

Supplementary note on the great auk or garefowl (*Alca impennis* Linn) / by Symington Grieve.

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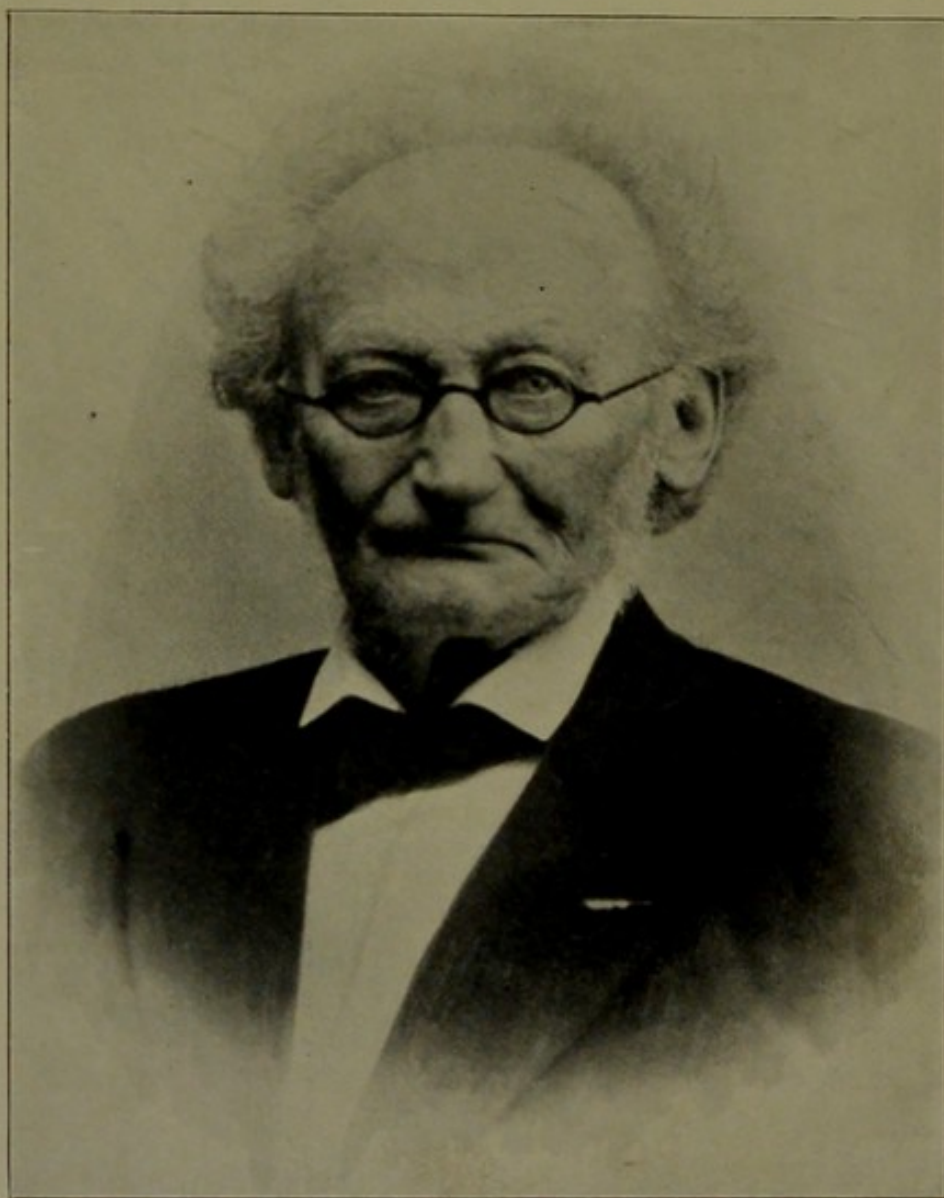
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PROFESSOR J. JAPETUS S. STEENSTRUP.

Born 8th March 1813: died 20th June 1897.

(See p. 272.)

VIII.—SUPPLEMENTARY NOTE ON THE GREAT
AUK OR GAREFOWL (*ALCA IMPENNIS* LINN.)

BY MR SYMINGTON GRIEVE.

(Read March 24, 1897.)

To some of you it may seem a waste of valuable time to write anything more about the Great Auk or Garefowl, so much has been done to record all that is known about it. To those who are only slightly acquainted with the history of this bird, such an opinion would seem, no doubt, quite reasonable. But others who have given more attention to the subject are better informed, and are aware that from time to time discoveries are being made of remains under extraordinary circumstances that are of sufficient interest to cause columns to be filled in the daily press and magazines about the Great Auk. In addition, there is a constant change of specimens going on, principally eggs; and these need to be traced to new resting-places or they will be lost sight of altogether.

Certain purchasers, under some mistaken idea, are very reticent about the price they pay for alcaine remains. If they fully realised the advantage to themselves should they or their heirs ever wish to sell their collections, they would only be too glad to have all the information that is known recorded, as the value of such rarities is thereby much enhanced. I am glad to be able to say that what I have just remarked refers to the very few, as in my large correspondence with possessors of such remains I have in the great majority of cases been furnished with the fullest information, for which I have to thank these collectors.

Since I read my last paper upon the same subject to this Society in November 1887, a number of events have occurred that are worth recording; hence I trouble you upon this occasion.

When the sale of the egg of *Alca impennis* Linn. which belonged to Mrs Wise took place on 12th March 1888, the egg was sold for £225, as mentioned in these 'Transactions.'¹ This

¹ See 'Trans. Edin. Field Nat. and Micro. Soc.,' vol. ii. p. 114.

sale created a great deal of interest at the time, and was referred to by all the leading journals. 'Punch,' in its issue of 24th March 1888, p. 153, thus refers to this event:—

A Golden Egg again.—Another Great Auk's egg has just turned up, been put up to Aukshun, and knocked down again, without being smashed, fortunately, frail a curiosity as it was to come under the hammer. Mr Stevens of King Street, Covent Garden, sold a very fine egg of the Great Auk for £225. . . . This one egg was ultimately taken to a good market, and was sold for the sum mentioned. We hope it has reached its destination in safety. An accident might happen from mere Aukwardness. Some of us will be wishing that we had a private Auk, of a sporting turn, who would lay heavily occasionally. We wouldn't kill him to see how the trick was done.

On 25th March 1888 Mr R. Scot Skirving sent me the following from his pen. He says "it is a mere pun." It also refers to the egg sold by Mrs Wise:—

"Mrs Wise, you were wise to keep open your eyes
To the value of *Alca impennis* :
Few eggs gain by keeping, whatever their size,
But *Alca*'s will keep you in pennies."

At the exhibition of pictures at the Royal Academy, London, in 1892, was one by Mr H. S. Marks, R.A., named "The Collector's Treasure: The Great Auk's Egg." The picture is admirably drawn, but unfortunately the costumes of the two gentlemen who appear in the scene would lead one to believe they lived in the thirties of the present century, when eggs of the Great Auk were of comparatively little value, instead of in the nineties, when the eggs had become precious. Prints of this picture appeared in 'Royal Academy Pictures,' 1892, and also in the 'Illustrated London News,' 30th April 1892.

In the 'Zoologist' for 1895, p. 285, Mr J. Steel Elliot says:—

The old grey-bearded man Lachlan M'Kinnon, mentioned by Mr Dixon as having taken part in stoning to death a Great Auk on Stack-an-Armin, was, I am sorry to say, dying when I left the island. An interview with him would have been useless, as I was informed his memory had left him for some time. The natives told me of a ledge on Soa named after the bird, which it is said to have frequented in the breeding-season.

(See also 'Trans. Edin. Field Nat. and Micro. Soc.,' vol. ii. pp. 97, 98.)

An early notice and figure of the Great Auk, by Mr Miller Christie, F.L.S., appeared in the 'Zoologist' for 1894, p. 141. This article is well worth perusal, and gives a quaint reproduction of a picture of two *Alca impennis* Linn. as they appear in the 'Fourth Book of John Sellers, English Pilot' (London, folio), a work which went through a number of editions in the latter part of the seventeenth century and throughout the eighteenth. The first edition, which was published about the year 1673, does not contain the passage, which first appears (so far as I have been able to discover) on p. 17 of the edition of 1728. It occurs among some directions for sailing upon the coast of Newfoundland.

For many years past alcine remains have steadily increased in value, but the market, probably owing to the high prices such natural history relics realise, is a somewhat limited one. As in all other commodities, an increase in the supply at once depresses the market, and although such increases of supply of Great Auk skins, bones, and eggs must be in the nature of things very slight, still a much more violent fall in prices follows such slight increases than in any other wares I am acquainted with. For instance, quite recently the market in Great Auk eggs was depressed owing to the supposed possibility of a number of eggs in the collection of a deceased collector sooner or later being offered for sale. I have every reason to believe that the collection referred to will remain in the family who at present possess it, and there is no likelihood of its coming on the market. Since the above was written I have a letter from Miss Champley, Scarborough, dated 27th January 1897, who says: "I do not purpose at present selling my nine eggs of the Great Auk, and shall be glad if you will kindly state the fact."

To most people interested in natural history, it would seem that much more interest attached to skins, skeletons, or individual bones of the bird than to its eggs. The last teach little regarding the habits and structure of the bird compared with the others. Yet the prices obtained for eggs are about as high as those obtained for skins, and quite out of all proportion higher than any price obtained for skeletons or bones. At first sight it is difficult to account for this, but a little reflection will prove that a great many have room for

ological collections when they have no room for stuffed birds; and to some who look upon Great Auk eggs more as curios than rare natural history specimens, the bones and skeletons, even if the latter were obtainable, savour too much of the graveyard for the tastes of the ladies of the household. These remarks, of course, only apply to private collections, but it is to such collections that almost all the Great Auk eggs offered at public sales during recent years have gone. The fact is, that even our great public museums have to stand aside when they have to buy against the offers of rich private individuals.

The eggs vary considerably in their markings, those with blotches being much more common than those with streaks or pencil lines. Some eggs have the markings only faintly seen outside the shell, and many eggs are more or less damaged. For instance, the Hill egg that came from Poole in Dorsetshire, and was purchased by Lord Lilford, and is now in the Cambridge Museum, has one end broken off, but is nevertheless a fine egg from its markings. The egg now in the possession of Mr Middlebrook, London (see p. 262), purchased at Stevens' Rooms, London, 27th July 1897, is also said to be slightly cracked. It is, however, believed to be a fine specimen.

I find the following in my diary, 20th May 1889, when I visited the National Museum, Smithsonian Institution, Washington, U.S.A., and was shown the splendid collections by my friend Mr F. A. Lucas: "I was taken by Mr Lucas to the egg-room. A young lady in charge most courteously showed me the egg of *Alca impennis* Linn. The egg has been much damaged, and is patched up with putty or stucco, tinted outside to make it approximate to the colour of the ground pigment of the shell. There has been no attempt to put on blotches or pencil lines on the artificially restored parts. Much of the shell has been broken away, at one end especially. The shell, to my eye, seemed very dirty, and I have no doubt a careful washing would quite alter the appearance of this egg, which may be described as a blotched variety not pencilled" (see p. 263).

In the fine collections in the New York Natural History Museum near the Central Park there is no egg of the Great Auk, but they have endeavoured to make up for this want with a model.

Since I read you my last paper, three previously unrecorded eggs have been discovered. The first of these was found in the collection of Mr S. E. Shirley, at Ettington Park, Stratford-on-Avon (see p. 263). It had been labelled as the egg of a penguin, and had remained unnoticed for some eighty years. The other two eggs were accidentally discovered at a sale, and their purchase created quite a sensation in oological circles in the spring of 1894. Notices appeared in the leading daily papers and journals when these eggs were again offered for sale at the auction rooms of Mr Stevens, Covent Garden, London, on 24th April 1894. As might be expected, a number of the stories put into circulation varied considerably, but the following account, which appeared in the 'Morning Advertiser' of 25th April 1894, is as accurate as any that appeared in the daily press:—

Sale of Great Auk's Eggs.—Yesterday afternoon, at 38 King Street, Covent Garden, Mr J. C. Stevens sold by auction two recently discovered eggs of the Great Auk. In submitting for sale the first of these lots, the auctioneer said the egg was one of the very finest of its type, and had been most carefully blown. It was slightly cracked, but the fracture, he remarked, was imperceptible to himself. The owner of the eggs, the auctioneer went on to say, purchased them at an auction in the south of England, together with some fossils, for the sum of 36s. Considering that he tied them in his pocket-handkerchief and rode home on his bicycle with them, it was wonderful they were not broken to pieces. The bidding started at 50 guineas, and rose by tens to 160 guineas, and from that by tens and twenties until 260 guineas was reached, at which price the egg was knocked down to Mr Herbert Massey. The auctioneer expressed great disappointment that the egg had not realised more than one sold recently by him for £300, as he considered this a far better specimen. The next lot submitted, though also a Great Auk's egg, was a specimen of an entirely different type, and almost unique in its markings. It was damaged to a somewhat greater extent than the other, but the dilapidations were not noticeable when it was lying in a cabinet. The bidding started at 30 guineas, and advanced by tens to 150, afterwards progressing by fives to 175 guineas to a private collector, who did not wish his name mentioned (see p. 260).

The most reliable account is, however, that of Mr Edward Bidwell, which appears at p. 422 of the 'Ibis,' July 1894:—

At the disposal by auction of the contents of the Little Hermitage, near Rochester, on 14th of March last (1894), one of the lots, which was described "a collection of shells and fossils," was purchased for 36

shillings by Mr Wallace Hewett of Newington, Kent, who, previous to the sale, in looking at the fossils, had recognised an egg of the Great Auk lying amongst them.

