hour, one Wild Duck passed to S.W., mod. N.E. and N. breeze. At Morecambe Bay, 9th, same hour, strong W. by S. breeze, nine passed going N.; 18th, same hour, fresh E. by N. breeze, four going S. From Lundy, we hear on 18th, 7 and 8 a.m., three Wild Ducks (one male and two

females) seen with Teal. At Smalls, 19th, fresh E.N.E. breeze, two Grey Ducks from N.W. to S.E. At Helwick, 22nd, 2 p.m., fresh S.E. breeze, clouds and mist, a flock passed from S.E. to N., fresh S.E. breeze, clouds and mist; Dec. 4th, strong S.W. breeze, twenty passed S.E.; 17th, from Holyhead Breakwater, hundreds of Wild Ducks were seen in the bay during the day. At Godrevy, same day, two flocks of Ducks and Mallards passed S.W. and W. before a fresh E.N.E. gale, which moderated and veered round to N.N.E.; Jan. 6th, 10.30 a.m., strong E. breeze, mist, a flock passed W. At Nash, Jan. 2nd, large flocks passed S.W.; 13th, 4 p.m., and 14th, 8 a.m., gentle E.N.E. breeze, mist, a flock passed W. At Milford, 11th, five or six Ducks passed, going more inland. At Bardsey, 13th, scattered flocks of Wild Ducks, about seven in number, crossing from mainland, N.N.E. wind, four; March 18th, 1881, 1.30 a.m., S.S.W. wind, four, three Ducks and one Drake Widgeons are reported. Thus in September we hear only from Morcambe Bay, and one instance of Black Ducks from Scarweather. In October the occurrences are more frequent and general, and the numbers greater; the direction of flight, except at Caernarvon Bay on the 6th, being W. or S.W., and the wind E. In November the most instances are recorded, but the numbers of individuals appear smaller; the direction of flight is N.E., S.E., N., or S., the winds varying, but more generally N.E., E., or S.E. In December we have two dates: the 4th, when twenty passed at Scarweather; 17th, at Godrevy, two flocks were seen; and at Holyhead, hundreds in the bay. In January we hear from Godrevy, Nash, Milford and Bardsey of flocks passing. The direction of flight in December and January is generally S.W. or W., in calm, or E. or E.N.E. breezes. The occurrences (except the last) are all noticed from 7 a.m. to 4 p.m., and most about 8 a.m. In almost every instance it is misty, foggy, or gloomy.

TEAL, *Anas crecca*.—At Godrevy, Sept. 27th, 10.15 a.m., light S.S.W. breeze, mist, a flock flying N.E.; Oct. 21st, 2 p.m., a flock flying E. against a mod. E. breeze. At Lundy, Nov. 18th, one male and two females are reported from both stations; mod. E. breeze, clear.

GUILLEMOT and RAZORBILL, *Uria troile* and *Alca torda*.—We hear from Lundy that, on Nov. 21st, numbers of Guillemots and Razorbills came in during the night, and remained during the

day; and on the 25th a great many came in during the night, and left in the morning. On Dec. 25th we have the same return as on Nov. 21st; and Dec. 28th, 10 a.m., strong W.S.W. breeze, a great many came during the night. At Godrevy they are reported to be generally seen about.

CORMORANT, *Phalacrocorax*.—At Bull Point, Dec. 21st, light S.S.W. breeze, one (species not identified) flying W., and low to the water. Mr. Roberts reports that, at Bideford, “a few Shags visit to feed on the mussel-beds all the winter”; and, at Godrevy, Mr. Trahair says, “the Cormorant, or Shag and Large Gull (?), resort all the year round.” At Trevore Head they are reported as residents of the cliffs all the year round.

GANNET, *Sula bassana*.—At Morecambe Bay, earliest notice Aug. 26th, one flying N.N.W. before a mod. E.S.E. breeze. At S. Stack, during August and September, a great many were seen passing from N.E. to S.W. At Caernarvon Bay, Sept. 9th, fresh S.E. breeze, two flying S.; and on 11th, mod. W. by S. breeze, two flying S.; 25th, one flying W.S.W., mod. S.W. breeze: these occurrences noted about 10 a.m. in clear weather. At Helwick, Sept. 19th, 6.30 a.m., one male flying W., fresh W.N.W. breeze. At Sevenstones, Sept. 28th, light E.S.E. breeze, gloomy, eight, mixed, flying to N.E. At Helwick, Oct. 4th, 6.40 a.m., fresh E.S.E. breeze, gloomy, two flying S. to N.E. No further occurrences are reported till Nov. 20th, when, at Scarweather, two passed up S.E., mod. N.E. breeze; and on 21st, with S.E. breeze, four passed S.E.; 27th, strong W. breeze, seven passed in different directions; Dec. 6th, two passed N.E., mod. W.N.W. breeze; 12th, four N.E., a fresh W.N.W. breeze. These instances all occurred in the daytime. Mr. Trahair reports that, at Godrevy, “from middle of December to middle of January several about, not flying in any particular direction”; and, again, “a great number of sprats about,—the Gannets appear to be after them,—more so than on the coast, through the influence of the weather.”

TERN, *Sterna* (? sp.).—At Air, Oct. 12th, a large quantity of Sea Swallows seen, mod. N.E. breeze, gloomy, clear; the same on Oct. 12th, gentle E. breeze.

GULL, *Larus argentatus*, *L. canus*, *L. tridactylus*.—From S. Stack we hear that, on Aug. 10th, Gulls left after breeding. At Bideford, Sept. 1st, hundreds of common Gulls are reported as

coming every day (presumably from this date) from N.W., with Sea-pies and Curlews, from half-ebb to half-flow. At Bishop Rock, Sept. 6th, in calm weather and clear, a "Mackerel Bird" (? young Kittiwake) struck (11 p.m.), but was not killed; and on 7th, 1.30 a.m., another struck. At Usk, from Sept. 7th to Oct. 8th, large numbers of Gulls (on one occasion three varieties) seen, with Curlews and Stints. At Caldy, Sept. 9th, Grey Gulls seen; 10th, about a hundred Gulls, with the note, "Bred on the island, and constantly passing." At N. Stack, Sept. 11th, fourteen (six males and eight females) flying S., mod. S.W. breeze. At Nash, Sept. 13th and 20th, 6 p.m., from both stations large flocks were seen passing W., with fresh W. and W.N.W. breeze. At N. Stack, Sept. 17th, twenty-five (thirteen males and twelve females) are reported as flying N.E., before a strong S.W. breeze; 25th, a flock flying S., mod. S.W. breeze. At Caldy, Sept. 29th, 10 p.m., one White Gull appeared; fog and light S.E. breeze. Except Usk, the only notices in October are from Nash, where at both stations, on five or six occasions, flights of Gulls and young Gulls were seen passing N. or N.W.; wind various, but more or less easterly. At Caernarvon Bay, Sept. 30th, 4.15 p.m., a flock passed E.S.E., with strong S.W. by W. breeze. We have no return in November. In December one occurrence alone is noted:—At Nash (E. or high), Dec. 16th, 10 a.m., four passed N., fresh E.N.E. breeze; Jan. 9th, a small flock of Gulls passed N. At Bull Point, Jan. 11th, 4 p.m., twenty-six Grey Gulls passed, flying S.W., rather high; mod. N.W. breeze, cloudy, squally, and snowy. At St. Bees, Mr. Pizey, speaking of the scarcity of birds, says, "Even the Common Gull only makes an appearance just before heavy weather, or in following the plough, and then in but small numbers." From Godrevy Mr. Trahair reports, "Very few Skua Gulls (*Lestris*) observed this season."

PETREL, *Thalassidroma pelagica*.—At Godrevy, Sept. 28th, 9 p.m., one struck, fog, light S. breeze; Oct. 4th, from 1 to 2 a.m., mod. E.N.E. breeze, one was seen with a Lark and Wrens. Mr. Trahair adds, "Breeds on the island, most plentiful in July; never seen in daytime, except among loose stones, where they breed."

*DOTTEREL, *Charadrius morinellus*.—Reported to be seen at Smalls, every day from October to January, with various Gulls.

Besides the above, we have a few instances of birds unknown, of which, perhaps, the most puzzling is reported from Longships, Sept. 8th, midnight, mod. S.S.E. gale, misty, with showers, "one strange bird, the shape and size of a Starling, pattern and hue of a Partridge, with its legs covered over with stiff feathers." At Godrevy, Oct. 4th, two foreign Wrens (? Goldcrests) killed, with Lark and Petrel. At Skerries, Oct. 13th, 16th and 17th, flocks of small birds passed during the day, flying E. At Smalls, Oct. 26th, before sunrise, birds unknown passed; Nov. 3rd, before sunrise, continuous flocks were flying round the light, three struck and fell overboard, mod. E. breeze, cloudy, but clear horizon. At N. Stack, Nov. 12th, 7.35 a.m., fresh W. breeze, cloudy, two flocks of birds, name unknown, flying N.E.; 26th, 3 p.m., mod. S.W. gale, drizzling rain, fifty grey birds passed, also flying N.E. On Jan. 16th, we hear from Longships, that at 8.15 a.m., gentle W. breeze, cloudy, but clear horizon, "flocks of small birds were noticed at sunrise passing westward, leaving the land, upon a change of weather from a sharp frost and snow, and a change of wind from E. to W."