After the auction, upon obtaining possession of his purchase, he was surprised at finding a second egg of this bird at the bottom of the box. To make assurance doubly sure, Mr Hewett took these two eggs to the Natural History Museum and submitted them to Dr Bowdler Sharpe, who confirmed his identification, and very kindly sent him on to me. From the dirty condition of the eggs, it was quite certain that they had been neglected for many years. The smaller one had a hole on one side, the edges of which were as dirty as the rest of the egg, showing it to have been an old injury. Both had recent fractures, which was hardly to be wondered at, considering the rough treatment. . . .

I regret to say that I have been unable to trace the history of these eggs previous to the sale of March 14th (1894).

In my former paper, at p. 113 of vol. ii. of these 'Transactions,' I referred to the reported story of the Dorchester or Hill Egg. Since that time I discovered that a relative of my own was acquainted with the Hill family, who now reside at Longfleet, Poole. I asked the gentleman to obtain for me all the information possible, and he sent me a long report, dated 24th August 1890, of which the following are the portions that seem to me of special interest:—

"I have twice called upon Mrs Philip Hill and Mrs Rose. Mr Philip Hill being in a dying condition, I did not interview him, as I had much of the following information from him while he was able to speak. I may here mention that Mr Philip Hill died to-day, 24th August 1890.

"I will now give you my rough notes, taken down in pencil while I questioned the two ladies above mentioned. The egg belonged to Mrs Philip Hill's grand-uncle, Mr James Way. How he came to possess it they don't know. He had to do with the Newfoundland fisheries. Beyond that they know nothing. In his will, dated 3rd day of January 1816, he is described as 'gentleman of Middlesex.' He married a Miss Watt, said to be related to Isaac Watt. The egg descended to his son, James Henry Way. The date of his death is not remembered, but a stone is erected to his memory in Kinson churchyard. Then it went to his sister, Miss Betty Stone Way, who died 25th January 1879. In 1872 Miss Betty Stone Way gave the egg to Miss Eliza Hill (eldest daughter of Mr Philip Hill), who is now Mrs Rose. At the

same time she gave her two emu eggs. These got broken by accident, the Great Auk's egg escaping destruction, although it was broken when she got it.

"Miss Betty Stone Way was an old friend of Miss Eliza Hill, and, seven years before she died, said one day, 'I would like Eliza to give you something that belonged to James—he was fond of you. Go and fetch the three eggs, and I will give them to you,—he thought them valuable, or prized them.'"

It is evident that the Way family at the beginning of this century had connections with Newfoundland, for Mr Joseph Way, a brother of old James Way, states in his will that he made it prior to taking a voyage to Newfoundland.

The late Mr Philip Hill was a farmer at Pimperne, near Blandford. The Rev. Mr Walker, Curate of Pimperne (now Rector of Spettisbury), saw the egg in Mr Hill's drawing-room at Pimperne. He asked Mr Hill's son if it was a real egg. The boy went and asked his mother if it was real. The Rev. Mr Walker then told them that it was worth £100—that imitations were made and put up in drawing-rooms. Mr Hill going up to London shortly afterwards, took it to the Natural History Department of the British Museum, Kensington. He saw Dr R. Bowdler Sharpe, who informed him that it was a real egg, and wished that he could afford to buy it. Mr Hill left the egg, telling him to do the best he could with it. Next morning Mr Hill got a cheque for £50 from Lord Lilford.

The name of the Great Auk is evidently one to conjure with, if we may judge by an announcement which appeared in 'The Naturalists' Gazette,' February 1891, a trade journal printed in Birmingham. It is headed "An Oological Expedition to the Land of the Great Auk." The prospectus goes on to explain a scheme for obtaining subscriptions to be used for sending a trained oologist to the Shetland Islands, which are described as an oologist's paradise. It says, "If the season is a pretty fair one, a haul of at least 20,000 eggs (including many rare varieties) may be expected." Fortunately this plundering expedition was prevented by the efforts of Mr J. A. Harvie Brown and others.

During the last ten years comparatively little has been

added to the literature upon the Great Auk, but at least two important and interesting papers deserve notice. The first came from the pen of Mr Frederic A. Lucas, osteologist, of the United States National Museum, Washington. It was published in 1890 by the Government Printing Office, Washington, from the report of the National Museum, 1887-88, pp. 493-529. It is entitled "The Expedition to Funk Island, with Observations upon the History and Anatomy of the Great Auk." The paper is illustrated with several plates, and contains a map of Funk Island, showing the landing-places, and also the part of the island at which the remains of the Great Auk are found. There are also interesting diagrams in connection with remarks on "Skeletal Variations of the Great Auk." Much information is given regarding the Bird Islands in the Gulf of St Lawrence, as well as Funk Island, off the coast of Newfoundland, and other probable breeding-places. In a note to p. 494 Mr Frederic A. Lucas refers to Apponath as a name for the Great Auk. He says, "The name Apponath, according to Carthiers, was applied by the natives to a species of bird, supposably the Great Auk, that he found in great abundance at the Island of Birds (Funk Island)." These natives were very likely the Beothucs, although, making due allowance for the twists which a word receives in being adopted into a new language, the term Apponath may have come from the Eskimo word *agpa*, an auk. The Eskimo for the Great Auk was *isarokitsok*, "he that has little wings"; for Little Auk, *agparak*. For further information on the name Apponath see 'The Great Auk: its History, Archæology, and Remains,' p. 135. Crantz's 'History of Greenland,' vol. i. p. 84, says, "*Akpa*, vulgarly called awks."

The second paper appeared in the 'Journal of Anatomy and Physiology,' vol. iii. Part I., October 1888, pp. 1-39, and is written by R. W. Schufeldt, M.D., C.M.Z.S. The paper is illustrated by five plates. It is entitled "Contributions to the Comparative Osteology of Arctic and Sub-Arctic Water-Birds." The observations upon the osteology of the Great Auk are founded upon a study of two of the skeletons that have been built up from bones collected at Funk Island by the Grampus expedition. Illustrations of the osteology of *Alca torda* Linn. are given on plates i. and ii. for comparison.

I have received from the author, Mons. M. H. Duchaussoy, a paper entitled "Le Grand Pingouin du Musée d'Histoire Naturelle d'Amiens," published in the 'Mémoires de la Société Linnéenne du Nord de la France' (tome ix., 1892-95), with plate of the Great Auk in the Museum of Natural History, Amiens. This paper gives a *résumé* of published information upon *Alca impennis* Linn., but refers in greater detail to alcyon remains preserved in France.

The occurrence of two Great Auks in Waterford harbour in 1834, and the capture of one of these alive, is referred to in 'The Great Auk: its History, Archæology, and Remains,' pp. 23, 67-70. The following paragraph, which appeared in the 'Graphic,' 5th August 1893, had escaped my notice, but was sent home to me from India by one of my numerous correspondents. The article is written by Sir Robert S. Ball, LL.D., F.R.S., and gives some interesting information regarding the Great Auk captured at Waterford, besides what is mentioned by Thomson, 'Birds of Ireland,' vol. iii. p. 238.

Dr Burkitt, of Waterford, an old acquaintance of mine, and one of the best known naturalists in Ireland, has just died at an advanced age. He was principally famous as an ornithologist, and his name will be familiar to the readers of Yarrell and Thomson, and other authors who have treated of the birds of Great Britain. The career of this veteran student of nature deserves notice, if for no other reason than that he was perhaps the last surviving man of science who possessed and studied a living specimen of a remarkable bird that has since become extinct. Now that Dr Burkitt has gone, where is the naturalist who can say he has ever seen more of the Great Auk than the bones or the skins or the eggs which form our carefully treasured relics of that notable fowl? Centuries ago this penguin-like bird, as large as a goose, abounded on many coasts in northern latitudes. Fly it could not, though it could swim and dive to perfection. But, unfortunately for so defenceless a creature, the fishermen of Newfoundland discovered that roasted Great Auk was an extremely good dish. The bird was thereupon slaughtered with such waste and thoughtlessness that it became speedily exterminated. The last specimens of the Great Auk seen near the British Islands appear to have been a pair which somehow found their way into Waterford harbour in 1834. Both of them were duly captured, and one was kept alive in the possession of Dr Burkitt for some months. Fish was, of course, its natural diet, and doubtless it was supplied therewith. However, on one occasion, some vagary of appetite tempted the captive to indiscretion in the matter of potatoes, and a fatal attack of indigestion supervened. Thus lamentably perished the last Great Auk in the British Islands, if not, indeed, the very last sur-

vivor of his race the world over.¹ His skin was duly stuffed, and assigned an honoured place in Dr Burkitt's private museum. Even then a stuffed Great Auk was a valuable commodity in hard cash; and so it came to pass that his specimen was sold about the year 1850 to the Museum of Trinity College, Dublin, for £50. My father was at that time Director of the Museum, and I have a childish recollection of his delight at the acquisition of this great bird, whose characteristics he did not fail to impress upon us.

The last episode in this little history I must now mention. As the decades have slipped away, and the suspicion that the Great Auk was probably extinct became superseded by the knowledge that it certainly was so, the value of an admirable stuffed specimen increased by leaps and bounds. The authorities of Trinity College, Dublin, thus realised that their investment of £50 had now become worth, perhaps, twenty times that sum. This had a double effect. It ensured a new and handsome case, and a dignified and conspicuous position in the Museum, for this valuable remnant of a vanished race. But the authorities of the University also recognised the excellent bargain which had been made by their predecessors forty years before. In consequence thereof they becomingly conferred a Great Auk pension on the venerable savant, Dr Burkitt, which, unhappily, he did not live long to enjoy. The dismal tragedy of nature is hastening to its close. What has happened to the Great Auk is only one out of many instances in which races of striking and beautiful creatures are being, or have been, savagely exterminated by man. Can nothing be done to arrest the progress of that irretrievable desolation which threatens our globe? The prospect is inexpressibly saddening to every lover of animal forms.

It is not very easy to realise the effect upon the market for Great Auk remains if it were ever announced and authenticated that the Garefowl was not yet extinct. Every day that passes makes such an event less and less likely, but some observers of sea-bird life have not yet lost hope. Such notices as the following, which appeared in the 'Oban Times' of 11th July 1891, tend to perpetuate such hopes, although their fulfilment seems as distant as ever. I am indebted to Mr Bishopp, naturalist, Oban, for a copy of this paragraph, the part of which referring to the Great Auk is here given. The paragraph is headed "Interesting Facts about St Kilda," and in continuation says:—

Among the passengers on the homeward journey by the Hebridean s.s. were two of the islanders, Donald Ferguson, and Alexander Ferguson, his

¹ The last recorded living Great Auks were killed on Eldey, off the coast of Iceland, in June 1844. See 'The Great Auk or Garefowl: its History, Archaeology, and Remains,' p. 21.

son. The latter is a very intelligent young man of nineteen years, and extremely fond of watching and taking notes of the habits of wild birds frequenting the island. He is described by Mr Thomson in his pamphlet, 'A Cruise off the Western Hebrides,' as the "*rara avis* of St Kilda." Alexander Ferguson takes a keen interest in natural history, and has made authentic notes of the arrival and departure of the various species of birds that frequent that lonely island. Strange to say, last summer many of the islanders together with Ferguson noticed a pair of birds similar in shape to the razorbill, but twice the size of that bird. They were unable to get close enough to identify those birds. The description, however, tallies with the extinct Great Auk. Can it be possible that these birds were the Great Auk? To obtain a single specimen of this species of bird would be a small fortune to any one.

In a former paper to this Society I referred to models of the Great Auk.¹ In a letter dated 6th October 1888, Dr J. E. Harting of the Linnean Society, London, and Editor of the 'Zoologist,' drew my attention to the description of a model Greak Auk which appeared in his magazine in 1880, p. 516, and which was written by Dr Harting himself. He also mentioned to me the model offered for sale at the auction rooms of Mr J. C. Stevens, 38 King Street, Covent Garden, London, 21st August 1888, lot 116, which Dr Harting says was described as follows: "A feather model of the Great Auk, constructed from observations made from genuine specimens in the possession of Viscount Hill, John Crocke, Esq." (evidently John Rocke is intended), "and Mr Foljambe respectively, and made according to Yarrell's description of the true bird." In reply to my inquiries, Mr J. C. Stevens kindly wrote me on 19th March 1897: "I find a model of the Great Auk was offered for sale 21st August 1888. The reserve price was £30, and I believe I had a bid of £20 for it. It was, as far as I can remember, a very perfect model. Another model was offered about eighteen months ago, but that I failed to get a purchaser for."

On the 19th October 1888 I called with my wife at the shop of a dealer in London who was quite a stranger to me, but who had at that time in his possession an egg of the Great Auk. I found that the dealer was not in, and that the egg I wanted to see was at another place of business of his. The manager, however, said they had another egg of

¹ 'Trans. Edin. Field Nat. and Micro. Soc.,' vol. ii. p. 118.

the Great Auk for sale, and that he would let me see it. He went into the back-shop, and soon returned with an egg in his hand which I saw at a glance was too small for that of a Great Auk, and was evidently an abnormally large egg of the razorbill (*Alca torda* Linn.) I told him he must know it was not an egg of the Great Auk, and after some hesitancy he had to admit the fact, and then closed the conversation by saying he thought I must be Mr Champley.

GREAT AUK REMAINS.

SKINS.

Austria.

Prague.—Dr Anton Fritsch informs me, in a letter dated 1st March 1897, that the adult *Alca impennis* in the Bohemian National Museum was purchased by him for £5 at an auction in Carlsbad. This is the skin that was presented by the King of Denmark to Baron Feldegg (see p. 77, and App. p. 21, 'The Great Auk or Garefowl,' &c.)

British Isles.

Edinburgh Museum of Science and Art.—The splendid skin lately in the Leeds Museum on loan from Sir F. Milner was offered at public sale at the rooms of Mr J. C. Stevens, King Street, Covent Garden, on the 23rd of April 1895. The bidding started at 100 guineas, and slowly rose to 350 guineas, at which price it was bought in, as the reserve price was understood to be 360 guineas. It was almost immediately secured for the Edinburgh Museum at the price at which it had been bought in—viz., £367, 10s. It is believed to be one of the finest skins in existence, and is said to be in summer plumage. For further particulars see 'Trans. Edin. Field Nat. and Micro. Soc.,' vol. ii. pp. 107, 108.

Tring, Herts: The Museum of the Hon. W. Rothschild.—There are two skins belonging to this collection.

No. 1 (see Plate III.)—This skin, it is said, came from either Brunswick or Mainz, where it was purchased by M. Boucard

of Paris and London, who sold it to Mr Leopold Field, 25 Brodrick Road, London, S.W., who offered it for £300 to the Museum of Science and Art, Edinburgh. Before sanction could be obtained from the Department at South Kensington for its purchase it was sold by the owner to Mr Rowland Ward, 166 Piccadilly, London—it was understood for £315. In a letter, dated 23rd December 1896, Mr Ward informs me that he paid 600 guineas for this skin and the Potts egg. The skin is still in the possession of Mr Ward; but the Museum at Tring will eventually be its resting-place, as it has been purchased by the Hon. W. Rothschild.¹

I had an opportunity of examining this skin when sent to Edinburgh on approbation. It was not in very good condition, but I understand has since then been thoroughly overhauled and put in as good order as possible. It appears to me to be exceedingly interesting, for the following reasons. It is the skin of an immature bird, and probably represents the third youngest specimen of the Great Auk known. The youngest bird known is in the Museum of Natural History at Newcastle-on-Tyne. The next youngest is probably the immature specimen in the Bohemian National Museum at Prague, Austria (fig. 8, plate 59, Vogel Europa's, Dr Anton Fritsch) (see Plate II.) The next in order of age is the specimen we are now writing about. Very few immature skins seem to have been preserved by the original collectors, as there is little doubt that large skins, those of adult birds, were most valued, as being more saleable, until it was realised that the Great Auk was on the verge of extinction.

No. 2.—This skin was in the collection of Count David de Riocour at Vitry-le-François, and is referred to at p. 79 and App. p. 24, 'Great Auk or Garefowl.'

During 1887 Mr G. A. Frank, London, had some corres-

¹ This is not either of the two skins recorded, 'Great Auk or Garefowl,' p. 79, and App. p. 7, as being in the Ducal Museum of Natural History, Brunswick, for both skins are still there, as the Director, Professor Dr Wilhelm Blasius, kindly informs me in a letter dated 30th January 1897. Neither is it the skin recorded as being in the Town Zoological Museum, Mainz ('Great Auk or Garefowl,' p. 79, and App. p. 16). The Curator, Herr Wilhelm von Reichman, in answer to my inquiries, was good enough to write me from the Natural History Museum, Mainz, 15th April 1897, "We have in the Museum at Mainz a most beautiful exemplar of *Alca impennis*."

pondence with Count David de Riocour about the purchase of his collection. He informed Mr Frank, in letters written from Vitry-le-Ville, Marne, and dated 19th, 22nd, and 27th September 1887, that he had only lately made up his mind to sell his collection if he got a suitable price. The collection contains 3000 specimens, but there is no catalogue. He says the specimens are thought very fine ones, and a considerable number served as type specimens to the naturalist Vieillot, who also partly aided in the formation of the collection. He was a friend of the family, and left by will to the grandfather of the present Count Riocour his unpublished manuscripts, which are still in the library, and are not for sale.

Among the other very rare specimens in the collection is a stuffed Great Auk. The price wanted for the collection is 40,000 francs. The collection was begun about the year 1819 by the great-grandfather of the present Count, who was aided by Vieillot, and was continued and augmented by the father of the present Count, who was a distinguished naturalist. Vieillot died about the year 1839, and his books are now said to be rare and much valued. The collection was at one time visited every year by M. Verreaux, who came to study the rarities it contained. At the foot of the stands on which the stuffed skins are mounted are said to be drawers which contain manuscript notes by different well-known naturalists regarding the specimens. The original letters are in French. Writing me on 25th October 1887, Mr G. A. Frank says, "The Count Riocour wishes to dispose of his fine collection, including one of the finest Great Auks known." This skin of the Great Auk came into the hands of M. Boucard, 225 High Holborn, London, who sold it to the Hon. W. Rothschild, who now has it in his museum at Tring.

France.

Paris.—At pp. 79 and 95 of the 'Great Auk or Garefowl,' the skin in the collection of European birds belonging to M. Jules Vian, Rue de Petits Champs 42, Paris, is referred to. I only recently obtained the address of M. Jules Vian, through the kindness of Prof. Dr W. Blasius of Brunswick. I placed myself in communication with M. Jules Vian, and on the 27th

February 1897 he wrote me in French, of which the following is a translation: "You ask me for information regarding the *Alca impennis* which I own. It is still in my almost complete collection of European birds. It is an adult in breeding plumage. I even regard it as a specimen of a bird well advanced in age, the upper mandible being marked with nine, the lower with twelve furrows. It is mounted, and has no borrowed feathers. I do not know its sex. The following information was given me fifty years ago by the stuffer of the bird. He said that it was one of a colony which laid their eggs on an inaccessible islet in the vicinity of Iceland;¹ that in 1830 a volcanic eruption covered this islet with its *débris*; that several specimens, dead or dying, were driven by the waves on the shores of Iceland, and were eaten; that he (my friend the stuffer) himself secured the subject of this letter while it was still alive. He kept it for several days on the ship which was returning to France; that it died on the way, and that he stuffed it during the voyage. In fact, its feathers, and the exact retention of its outlines and undulations, indicate a bird mounted while the skin was newly removed from the flesh" (see Plate IV.)

In answer to my inquiry for further information, M. Jules Vian, who is Honorary President of the Zoological Society of France, kindly replied on the 7th March 1897: "It was in 1847 that I saw for the first time the *Alca impennis* of which I am at present the owner. It formed part of the collection of Monsieur Oursel (father) of Havre. That collection was not very numerous, but it was composed of birds perfectly mounted, and indicated study of the forms, and especially of the heads. Accordingly, my *Alca* seems to me to have its head perfectly modelled after a bird that still retains its flesh. Monsieur Oursel, who had picked it up in Iceland and mounted it on the return voyage, furnished me at that time with circumstantial details, but I did not take any notes, as I did not then imagine that the bird would become part of my collection. I have nothing but recollections of fifty years ago, and my memory, which has been at

¹ This evidently refers to the Geirfuglasker, off Reykjanes, South-West Iceland, which became submerged during a volcanic eruption in 1830.—See 'Great Auk or Garefowl,' p. 20.

work now for eighty-one years, has no longer the strength of my early days.

"Monsieur Oursel (father) died a few years afterwards. I acquired the bird from Monsieur Oursel (son) in 1876, but Monsieur Oursel (son), who I believe was not born in 1830, and who had kept his father's collection without having personally any taste for natural history, was not able to give me any information. I do not know whether Monsieur Oursel (son) is still alive, but he sold all his collection in 1881.

"I did not know that some *Alcæ* had escaped from the volcanic eruption, and had taken refuge on Eldey. Monsieur Oursel (father) believed that they had all been destroyed.

"Some time from fifteen to eighteen years ago I had a visit from Monsieur Vouga (son), then just returned from Iceland. I had known his father Captain Vouga, and had some years previously paid a visit to his beautiful collection of birds at Cortaillod near Neuchatel (Switzerland). I had there seen a beautiful specimen of the *Alca impennis*, of which a drawing was given by his son in 1868 in vol. ii. Part I. of the 'Bulletin de la Société Ornithologique Suisse,' published at Geneva. Monsieur Vouga (son) had gone to Iceland expressly in order to try and find eggs or skeletons of the *Alca impennis* on the islet that had been covered by the volcanic eruption, but he was not able to find sailors who would consent to make a landing on the islet. It appears that this islet is the centre of a rapid current, and that it is surrounded by rocks more or less level with the surface of the water. Monsieur Vouga contented himself with ransacking kitchen-middens covered over with earth, and brought back many bones of the *Alca impennis*, but mainly the principal bones. I do not think that he managed to piece together entire skeletons.

"Some forty years ago my attention was twice attracted by the announcement of a capture of the *Alca impennis*, but when I went to verify the fact I found that in each case it was a *Colymbus glacialis*. On the sea especially, the two birds could easily be confounded by seamen who were not naturalists."

United States.

Washington: United States National Museum.—This specimen is figured at p. 533 of the Report of the United States National Museum, 1887-88, by Mr Frederic A. Lucas. In a note the writer says: "Wilhelm Schluter, of Halle, Germany, from whom this Auk was procured, gives its history as follows. It was obtained by Mr Salmin of Hamburg from Iceland; by him sold to a merchant of Hamburg, who sold it to Mr Geotz of Dresden, who in turn parted with it to Mr Schluter. In the United States National Museum catalogue of birds it is recorded as ♂ ad. Eldey June 1834.

"Since the photograph was taken from which the accompanying plate was made,¹ the specimen has been remounted in a different attitude and shortened between two and three inches. It is still like nearly all mounted skins, considerably too long, but could not be shortened any more without cutting the skin—a proceeding that, under the circumstances, was deemed inadmissible. Before remounting, a full-sized figure of the specimen was made."

SKELETONS.

Australia.

New South Wales: Sydney.—A skeleton built up from bones obtained from Funk Island, Newfoundland, by the United States Grampus expedition. The authorities of the Sydney Museum of Natural History obtained this skeleton from the authorities at the United States National Museum, Washington, by exchange.—(See Report of the United States National Museum, Washington, 1887-88, by Frederic A. Lucas, p. 516. Also see 'Trans. Edin. Field Nat. and Micro. Soc.,' vol. ii. p. 109.)

British Isles.

Cambridge: The Natural History Museum.—Professor Alfred Newton kindly informs me, in a letter dated 16th

¹ This refers to the plate which accompanies Mr F. A. Lucas's Report.

March 1897, "The late Lord Lilford generously gave to our Museum the skeleton of *Alca impennis* which had been mounted from bones obtained on Funk Island by Mr Milne."¹

The skeleton mentioned in former lists as at Lilford Hall, Oundle, must now be recorded as above.

Edinburgh.—The skeleton in the Museum of Science and Art was built up from remains found at Funk Island by the United States Grampus expedition in 1887. It was obtained by Mr Edward Gerrard, jun., of London, from the authorities at the United States National Museum, Washington, in exchange for some natural history specimens.

Germany.

Dresden.—Writing me on the 9th February 1889, Dr A. B. Meyer, Director of the Royal Zoological Museum, says: "This Museum contains, besides the skeleton of *Alca impennis* Linn. which you mention in your valuable work at p. 82, detached bones of the same, which would constitute an over-complete skeleton. These bones were bought by me, together with the bones of which I combined a skeleton, as you note at p. 100" ('The Great Auk: its History, Archæology, and Remains').

United States.

Cambridge, Mass.: Museum of Comparative Zoology.—In a letter dated 31st January 1897, Mr Frederic A. Lucas, Osteologist at the National Museum, Smithsonian Institution, Washington, informs me that one of the skeletons prepared from the collection of the United States Grampus expedition is now in the above Museum. This skeleton must not be confused with the Mummy Great Auk also in the Cambridge collection (see 'Trans. Edin. Field Nat. and Micro. Soc.', vol. ii. p. 110). At p. 515 of the Report of the United States National Museum, Washington, 1887-88, by Mr Frederic A. Lucas, it is mentioned that this skeleton was presented to the Museum at Cambridge, Mass.

New York: American Museum of Natural History near the Central Park.—There is in this Museum a skeleton prepared

¹ Now Professor J. Milne of earthquake fame.

from the remains obtained from Funk Island by the United States Grampus expedition in 1887. I have seen this skeleton. It is mentioned on p. 515 of the Report of the United States National Museum, Washington, 1887-88, by Mr Frederic A. Lucas, that it was presented to the New York Museum.

Washington, D.C. — My friend Mr Frederic A. Lucas, Osteologist of the Smithsonian Institution, writes me on 31st January 1897, that of the material obtained by the United States Grampus expedition about twelve skeletons in all will be built up. Of this number four have already been parted with, which have gone to Cambridge (Mass.), New York, Edinburgh, and Sydney, N.S.W., so that only eight skeletons now remain at the Smithsonian Institution. Of the eight skeletons, it is mentioned at p. 516 of the Report of the United States National Museum, Washington, 1887-88, by Mr Frederic A. Lucas, that "two skeletons are retained for the reserve series of the Museum."

DETACHED BONES FOUND IN IRELAND.

Although the Great Auk as a living bird was previously recorded from the coast of Ireland, it is only within the last few years that the bones have been discovered in the sandhills of Whitepark Bay, County Antrim. The discoverer, Mr W. J. Knowles, points out that the old surfaces of the sandhills, with their shells, broken bones, and implements, are really kitchen-middens.