The stations are not all equally favourably situated for observing, and a general scarcity of birds is reported from the following:—St. Bees, Mr. Pizey writes that, for over five years that he has been there, he has remarked "the extreme scarcity of birds of any sort. . . . As for flocks of birds I have never witnessed them here, an occasional Robin, Blackbird or Thrush being all the variety we see. . . . Common Sparrows few in number." Mr. G. Knott says, "very few birds are seen at Bull Point." From Flatholm and Usk we hear "very few land-birds are seen, and at the former only Gulls, and they in the three winter months alone." "The lighthouse at Avon is so close to the docks and village that no birds come to the light"; and that at Burnham, having "only four panes facing west, does not attract many birds." "The land-birds to be seen in the immediate neighbourhood of Trevoise Head are very scarce." From Wolf Rock Mr. Crask writes, "Hardly ever any birds come nigh us but Gulls, which come by thousands after fish; the only others ever seen being Starlings, and these few and far between."

Some stations report a marked scarcity during the past, in comparison with other years. Thus, from Holyhead, Mr. Prichard writes, "Being a very mild winter have not seen

anything of note; not a bird striking this winter." At Bardsey the inhabitants say they "never observed so few birds before;" and Mr. Bowen suggests that "the fog-horn sounding may prevent birds striking." With respect to this we hear from Skerries that "few birds have been seen since they had a fog-horn." At Morecambe, Caernarvon, and other stations where there are fog signals, however, we hear of birds striking or killed. At St. Judwalls the entire absence of Starlings for the whole winter was remarked. (Pigeons were seen here from second week in May to first week in August.) From Nash it is reported that "during November and December sea-birds were very scarce, and all birds singularly scarce at latter end of October, and extremely so during the nights both of September and October; and, again, all sea- and land-birds have been more scarce during the nights of the present winter than ever I recollect" (John Richards). Mr. Nicholas attributes it to the very mild winter. From Smalls we hear that during December no birds were seen about the lighthouse. From Hartland Point Mr. Griffiths writes, that "for twenty-five years he had always seen and caught birds, but not this year; nor have any struck, as in other years." At Burnham (Aug. 14th) and at Usk (September) a Land Rail only bird killed.

Concerning the circumstances under which birds strike, the returns bear out the conclusions expressed in last year's report, that dark or cloudy nights, with fog, haze or rain, are most hazardous. Three or four exceptional instances are recorded of striking in daylight. October and November appear to be the most dangerous months, and South Bishop the most deadly station. Mr. T. Bowen writes, from Bardsey, that "birds strike in general *with* the wind; without, very rare exception." Mr. Crask, from Wolf Rock, in reply to a question on which side they strike, writes, "when they strike the lantern it is generally N.W." Other stations have not noticed.

Of the species reported on, the Starling has received by far the most notice; and next come Larks, Crows, Wild Ducks, Gulls, Thrushes, &c. Possibly some of the notices may refer to local migrations, or movements from one feeding-ground to another.

The notices of the *Anatidæ* are all in the daytime. The direction of their flight (seldom recorded) is, sometimes, directly

N. and S.; but, to judge merely from the few recorded instances, the prevailing direction at the following stations is N. or north-easterly—towards the land: Caernarvon, Helwick, and Scarweather. At Smalls it appears to be, towards the Bristol Channel, S.E. At Nash, Godrevy and Sevenstones it is W.; while at Morecambe Bay it varies very greatly. The lines followed by the *Insessores* are difficult—with data supplied by one year only—to make out, but seem to be towards the mainland or along the coast. The following are the chief instances where the direction is reported as being from the land:—South Stack, Oct. 29th, 30th, 31st, Starlings flying N.W.; Bull Point, Oct. 13th, Black Crows flying W.; South Bishop, Nov. 2nd, Blackbirds, Larks, Starlings and Thrushes flying N.W.; Scilly, Oct. 13th, Fieldfares flying W.; and at Wolf Rock, Jan. 16th, and Sevenstones, Jan. 11th, two large flocks of Lapwings flying W.

The returns seem to support the conclusion expressed in last year's report as to birds preferring to migrate with a "beam" wind, or even a point or two abaft of beam.

ERRATUM.—Page 65, line 3, for N.E., read N.W.