Mr Knowles, in the 'Proceedings of the Royal Irish Academy' (3), vol. i., No. 5, 1891, records the finding of two humeri of the Great Auk; and again in the same 'Proceedings' (3), vol. iii., No. 4, pp. 650-663 (Dec. 1895), mentions the discovery of a number of bones in conjunction with human remains, which Mr Knowles believes to be those of the earliest Neolithic inhabitants of Ireland. Mr Knowles remarks that "from the number of bones [of the Great Auk] which have been found it must have been a common inhabitant of the north of Ireland at the time when the people of the Stone Age occupied Whitepark Bay and other parts of the coast."

The foregoing information appeared in the 'Irish Naturalist' for May 1896, in a paper written by Mr G. E. H. Barrett

Hamilton, B.A., and I am indebted to Professor Alfred Newton of Cambridge for kindly sending me his copy of this paper to take my notes from.

Having read in the notice in the 'Irish Naturalist' that the bones of *Alca impennis* had been identified by Mr E. T. Newton of the Geological Survey, I wrote that gentleman asking him to oblige me with further information. He kindly replied from the Geological Survey Office, London, on 26th March 1897, saying: "The bones of the Great Auk which I saw were the humeri, but as to the numbers that were found I have no information." Mr Newton, however, kindly sent me the address of the discoverer of the bones, Mr W. J. Knowles, Flixton Place, Ballymena. In reply to my inquiries, that gentleman wrote me on 29th March 1897: "I only found remains of *Alca impennis* at Whitepark Bay, County Antrim. The bones, as far as they have been identified, are humeri. I may have others of different parts of the bird, and not know them. I have found bones, I should say, of ten or more individual Auks."

Writing me again on 5th April 1897, Mr Knowles says: "I have counted the bones which are now in my possession, and I find I have two right and two left humeri that are perfect and the upper half of a right humerus. I have also a shaft without either end, which I believe belongs to the same bird. I gave either two or three bones to the Royal Irish Academy, but whether they were right or left I cannot tell, as I took no note. When I sent a second lot of bones to Mr Newton for identification, he asked me for a specimen, which I gave him. I have his notes before me, and I find that he retained a right humerus. The bones I have are exactly like those figured by you in one of the papers you sent me, both as regards marks and size. As for the number of birds those bones would represent—say three to the R.I.A., one to Mr Newton, and five or six in my own possession—we would have at least five individuals, but more likely seven or eight, or more, as, except in one instance where I found two humeri near each other, and I don't remember whether they were right or left, the others were all found apart. I have still some bones that have not been professionally examined, and I may find other bones than humeri among them.

"Whitepark Bay is on the north coast of Antrim, lying about midway between Ballycastle and the Giant's Causeway."

BONES.

British Isles.

Ballymena.—In the collection of Mr W. J. Knowles, Flixton Place, Ballymena, there are bones representing at least five or six individual birds (see p. 256).

Dublin.—In the Natural History Museum of the Royal Irish Academy there are bones representing probably three specimens (see p. 256). In answer to my inquiry by letter, the Secretary of the Royal Irish Academy, writing on 22nd April 1897, says: "The curatorship of the Academy's Museum is vacant, and pending the appointment of a successor to the late curator I have not been able to get particulars of the objects from Whitepark Bay."

Leeds: Museum of the Philosophical and Literary Society.—Writing me on 22nd November 1887, Mr Wm. Eagle Clarke, then of Leeds, now of Edinburgh, says: "We have some of the Funk Island remains in this Museum. They were purchased of Gerrard, the dealer."

London.—A right humerus was presented to Mr E. T. Newton by Mr W. J. Knowles, Ballymena, and is now in the possession of Mr Newton, who writes me from the Geological Survey Office, 28 Jermyn Street, London, S.W., 7th April 1897 (see p. 256).

London.—Skull and several bones in the possession of Mr Rowland Ward, F.Z.S., 166 Piccadilly, London, W., in litt. dated 23rd December 1896. In another letter, dated 22nd March 1897, Mr Ward informs me that "the bones in question came from Funk Island, and were bought at Stevens' Auction Rooms."

Tring, Herts.—In the museum of the Hon. W. Rothschild there are some bones taken from a stuffed bird purchased from Shaw of Shrewsbury. Mr Rowland Ward, F.Z.S., in litt. 19th March 1897.

United States.

Cincinnati.—"Some bones have gone to the Cincinnati Society of Natural History" (Mr Frederic A. Lucas, in litt. 31st January 1897). These bones formed part of the collection made at Funk Island by the United States Grampus expedition in 1887.

New York: Central Park Natural History Museum.—There are a number of bones of *Alca impennis* Linn. preserved in a box in this museum. These bones are part of the collection made by the United States Grampus expedition to Funk Island in 1887. I got this information when I visited this museum in May 1889.

EGGS.

British Isles.

Bristol: Ashton Court.—The egg which belonged to Mrs Wise,¹ and which was sold at Stevens' Auction Rooms, London, on 12th March 1888, and bought by a dealer in natural history specimens, Oxford Street, London, for £225, is said to have been sold to Sir Greville Smyth, Ashton Court, for £315.

Calke Abbey, Derbyshire.—This egg belonged to the collection of Mr Yarrell, who purchased it in either Paris or Boulogne for two francs. There are two versions of how he became possessed of it. The one is that related by the late Mr R. Champley from information given him by the late Mr Frederick Bond, and which appears at p. 105, 'The Great Auk: its History, Archæology, and Remains'; and the other is that by Professor A. Newton of Cambridge, who, writing to 'Nature' in August 1894, gives what is described as the "true" account. He says: "It was found hanging on a string with a number of other eggs in a curiosity-shop of mean appearance in Paris. On asking its price, Mr Yarrell was told it was two francs, on account of its size. The money was paid." After Mr Yarrell's decease it was purchased in Mr Stevens' Rooms in 1856 by the late Mr James Gardiner for the late Mr Frederick

¹ 'Trans. Edin. Field Nat. and Micro. Soc.,' vol. ii. p. 114. See also *ante*, p. 237.

Bond at £21; and by him it was sold to Baron d'Hamonville, Manonville, Meurthe-et-Moselle, who offered it for sale at Stevens' Rooms, London, 22nd February 1894, lot 112. The following account of the sale is from the 'Standard,' 23rd February 1894:—

It [the egg] is not quite perfect, but is beautifully marked. Mr Stevens started the lot by bidding 100 guineas. The next bid was 110 guineas, and by tens 200 guineas was rapidly reached. There was a pause, but Mr Stevens, with a little coaxing, and saying that he hoped to obtain 300 guineas at least, when he should be happy, started the bidding again at 210 guineas. Another pause was followed by Mr Stevens informing the company that there was no reserve, and that when the egg had been sold any desiring purchaser would lose all chances of obtaining it. Then came a bid of 220 guineas, followed by others of 240, 250, 260, 270, and 280. Mr Stevens (to a gentleman in the middle of the room), "Surely you will not let it stop at this price! Are you quite sure you have made up your mind?" Another bid of 290 guineas was the result, amidst cheers, and then Mr Stevens pathetically appealed to his audience to go as far as 300 guineas. A gentleman who stood near to him raised his pencil, and the figure was secured. Then came the formal announcement of 300 guineas once, twice, and the third and last time, and the hammer fell to the agent of Sir V. H. Crewe. Mr Stevens afterwards informed a reporter that the sum realised was the largest one for any Auk's egg that had as yet been under the hammer.

This egg is now in the collection of Sir Vauncey H. Crewe at Calke Abbey, Derbyshire. A writer in the 'Daily News,' 23rd February 1894, mentions that it is figured in Hewitson's 'British Oology.' A rough figure of it also appeared in 'The Sketch' of 7th March 1894.

Cambridge: Natural History Museum.—The following correspondence explains itself. On 8th October 1888, the late Lord Lilford wrote me: "I have not transferred my collection of eggs to the Cambridge Museum, but some time ago presented *four* of the five eggs of Garefowl in my possession to Professor Alfred Newton. These were the two Edinburgh eggs, that which you refer to from Lausanne, and the Dorset specimen. I retain the egg purchased from my sister, with the stuffed Garefowl, after the death of her husband, Arthur Crichton. I distinctly wish to repudiate any claim to the gratitude of the Cambridge Museum, which is the sole and just due of Professor Alfred Newton in this matter."

Writing me on 16th March 1897, Professor Alfred Newton

says: "The late Lord Lilford generously gave me four of the five eggs he possessed. These, with his full approval, I at once transferred to our Museum."

Croydon, Surrey.—A mistake regarding the history of this egg appears at p. 114, vol. ii., 'Trans. Edin. Field Nat. and Micro. Soc.' Mr Edward Bidwell informs me, in a letter dated 11th May 1897—"Canon Tristram's collection, containing the Great Auk's egg, was purchased by Mr Philip Crowley, F.Z.S., of Waddon House, Croydon, and not by his brother, the late Mr Alfred Crowley."

Didsbury, near Manchester.—There are two eggs in the collection of Mr H. Massey at Didsbury—1st, The egg which belonged to the Rev. Henry Burney (see 'The Great Auk or Garefowl,' &c., pp. 88 and 106, also App., p. 34). This egg was sold by auction at the rooms of Mr J. C. Stevens, King Street, Covent Garden, London, on 12th December 1887, to Mr Leopold Field, for £168. This egg has now changed hands privately, and is in the collection at Didsbury. I am informed that it was sold by Mr Field through Marsden to Mr Massey for £220—see litt., 25th March 1897. 2nd, One of the Rochester eggs was bought by Mr Massey at Stevens' auction sale (see *ante*, p. 241). This egg is a very beautiful specimen; it measures $4\frac{11}{20} \times 2\frac{17}{20}$ inches. It was purchased by Mr Massey for 260 guineas. It has a creamy-white shell of fine texture, streaked and blotched, especially at the smaller end, with rich red brown.

London.—The egg which was in the collection of Mr J. Hack Tuke at Hitchin, Hertfordshire, was lent to the Saffron Walden Museum. The curator, Mr Maynard, is said to have made some casts of it. This egg, which measures 4.753×2.951 inches, was, I am informed, once more in Mr Tuke's private collection at Hitchin, and on his death was sold by his executors at the auction rooms of Mr J. C. Stevens, Covent Garden, London, on 20th April 1896. It was purchased by a Mr Noble for Mr W. Newall, 27 Hans Place, London, S.W., who now has it in his private collection (see litt. from Mr Newall, 22d December 1896).

London.—Mr Henry Munt, who bought one of the Rochester eggs (see *ante*, p. 241). It is now in his collection at 83 Kensington Garden Square, W. Mr Edward Bidwell, in a

paper in the 'Ibis,' July 1894, p. 243, says: "This egg measures $4\frac{6}{20} \times 2\frac{14}{20}$ inches, has a very rough texture, the markings being chiefly shell-spots. It was purchased by Mr Henry Munt for 175 guineas."

London.—Three eggs, collection of Mr T. G. Middlebrook, "Edinburgh Castle," 57 Mornington Road, N.W.

No. 1.—This egg was bought from Perrot, a dealer in Paris, on 23rd November 1847, for 200 francs (about £8, 3s. 4d.), by the late Sir William Milner, Bart. of Nunappleton, Yorkshire ('Great Auk or Garefowl,' p. 104). It was sold for his successor, Sir F. Milner, Bart., M.P., at the auction rooms of Mr J. C. Stevens, 38 King Street, Covent Garden, London, W.C., on 23rd April 1895, lot 261, for 180 guineas, at which price it was bought by Mr T. G. Middlebrook.

No. 2.—The egg that was in the collection of the late Mr T. H. Potts, who died very suddenly in 1888, was seen by me at the house of his widow at Christchurch, New Zealand, who told me she was anxious to dispose of it. It was some years afterwards, about the beginning of 1891, purchased by Mr Henry O. Forbes, then curator of the Canterbury Museum, Christchurch, N.Z., it was said for a friend in England.¹ This is perhaps the only egg of *Alca impennis* that has ever been in the Southern Hemisphere, and it has now found its way back to England. It was in the collection of Mr Leopold Field, 25 Brodrick Road, London, S.W. He sold it to Mr Rowland Ward, F.Z.S., 166 Piccadilly, London, W. (see litt., 4th January 1897).

I was shown this egg by Mrs Potts on 13th March 1889, and I find the following note in my diary: "It is covered with small blotches, and finely marked with thick pencillings at the large end. It has a large amount of white on the body and a very little dark shading. Several of the marks are almost lost in the shell, as if they had been absorbed by the calcareous matter before the egg was laid, but they show quite clearly. It is an average-sized egg, in a very good state of preservation, and has been end-blown. The holes at each end

¹ 'New Zealand Herald,' monthly summary, 24th April 1891; also p. 89, and App., p. 31, 'The Great Auk or Garefowl: its History, Archæology, and Remains.'

are small and perfect, and show very little. There were no fractures to be seen."

This egg was sold at the rooms of Mr J. C. Stevens, 38 King Street, Covent Garden, London, on 13th April 1897, at 2.30 P.M., and is described on p. 13 of the catalogue as "Lot A, Egg of the Great Auk, a very fine and perfect specimen." Referring to this sale, the 'Standard' of 14th April 1897 says:—

A considerable amount of interest attached to the sale by auction yesterday, at Mr J. C. Stevens' Rooms in King Street, Covent Garden, of a very fine and perfect specimen of an egg of the Great Auk. There was a very large attendance, and, after a spirited competition, the bidding, starting at 100 guineas, quickly rose by 5 and 10 guinea bids, until the sum of 280 guineas was reached, at which price the much-sought-after specimen was knocked down to Mr T. G. Middlebrook.

No. 3.—Messrs Jay of the Mourning Warehouse, Regent Street, London, purchased an egg of *Alca impennis* Linn. for £173, 5s. at public sale at Mr J. C. Stevens', 38 King Street, Covent Garden, London, on 25th June 1895, lot 211. This egg was taken, the sale catalogue says, in Iceland, about 1830, by a shipowner of St Malo, who bequeathed it to the Comte Raoul de Beracé, whose collection was purchased by the Baron d'Hamonville. This specimen, slightly cracked, which in colouring and texture is unique, was figured in the 'Mémoires de la Société Zoologique de France' in 1888, plate 6, fig. c; and additional notes on its history appeared in the 'Bulletin' of the Société in 1891 (see also pp. 88, 104, and 105, 'The Great Auk: its History, Archæology, and Remains'; also 'Zoologist' for 1895, p. 269). The egg was in the possession of the International Fur Store (Jays, Limited), 1st January 1897 (see letter from them).

On the 27th July 1897 this egg was again offered for sale at the Rooms of Mr J. C. Stevens. The 'Daily Telegraph' of 28th July 1897 says: "Dealers and private collectors were present in large numbers, but the bidding, which was commenced at 100 guineas by Mr Middlebrook, was very slow. This sum was advanced, after a long pause, to 120 guineas, when again there was a halt, no one apparently thinking the cracked egg worth more. Three advances of 10 guineas were made, then another of five. Mr Middlebrook added a further

five, making a total of 160 guineas, at which figure he became the purchaser."

Scarboroughh.—The collection of the late Mr R. Champley is still at the same address, 13 The Crescent, Scarborough, where it is in the possession of his daughter, Miss Blanche E. Champley.

Stratford-on-Avon: Ettington Park, Mr S. E. Shirley.—This egg is said to have been formerly in a large collection of natural history specimens belonging to a Mr Shepherd of Bristol, and, having been labelled as the egg of a penguin, remained unnoticed for some eighty years. Writing me on 18th December 1896, Mr S. E. Shirley, says: "My egg has been here many years, and is believed to have formed part of a large collection of birds, eggs, heads, feet, &c., bought by my grandfather early this century, but the catalogue of the collection marked 'Catalogue of the Collection 6 of W. Shepherd, Bristol, 1807,' does not include the Great Auk egg; but it is badly done, and other eggs are also omitted. The egg is a very fine one, boldly and richly marked, and of good size, quite perfect, with the exception that it is blown with a rather large hole. I fear this is all I can tell you about it. It was originally in a small cardboard case with a glass lid, and was stuck to the back of the case in quite the primitive style of egg-collectors."

Tring, Herts: Museum of the Hon. W. Rothschild.—The egg in this collection was bought about March 1889 with the collection of Count Rodern at Breslau. For further particulars see 'The Great Auk: its History, Archæology, and Remains,' pp. 89, 108, and App., p. 25.

United States.

Washington.—The egg No. 15,141 in the United States National Museum, Smithsonian Institution, is figured in the Report of the National Museum for 1888, Plate LXXIII. The following note, from the pen of Mr Frederic A. Lucas, appears opposite the plate:—

The specimen measures 125 m.m. by 74 m.m. This egg was obtained from the Academy of Natural Sciences, Philadelphia, Pa., and was originally in the collection of O. des Murs. It is the egg figured on

Plate I., 'Revue et Magazin de Zoologie,' 1863, and the one to which des Murs refers in the text as having been broken and restored. That des Murs had three eggs of the Great Auk is extremely improbable, as he states that he never even saw more than the two in his possession, and the reference to three is either a slip of the pen or of memory. The egg seems to have been washed since it was figured, and the freshness of the markings thereby impaired.

The foregoing statement seems to dispose of the story that des Murs had at one time three eggs of *Alca impennis* Linn. in his possession (see also 'The Great Auk or Garefowl,' &c., p. 89, and App., pp. 32 and 34).

SUMMARY OF EXISTING REMAINS OF THE GREAT AUK OR GAREFOWL (*Alca impennis* Linn.)

Number of birds represented by the following remains:—

Skins	.	.	.	.	79 or 80
Skeletons (more or less complete)	.	.	.	.	23 or 24
Detached bones	.	.	.	.	850 or 861
Physiological preparations	.	.	.	.	2 or 3
Eggs	.	.	.	.	70 or 72

PRINTS FROM PHOTOGRAPHS.

The photographs from which the illustrations have been prepared were obtained as follows, and I desire to acknowledge my obligation to those kind friends for supplying me with these photographs, as otherwise it would have been out of my power to give the illustrations:—

Plate I. This interesting photograph is the work of Mr Joseph Jobling, photographer, 1 Shakespeare Street, Newcastle-on-Tyne, who has copies for sale.

Plate II. This is also a very interesting photograph, and has been sent me by Dr Anton Fritsch, of the Natural History Museum, Prague, to whom I tender my best thanks.

Plate III. This photograph is of a most interesting specimen. The copyright is the property of Mr Rowland Ward, F.Z.S., 166 Piccadilly, London, W., to whom I have to acknowledge my obligations.

Plate IV. This photograph is of a little-known but very fine adult specimen of the Great Auk to which I refer at p. 250. I am indebted to M. Jules Vian, Honorary President of the Zoological Society of France, Rue des Petits Champs 42, Paris, its owner, for kindly sending me the photograph.

Plate V. This is also the work of Mr Joseph Jobling, photographer, 1 Shakespeare Street, Newcastle-on-Tyne, who owns the copyright and has copies for sale.

DESCRIPTION OF FIGURES OF THE GREAT AUK (*Alca impennis*
Linn.) REPRODUCTIONS FROM PHOTOGRAPHS GIVEN HERE-
WITH.

(*These photographs are copyright.*)

Plate I. Young specimen preserved in the Natural History Museum, Newcastle-upon-Tyne (see p. 267).

Plate II. Young specimen preserved in the Natural History Museum, Prague (see p. 268).

Plate III. Immature specimen acquired by the Hon. W. Rothschild from Messrs Rowland Ward, Ltd., London, for his Museum at Tring, Herts (see pp. 249 and 269).

Plate IV. The specimen in the collection of M. Jules Vian, Honorary President of the Zoological Society of France, Rue des Petits Champs 42, Paris (see pp. 250 and 270).

Plate V. Adult specimen in the Natural History Museum, Newcastle-upon-Tyne (see p. 271).

COMPARISON—PLATES I., II., AND III.

Plate I. This is a reproduction from a photograph of the youngest specimen of the Great Auk (*Alca impennis* Linn.) that is known. This appears to be the general opinion of naturalists. It is, however, very remarkable that the white mark on the plumage of the side of the head in front of the eye, which appears in all adult specimens, is also appearing on this young bird, while on that in Plate II., which is generally assumed to be a Great Auk, and the older bird of the two, the white mark is absent. The remainder of the plumage of the Plate II. specimen, however, gives one the impression that it is the older, as there is a more clearly defined line between the dark plumage of the back and the light plumage of the front of the body. The plumage of the back is also less speckled than in the No. 1 specimen, and has a closer approach to the plumage on the back of the adult bird. The breast of the bird figured on Plate I. is spotted and mottled; that on Plate II. is more spotted and less mottled than Plate I. The specimen on Plate III. is probably the third youngest specimen known, and has still some spotted plumage about its head and the front of its neck. The small size and general appearance of this specimen lead one to infer that it is immature. It is exceedingly interesting, and it is unfortunate that we know so little about its history.





YOUNG SPECIMEN

Preserved in Natural History Museum, Newcastle-upon-Tyne.

PLATE I. NEWCASTLE-UPON-TYNE.—YOUNG BIRD.¹

This specimen is worth studying, and is believed to be the youngest specimen of *Alca impennis* Linn. known. It was stuffed by that skilled taxidermist the late Mr John Hancock. He has chosen for it an attitude of vigilant watchfulness, such as a sea-bird assumes upon a rock or cliff when it hears some unusual sound or suspects the approach of danger.

The plumage upon the upper part of the neck and back is mottled, the dark colour predominating. The white spot in front of the eye is quite visible, and it shows as a mottled patch, as if the ground had been dark-coloured but the incoming white plumage was gradually replacing what had been dark.

There are fewer furrows upon the mandibles of this specimen than on any other known, which all points to its being the youngest recorded.

Upper mandible, two furrows posterior end ; and

Under mandible, three furrows about middle.

¹ For comparison see note on the Prague young bird ; also *ante*, p. 265.

PLATE II. PRAGUE SPECIMEN (YOUNG).¹

This picture shows the bird in a natural position. It has no white spots in front of its eyes, and no sign of any such spot is shown on the photograph.

Its upper and lower mandibles both have furrows—upper four distinct, and two obscure furrows; lower seven distinct furrows.

The white plumage on this specimen extends up the breast half-way up the throat, and then upwards as a speckled surface as far as to reach the upper portion of the posterior part of the lower mandible. Where the white plumage approaches the dark upon the throat and upper part of the breast, the dark and white plumage intermingles, which gives the plumage a speckled appearance. There is an extension of the dark plumage on to the white, beginning just below the wing. There is a good big patch of oblong shape.

This figure of the bird might almost lead one to suppose it was some other species than *Alca impennis*, but assuming it to be correctly named when compared with the Newcastle-upon-Tyne young bird, one would judge as follows:—

1st, From the absence of the white marks in front of the eyes that it was a younger specimen, as the Newcastle-upon-Tyne specimen shows clearly the marks in front of the eyes, and the dark plumage upon this spot disappearing.

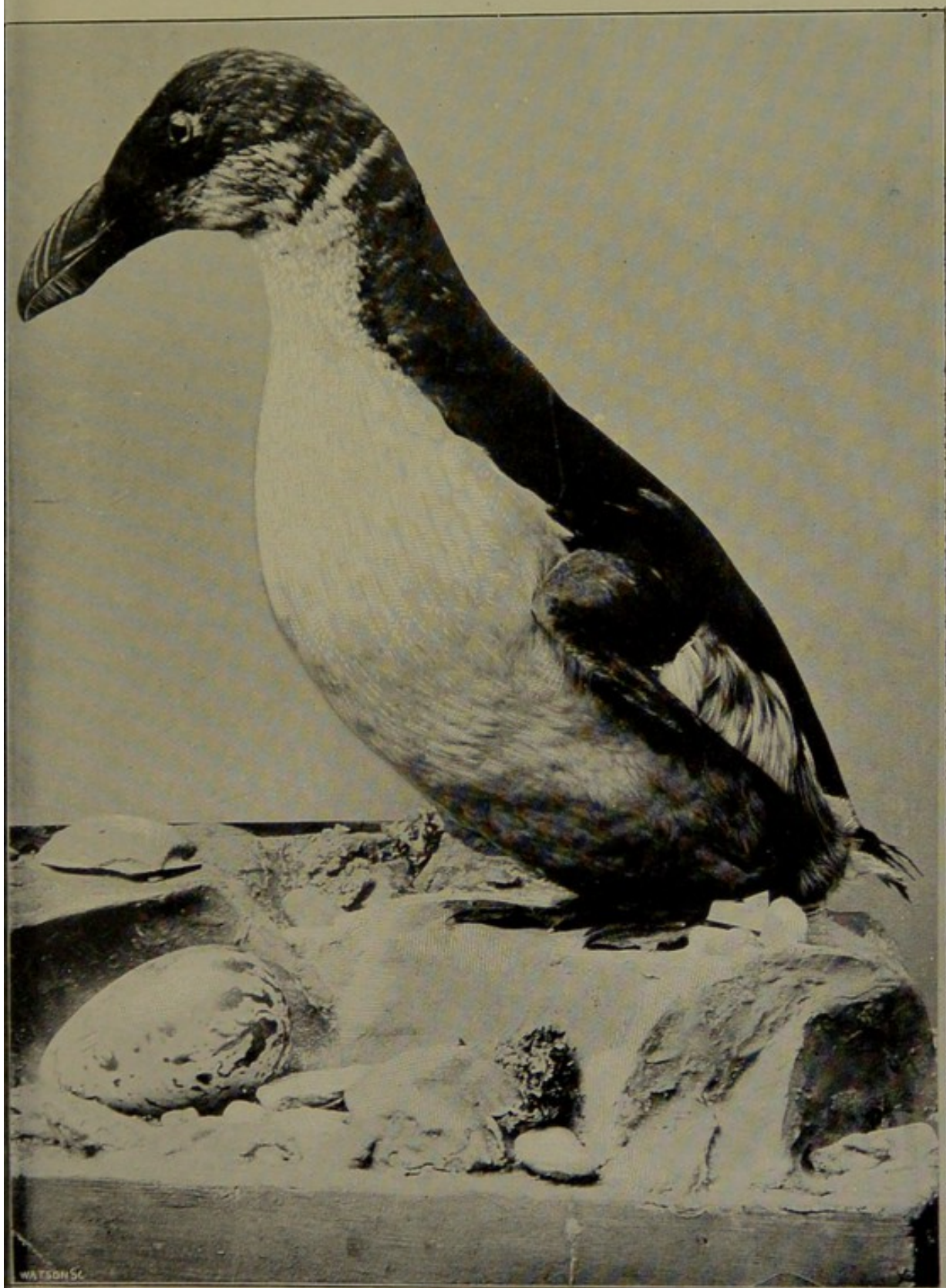
2nd, From the furrows upon the mandibles this would be judged to be the older bird, as there are fewer furrows on the upper and under mandibles of the Newcastle-upon-Tyne bird.

3rd, The plumage of these two specimens upon the heads and breasts is so different that they might be taken as belonging to distinct varieties. The general appearance of the plumage of the Prague specimen would lead one to conclude it was the older bird of the two.

4th, The Prague specimen has been rather over-stuffed, and would approach closer to the natural bird if the taxidermist had prepared it a little more attenuated in form. It is a most interesting specimen, and I desire to express my indebtedness to Dr Anton Fritsch, of the Natural History Museum, Prague, for so kindly supplying me with a photograph for this paper.

¹ There is also an adult specimen of *Alca impennis* Linn. in the Prague Museum.

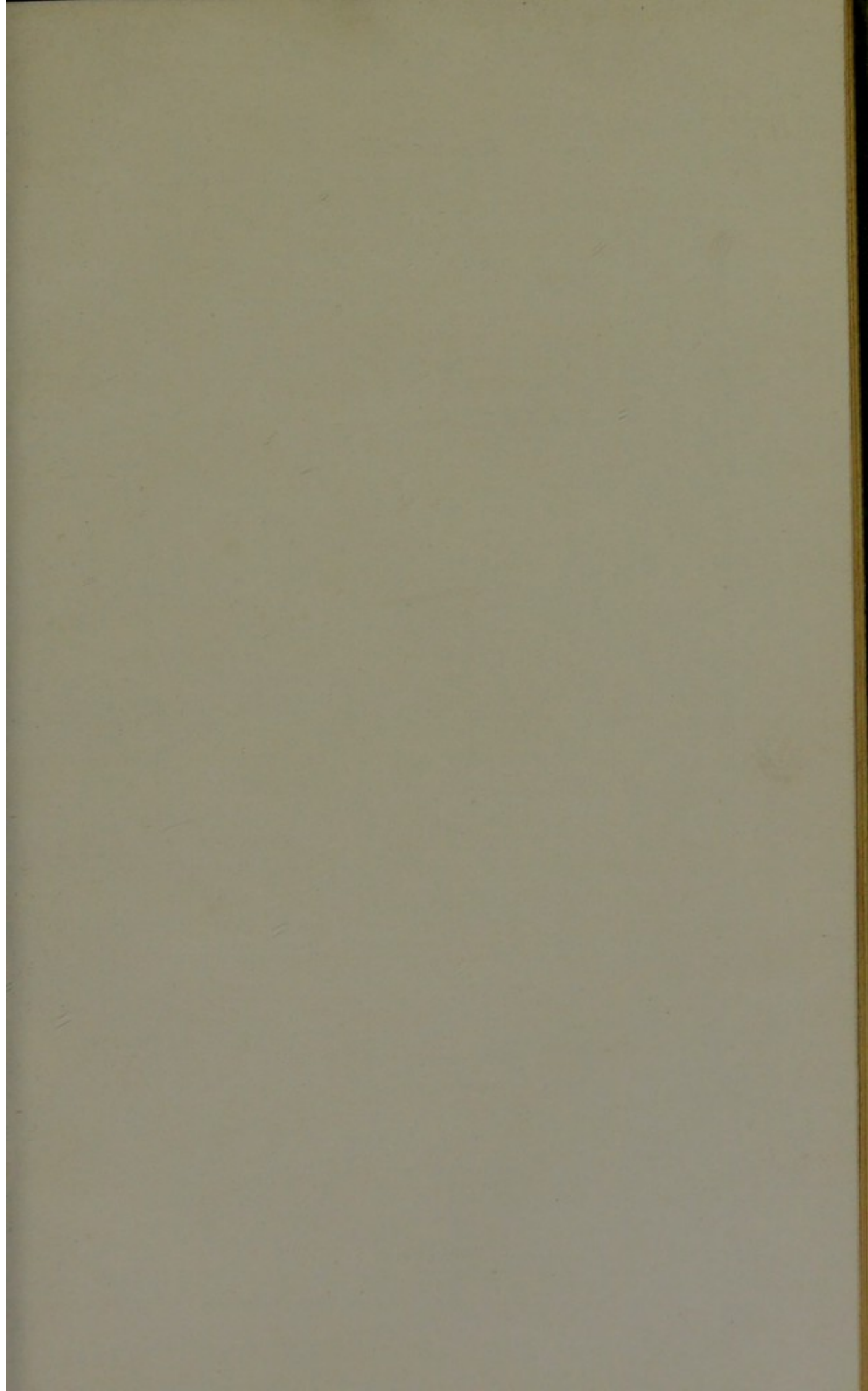
PLATE II.

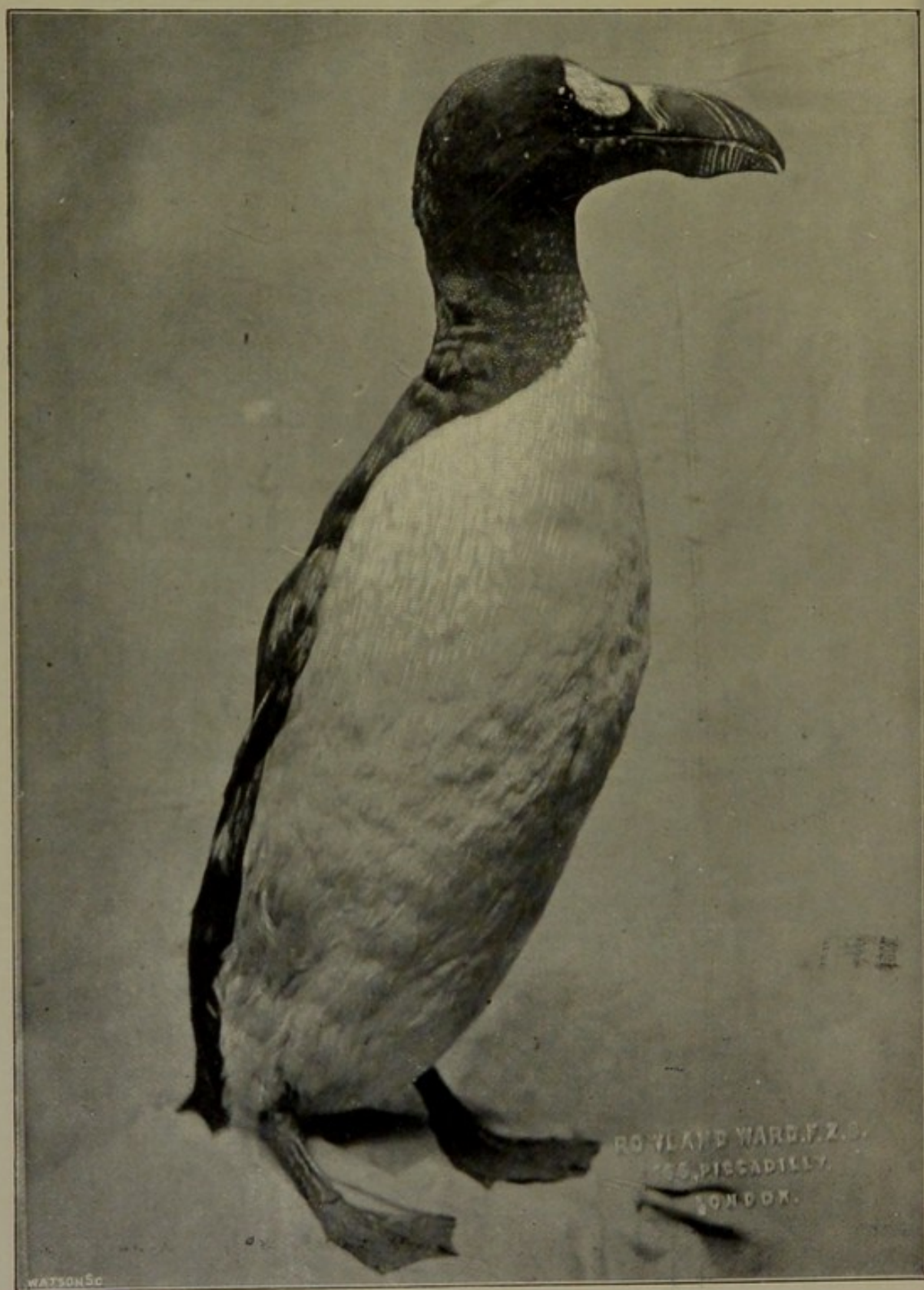


YOUNG SPECIMEN

Preserved in Natural History Museum, Prague.







IMMATURE SPECIMEN

In Collection of Hon. W. Rothschild.

PLATE III. BOUCARD-FIELD SPECIMEN OF THE GREAT AUK.

Photograph received 25th March 1897 from Mr Rowland Ward, 166 Piccadilly, London, W.

The photograph shows some slight traces of speckles upon the dark plumage of the neck and breast.

The upper mandible has three furrows distinct and two obscure.

The under mandible has nine furrows distinct and one obscure.

The bird is smaller in size than any adult specimen I know of.

The white spot upon its head in front of the eye is clearly defined.

There is a dark shade upon the white plumage on the body lower than the wing, as if it were a trace of the same dark patch of plumage shown in the young Prague specimen, which is an extension of the dark plumage on the same part of its body on to the white plumage.

The bird is stuffed in what seems to me a natural position.

PLATE IV. VIAN SPECIMEN.

This specimen is referred to at p. 250, and is an adult bird. Its owner, M. Jules Vian, is fully aware of what he describes as the "irregularities of its pose." It is a very beautiful specimen, and needs no apology for its attitude, which may be a natural one, although unusual. I think we may assume that the taxidermist intended to represent the bird as about to flap its wings.

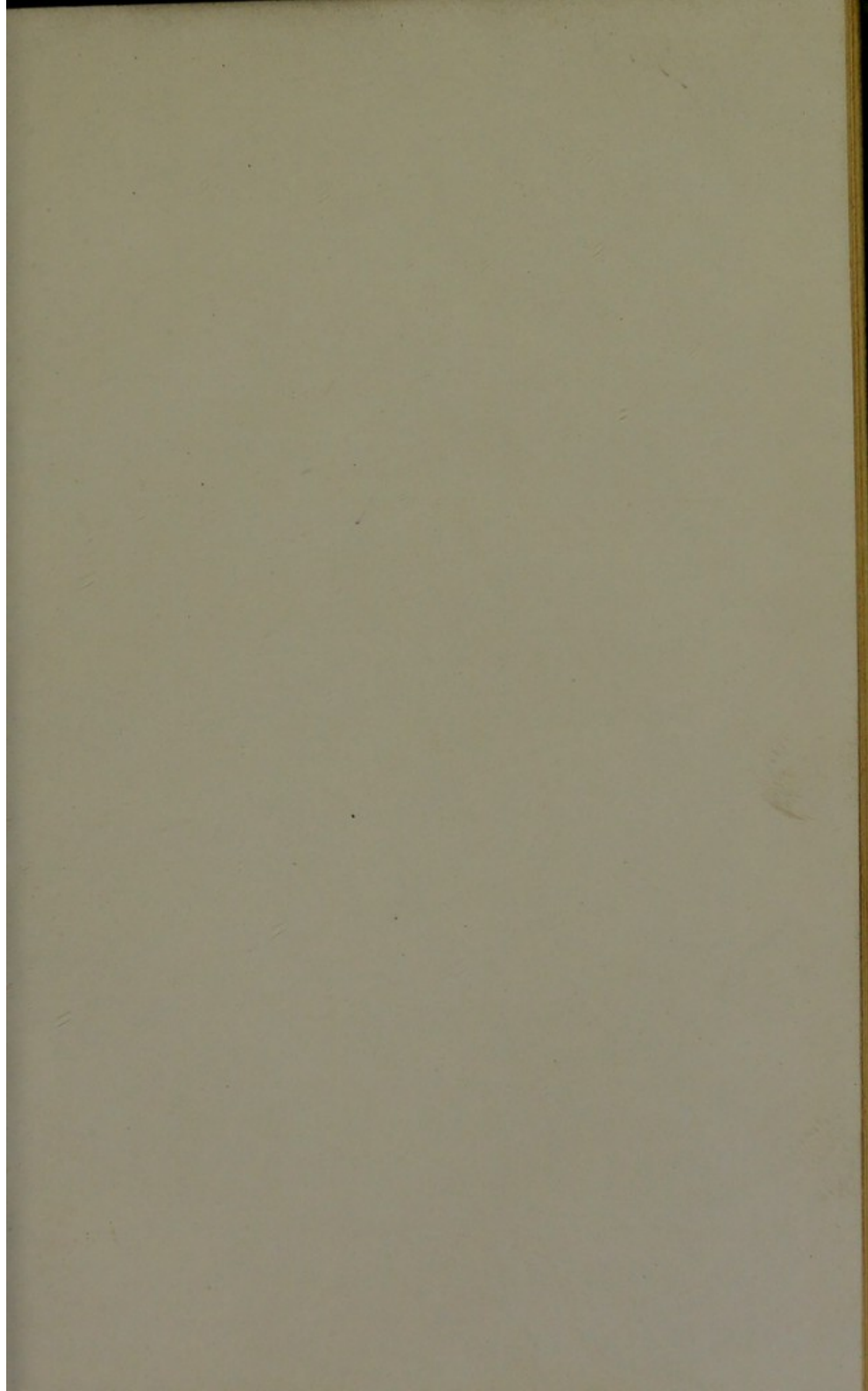
PLATE IV.



SPECIMEN

In Collection of M. Jules Vian.







ADULT SPECIMEN

In Natural History Museum, Newcastle-upon-Tyne.

PLATE V. THE NEWCASTLE SPECIMEN.—ADULT BIRD.

This is an adult bird, stuffed by the late Mr John Hancock, who has placed the bird sitting with its egg between its legs in an attitude of alarm, such as a sea-bird assumes when sitting upon its egg when it observes some one approaching. I have often observed *Alca torda* Linn. and *Uria*, when they hear a strange sound, assume the position of the young bird of vigilant attention (see Plate I.); then the moment they caught sight of the cause of the noise, crouching down and drawing in their necks if they apprehended danger, just as this adult specimen is depicted doing, as if trying to conceal themselves.

In Memoriam.

Since this paper was prepared for publication the writer has received the sad intelligence of the death of "The Father of Garefowl History," Professor J. JAPETUS S. STEENSTRUP, Doctor of Philosophy and Medicine, and Professor of Zoology in the Royal University, Copenhagen. This great zoolgoist was born at Vang, in Norway, on 8th March 1813, and died at Copenhagen on 20th June 1897, at the ripe age of 84. His name will probably be best known to future generations for his wonderful discoveries in connection with hermaphroditism in nature, alternation of generations, &c.

As a correspondent he was kind and generous to a degree, affording information and writing long letters, with quotations and references which must have required careful study. In failing health correspondence of this kind was written, and as the recipient of such letters I pay my tribute of respect to his memory by placing his portrait at the commencement of this paper, with the consent of his family.

Professor Steenstrup's great attainments as a scientist did not go unrewarded, as he was made a Danish Counsellor of State, and was decorated with the Grand Cross of the Order of Daneborg and the Silver Cross of the same Order, and also received decorations from a number of foreign Governments, and was elected a member of many learned societies.

Among the naturalists whose names are closely associated with the Great Auk, the following have died since the beginning of this decade:—

Mr JOHN HANCOCK, of Newcastle-upon-Tyne, who was well known as a naturalist and taxidermist. The museum at Newcastle-upon-Tyne is indebted to him for his splendid donations of specimens. He was born in 1806, and died 11th October 1890, aged 84.

Alderman R. CHAMPLEY, who was twice Mayor of Scarborough, died suddenly on 29th January 1895, aged 65. He possessed the most extensive collection of Great Auk eggs in the world, and these still remain in the hands of his daughter. He was a kind correspondent, and at all times enthusiastic about everything appertaining to the Great Auk. At one

time he made lengthened journeys upon the Continent, inquiring about, and purchasing, alcine remains. He also wrote several papers upon the same subject.

The late Lord LILFORD was fourth Baron, and was born in 1833, and died 17th June 1896. He was an enthusiastic naturalist, amongst his writings being the 'Coloured Figures of the Birds of the British Isles,' and his last, and perhaps most important work, the 'Birds of Northamptonshire.' He made a fine collection of Great Auk remains, the major part of which is now in the Cambridge Museum.

[All changes that have taken place in regard to alcine remains, so far as noticed by me to 31st July 1897, are mentioned in the above paper.—S. G.]

At this meeting Dr Sprague read a Note "On the Occurrence of the Fresh-water Mussel (*Anodonta cygnea*) in Dunsappie Loch."



V.—*ADDITIONAL NOTES ON THE GREAT AUK OR
GAREFOWL (ALCA IMPENNIS LINN.),*

WITH SPECIAL REFERENCE TO TWO NEWLY RECORDED SKINS.

BY MR SYMINGTON GRIEVE.

(Read Feb. 23, 1898.)

I HAVE written this paper so that it may appear in the same volume of the 'Transactions' as my paper upon this subject that was published last year. The information which appeared in that paper was from my notes written up to 31st July 1897, but since that date some other information worth recording has come to hand.

During last August I received from Mons. H. Duchaussoy of Amiens a valuable paper, "Le Grand Pingouin du Musée d'Histoire Naturelle d'Amiens," published in the 'Mémoires de la Société Linnéenne du Nord de la France' (tome ix., 1892-95). When this communication reached me, my paper was already in print; but through the kindness of the Editor of the 'Transactions' I was able to insert an acknowledgment of the receipt of Mons. H. Duchaussoy's pamphlet, which appears at p. 245. When I had time to peruse this contribution to Great Auk literature more carefully, I found it contains much information about French specimens of great interest and value, and contained the record of one skin which until now had been unknown. It has been discovered at Nielles-les-Ardres, and I give a translation of what Mons. H. Duchaussoy says.

SKINS.

France.

Nielles-les-Ardres.—M. le Baron de Vilmarrest has in the museum at his château a most valuable collection of birds. The most valuable specimen of all is a magnificent *Alca impennis*, which was bequeathed to him by M. de Cossette in

1858. It was received by him in 1832 from Brandt, the naturalist of Hamburg, who said it had been procured in Greenland. According to M. Ch. Van Kempen, M. de Cossette was aided in acquiring this specimen for his collection by M. Delahaye of Amiens.

Autun.—The skin of *Alca impennis*, which was at Chalon-sur-Saône, and belonged to M. le Dr B. F. de Montessus, was, along with the collection of that gentleman, removed to Autun in 1895, and presented to the town, to the museum of which it forms a magnificent addition.

Great Britain.

Edinburgh Museum of Science and Art.—I refer to this specimen at p. 248 of this volume, and received information that it had been purchased for the Museum at the price at which it was bought in at the sale-rooms of Mr J. C. Stevens, King Street, Covent Garden, London, which, according to press notices of 24th April 1895, was 350 guineas. I am informed by Dr R. H. Traquair, F.R.S., that the price was £350, not guineas. He has also reminded me of his note upon "Remains of the Great Auk in the Edinburgh Museum," which appears at pp. 196, 197, 'Annals of Scottish Natural History' for 1895, in which he states the price. I read this note at the time of publication; but, unfortunately, not having a separate copy to place beside my Great Auk papers, it had escaped my memory.

Tring, Herts: Boucard-Field skin.—It seems probable that this specimen is the one that belonged to M. Ernest Delegorgue's collection. Hearing that the Delegorgue specimen was amissing, I wrote to Mons. H. Duchaussoy requesting him to favour me with such information as he could obtain upon the subject, as the skin had not hitherto been recorded, and might be the skin figured at p. 269, Plate III. I give at pp. 248, 249 its history so far as known to me at that time. Since then I have been informed by Dr Hartert (see letter of 21st September 1897) of the Tring Museum that it was bought in Paris by M. Boucard, who declined to say from whom he had obtained it, as he had promised not to do so.

On 28th December 1897 Mons. H. Duchaussoy kindly replied to my inquiries as follows: "I have the honour of sending you some new information regarding the Great Auk which formed part of M. Ernest Delegorgue's collection. This collection, which was in bad condition, was on the death of M. Delegorgue given to the town of Abbeville, with the exception of two interesting specimens—the Snow Harfang (Great Snowy Owl) and the Great Auk, which was kept by M. Jules Barbieux, now dead. His son-in-law, M. Paul Holtzapffel, judge of the civil tribunal, Rue de la Tannerie, has kindly written an interesting letter to me, from which I extract for you the following passage: "The following entry has been found in the books of my father-in-law under the date July 17, 1888, 'Received from M. Maingonnat for a bird, 1000 francs.' It is certainly the *Alca impennis* of Delegorgue which was sold for 1000 francs to M. Maingonnat."¹

As I was anxious to find out when Mr Leopold Field bought the skin now belonging to the Hon. W. Rothschild, I wrote him requesting some information, and he kindly replied on 6th January 1898: "The skin was offered to me, I think, in the early summer of 1890. Mons. Boucard said it was a different skin to the one he first offered by letter at £1000.² Finally he came down to £300 (three hundred pounds), which I gave. The whole transaction and correspondence did not occupy a month. The final date would be June or July 1890. I paid £300 net cash, delivered at my rooms, and in 1893 sold it and the Potts egg to Mr Rowland Ward, Piccadilly, for £630. The specimen came unmounted, with little spikes in the feet. I had it handsomely displayed in a glass case, with a model egg and a background of sea and sky. Mr Rowland Ward had all the papers relative to the skin and egg."

This skin was removed from its case and sent by Mr L.

¹ Mons. H. Duchaussoy, in his "Notes Additionelles," published in 1898, in a note to p. 8, says that M. Maingonnat, who resided at 37 Rue Richer, Paris, died in 1893, and that his business of merchant of natural history wares has not been continued.

² The skin for which Mons. Boucard wanted £1000 is presumably the skin now in the collection of the Hon. W. Rothschild, which he bought from Mons. Boucard, and which came from the collection of Count David de Riocour, Vitry-le-François.

Field on approbation to the Museum of Science and Art, Edinburgh, where it remained some time, and where I had the pleasure of seeing it, through the kindness of Dr R. H. Traquair, F.R.S. It had rather a dilapidated appearance, the plumage dirty, and the webbed part of the feet somewhat worm-eaten, and the spikes or wires for attaching it to its stand, referred to by Mr L. Field in his foregoing letter, were projecting from its feet.

When purchased by Mr Rowland Ward, he had the skin cleaned, re-stuffed, and mounted on a new stand, and I am told that the work has been done very skilfully, as one may judge by the appearance of the specimen from Plate III., p. 269.

France.

Paris.—M. H. Duchaussoy, writing me on 23rd July 1897, informs me that the collection of M. Jules Vian, Rue de Petits Champs 42, Paris, is kept at Bellevue, Seine-et-Oise. This statement M. H. Duchaussoy has since modified in his paper published this year, "Notes Additionnelles," as he has discovered that although M. Jules Vian keeps his collection of European birds at Bellevue, he retains the specimen of *Alca impennis* Linn. and his collection of eggs in his house in Paris.

Have Great Auk skins been stretched too much in skinning?
—Mr Frederic A. Lucas, Osteologist of the Smithsonian Museum, Washington, U.S.A., and who has been working in connection with the Alaskan Fur-Seal Commission for the past two years, writes me as follows on 7th November 1897, referring to my paper at p. 237 *et seq.*: "Your figures of the immature specimens are very interesting, and I am glad to see them. As usual, all the specimens are much too long. I fancy that the neck of the Great Auk was very much like that of the fur-seal, in that the skin stretched very much when taken off. I am curious to see if our taxidermist will be able to keep the male fur-seals down to their proper length."

Was the chick of *Alca impennis* covered with down when hatched?—I am not aware that this question has been considered by any writer upon the Great Auk, nor do I know of any reference to this particular period in the life-history of *Alca impennis*. If we turn to the allied species, *Alca torda*, we may perhaps get a hint as to what was the state of the young of *Alca impennis* when introduced into the world.

In an article which appeared in the 'Zoologist' for April 1894, p. 123, written by Mr John Cordeaux, reviewing the popular brochure by Professor Robert Collett of Christiania, entitled 'Bird Life in Arctic Norway,' the writer says: "The young Razorbill (*Alca torda*) ushered into the world on a bare wind-swept ledge exposed to every storm, to sleet, snow, and rain, is almost entirely naked; but the young Puffin, born in a deep and sheltered hole, is a living ball of down. The apparent unfitness of this arrangement is one of those points in the economy of nature difficult to understand, for it does not appear in this case, at least, that the wind is tempered for the shorn lamb."

BONES.

Ireland.

Professor A. Newton having kindly informed me that a discovery of bones of the Great Auk had been made in one or more ancient kitchen-middens on the coast of County Waterford by Mr R. I. Ussher, I wrote that gentleman, and in reply he referred me to a short article he had written which appeared in the 'Irish Naturalist' for August 1897. In that article he says: "I recently sent to Professor Newton some birds' bones, found by me in kitchen-middens on the coast of this county, from which I have also obtained bones or horns of ox, goat, horse, pig, red-deer, and domestic fowl, an abundance of shells of oysters, cockles, mussels, and limpets, with many pot-boilers or burned stones. I have just received back the birds' bones from Professor Newton, who kindly writes as follows:—

CAMBRIDGE, 8th June 1897.

I think that all but two of them are fairly determined, thanks to the care bestowed on them by Dr Gadow. The real work of determination

was done by him, though I have gone over it for my own satisfaction. I congratulate you on possessing remains of at least two Great Auks, for you will notice that the two coracoids are of the same side. I hope you will duly record the occurrence of *Alca impennis*. Read in the light of these relics, Mr Davis's famous bird of 1834 must have been visiting the home of his forefathers.

"On the 14th June, accompanied by Mr Percy Manning, I revisited the kitchen-middens, and we picked up some additional birds' bones, which I submitted to Dr Gadow, who again kindly determined them. They contained a humerus, tibia, and metatarsus of Great Auk."

Northern Ireland.—Mr W. J. Knowles of Ballymena, writing me on 3rd November 1897, says: "I think it was since I wrote you last that I was requested to show the bones in my possession to Professor Newton of Magdalene College, Cambridge. I sent them as requested, and he confirmed previous reports both regarding identification and the probable number of individuals represented by the bones in question. In one case I had found a humerus partially bared and the other smaller bones closely connected. These latter, with the humerus, I kept together, and they were found to be ulna, radius, metacarpus, and phalanges—in fact, the whole bones of one wing. These I am still keeping in a small box by themselves. From becoming acquainted in this way with the appearance of an ulna, I have since found another ulna among some other bones."

Mr W. J. Knowles, writing me on 22nd March 1898, says: "I was down for two days at Whitepark Bay, and obtained the following bones of the Great Auk—broken humerus, two coracoids, one scapula. Except the humerus, all are in good and perfect condition. I also found lately among the bones I formerly obtained from Whitepark Bay a tibia of the Great Auk."

Mr W. J. Knowles, in answer to my inquiries, again wrote me on 30th May 1898: "The hut sites at Whitepark Bay are situated on the top of a bank of sand close to the sea, about 30 feet above high-water mark. I suppose there are twenty to thirty hut sites in all. It was by digging in the old surface, which is distinguished by its blackness and shells, broken bones and flint, that I got the first bones of the Great Auk."

Afterwards I got two humeri which had weathered out of this old surface. Then the humerus with ulna, radius, and smaller bones of the wing were found where they had all just freshly dropped out, and were still in close relationship to each other. All of these were found opposite different hut sites, and those I wrote you lastly about were found opposite a hut site where I had not previously obtained any such bones. The two coracoids I got a few days ago belong to one side, and so, though found near each other, could not be a pair. All the bones, however, have been found at Whitepark Bay within a radius of 200 or 300 yards."

These discoveries of Great Auk remains in kitchen-middens are exceedingly interesting, as they indicate pretty clearly that the few Great Auks that are recorded as having been seen along the coasts of Ireland during the past century were visiting the homes of their progenitors.

It seems likely that further investigations will lead to the discovery that the Great Auk did not confine its visits to only one or two points on the coasts of Ireland, Scotland, and north-eastern England, but was widely distributed, and formed an important item of food for the ancient fishermen and shore-dwellers of Ireland and the western and northern shores of Britain. I would even go further and suggest that the shores of Eastern Scotland and the north-east of England are well worth careful examination wherever the kitchen-middens of the ancient inhabitants are to be found.

In Scotland the remains of *Alca impennis* were found by me on Oronsay associated with the shells of many molluscs, fish-bones, and layers of scales of the grey mullet and other fish, numbers of bones of birds and animals, stone pot-boilers, stone limpet-hammers, bone spear-heads, rubbed bones or portions of antlers, a bone awl, and a number of other things enumerated at p. 47 of 'The Great Auk or Garefowl: Its History, Archæology, and Remains.' The race that formed this deposit appears to have been the same that left traces of its existence at various points upon the Irish coasts, and also in caves at Oban ('Proceedings of the Society of Antiquaries of Scotland,' vol. xxix., pp. 211 and 410). They may be the same people who formed the kitchen-midden at Keiss, in Caithness, in which were discovered by the late Mr Samuel

Laing remains of the Great Auk. The only bone of the Great Auk as yet found in England was discovered in a cave at Whitburn Lizards, County Durham. Both of these discoveries are referred to in 'The Great Auk or Garefowl: Its History, Archæology, and Remains,' pp. 43 and 62.

On 16th June 1898, when in London, I heard from Mr E. Bidwell, who had just returned from Copenhagen (where he had been having the egg of *Alca impennis* in the Royal University Zoological Museum photographed), that Herr Herluf Winge, Vice-Inspector of the Museum, had in his possession some recently discovered remains of *Alca impennis* Linn. from ancient Danish kitchen-middens, and that he might also be able to give me some other information regarding the Great Auk. I wrote Herr Herluf Winge, who kindly sent me the information I requested in a letter dated 2nd July 1898.

Meilgaard.—From the celebrated kitchen-midden of the ancient inhabitants at this place, additional remains of *Alca impennis* have been discovered, besides those mentioned by me at pp. 31, 33, 40, 84, and App., p. 58, 'Great Auk or Garefowl.' It appears that a valuable paper was published at Copenhagen in 1889, entitled, "Dyrelevninger fra Ældre og Yngre Stenalders Bopladser bestemte af C. G. Joh. Petersen, Herluf Winge, og Oluf Winge," which may be rendered in English, "Animal remains from dwellings of the earlier and later Stone Age determined by C. G. Joh. Petersen, Herluf Winge, and Oluf Winge." At p. 5 they refer to the remains discovered at Meilgaard that belong to *Alca impennis*. They say—"Belonging to old birds: A brain-case, part of a coracoid bone, two imperfect humeri (right and left, but not a pair), a femur wanting the upper part. Belonging to the young bird: A small piece of a scapula, a nearly whole humerus,—bones of full size, but with the surface not quite developed."

In his letter to me before mentioned, Herr Herluf Winge says: "From the well-known kitchen-midden of Meilgaard various bones have been brought to light by the excavations conducted of late years by our Museum of Northern Antiquities; they have been determined by my late brother Oluf. . . . They were of at least three individuals, two old and one young one; among other specimens there is a brain-case in excellent condition." Then Herr Herluf Winge continues,

referring to other discoveries: "I myself, partaking in the excavations of still later years, have found the following specimens, all of them in kitchen-middens of the Stone Age:—

Sejrö, a small island to the north-west of Zeeland, the lower parts of two right humeri.

Havnö, on the northern shore of the Mariager Fjord (formerly an island), two right humeri and one ulna, as mentioned at p. 61, 'Fuglene ved de danske, Fyr 1, 1894.'

Ertebölle, on the shore of the Limfjord, south of Lögstör, the lower part of a left humerus.

I am just engaged in a review of the large mass of bones from kitchen-middens brought together by the late Prof. Steenstrup, but hitherto mostly undetermined. Bones of the Great Auk are turning up there, so that it will be useless now to give a list of the specimens from the old finding-places."

In the paper I have referred to by C. G. Joh. Petersen, Herluf Winge, and Oluf Winge on the "Animal Remains from dwellings of the earlier and later Stone Age," they refer the deposits in the kitchen-midden at Meilgaard to the earlier Stone Age, so we may naturally expect to find remains of *Alca impennis* Linn. being discovered in the kitchen-middens of later date.

Mould or cast of egg of Alca impennis Linn. found in a geological deposit.—Having heard from Mr Bidwell on 16th June 1898 that Herr Herluf Winge had mentioned to him that a hollow cast or mould of an egg of *Alca impennis* Linn. had been found in a geological deposit, I asked Herr Herluf Winge kindly to send me particulars. If such a discovery has been made, it is, I believe, the first time any remains of the Great Auk have been discovered in a geological deposit, and must take back the existence of the Great Auk to a much earlier period than most of those interested in the bird supposed.

Herr Herluf Winge wrote me on 2nd July 1898 as follows: "A hollow cast of an egg of the Great Auk, containing some colour-markings, was found in a deposit from the sub-glacial period in the southern part of Sweden, to the north-east of Falsterbo, by members of the Swedish Geological Survey. Through personal acquaintance the discovery was made known in Copenhagen, and the cast was determined by

Prof. Steenstrup really to be that of an egg of the Great Auk. I think the Swedes themselves have published something about it, but I do not know where. A preliminary report, a communication from the Swedish geologist Dr Holst, was published by Dr G. Hartlaub in 'Abhandlungen des Naturwissenschaftlichen Vereins zu Bremen,' Bd. xiv., Heft 1, 1896 (the note in question perhaps only to be found in 'Zweite Ausgabe, als Manuskript gedruckt')."

EGGS.

British Isles.

London.—The late Lord Garvagh's collection. At p. 106, 'The Great Auk or Garefowl,' I referred to the broken egg that was in this collection, and remarked that it was probably still in the possession of the Dowager Lady Garvagh. At the time I wrote (1885) I was under the impression, from information received from the late Mr R. Champley, that the Troughton egg had been sold by the executors of the late Lord Garvagh to the late Mr G. D. Rowley, whose collection is now in the possession of Mr G. Fydell Rowley. Mr Champley had examined the Rowley collection, and had also a figure of the Troughton egg sent him by Dr Troughton from Coventry, 8th February 1861. However, Mr Champley seems to have been mistaken in his opinion, as Mr E. Bidwell informed me on 12th June 1888 that the egg that had gone amissing was that which belonged to Dr Troughton. This statement seems to be confirmed by the following notice, which appeared in the letter of the London correspondent of the 'Scotsman,' 22nd April 1898:—

Great interest was excited this evening at the meeting of the British Ornithologists' Club over the exhibition of a remarkably fine specimen of the egg of the Great Auk, which had been lost sight of for more than five-and-twenty years. The egg has a somewhat singular history. It was sold in 1842 by the late Mr A. D. Bartlett to a Mr Maunde for £2. Ten years later the specimen changed hands for £5, and in 1869 it was acquired for £60 [according to the late Mr R. Champley, should be £64¹] by the

¹ Mr Henry Stevens writes me on 20th July 1898: "I have made an unsuccessful hunt for the sale books of the late Dr Troughton's sale. Mr Bidwell has, I believe, the late Mr Bond's catalogue, in which he entered the price at the time

second Lord Garvagh at the sale of Dr N. Troughton's collection. After the death of Lord Garvagh in 1871 the egg was reported to have been broken in pieces through the carelessness of a servant, but, as it turns out, was merely cracked, and having been put aside by the widowed Lady Garvagh, was lost sight of until a few days ago, when it was discovered among the personal effects of her daughter by Mr J. E. Harting, the Secretary of the Linnean Society, when examining the remnants of Lord Garvagh's natural history collection, long forgotten and stowed away in a dusty attic. The identity of the egg has been established beyond a doubt, the present owner being Mr Noble, by whom it was exhibited to-night.

On 16th June 1898 I had a conversation with Mr E. Bidwell in London, and he confirmed the identification of the egg, and stated that some years ago he saw a note in the handwriting of the late Mr G. D. Rowley, dated 1875, in which Mr Rowley stated that at that time the Great Auk's egg that belonged to Dr Troughton was amissing.

It is exceedingly interesting that this egg has been rediscovered. I had not lost hope that the damaged egg in the late Lord Garvagh's collection would yet be found, and continued to count it in my list of eggs as one of the doubtful lost eggs, that it might not be forgotten. It is now pleasing to be able to record it as undoubtedly existing.

France.

In his valuable paper entitled "*Le Grand Pingouin*," &c., M. H. Duchaussoy refers to the eggs in the Museum at Angers and at Eu, the latter having been formerly in the collection of M. Josse Hardy at Dieppe.

Angers.—According to Prof. W. Blasius (see p. 25, App., '*The Great Auk or Garefowl*'), this is one of four eggs which were seen at Brest in 1859 joined on a string—probably brought by seamen from Newfoundland. M. H. Duchaussoy adds that M. Bouvet, Directeur of the Museum of Angers, has kindly given him some additional information. The egg, which is imperfect, has been roughly restored, the thick end having been replaced with mastic. The shell, without being smooth, is not rough to the touch; the colour is a dirty white,

of sale." I wrote Mr E. Bidwell asking him kindly to inform me the price noted in the Bond catalogue. He answered my inquiry on 19th August 1898: "I cannot find the catalogue. I have, however, a memo. in my copy of your book to the effect that Mr Bond's marked catalogue says £60."

with irregular dark blotches. The great axis is 128 mm., and the small axis 70 mm.

Eu.—M. H. Duchaussoy says: "M. Josse Hardy was born at Bacqueville, in the Pays de Caux, in 1798, and died at Dieppe on 31st December 1863,¹ after having given to the Museum of the town a magnificent collection of birds, containing notably a very fine specimen of *Alca impennis*. M. J. Hardy had also brought together a large number of eggs, which had been carefully named. The eggs were deposited in the Museum of Dieppe, to remain the property of his heirs.

"M. Michel Hardy and Madame Le Bœuf had them removed in 1895 to Eu, to the house of relatives of Madame Ursel, the granddaughter of M. Josse Hardy. According to a printed catalogue, the collection contained 1836 eggs, belonging to 388 species, some of which did not belong to Europe. We have noticed that some of the eggs were collected on the Ural Mountains and on the shores of Lake Baikal by Professor Martin of the University of Ekaterinburg. Many of the series are very interesting, from the number of varieties; for example, *Uria lomvia* (60), *Alca torda* (26), *Buteo vulgaris* (23), *Sterna Wilsonii* (22), *Larus argentatus* (22), &c.

"The most important egg is that of *Alca impennis*, seen in 1847 by Wolley and in 1859 by Prof. A. Newton. According to the latter, M. Josse Hardy had received the egg from Newfoundland; but on the other hand, Mesdames Le Bœuf and Ursel have assured me that it had been given by Temminck as a token of gratitude for much information he had received from M. Josse Hardy.

"This egg, which we were able to study on 3rd September 1896, has the following dimensions: Large axis, 123 mm., and the small axis, 78 mm. The two diameters intersect at 40 mm. from the thick end, or 0.325 from the greatest length. The shell is a little granulose, and is of a dirty greyish-yellow colour, with greenish-brown blotches accumulated, especially upon the thick end. It shows an insignificant crack and two little holes."

Press Notice.—At p. 262 I refer to the egg which at

¹ Professor Wh. Blasius, "Zur Geschichte der Ueberreste von *Alca impennis* Linn.," Naumburg A/S 1884, gives the date of the death of M. Josse Hardy as 31st October 1863.

one time belonged to Comte Raoul de Beracé, and which was sold for Messrs Jays, Limited, at the sale-rooms of Mr J. C. Stevens, 38 King Street, Covent Garden, London, on 27th July 1897, for 160 guineas, to Mr T. G. Middlebrook. On 7th August following, 'Punch' noticed the sale of the slightly cracked specimen, and published the following poem, entitled—

"THE LAY OF THE GREAT AUK'S EGG.

"Oh ! talk not to me of Klondyke,
Coolgardie, Peru, or the Rand ;
As investments they're failures alike,
Compared with the latest to hand :

But give me the Egg of the Auk—
The Great Auk—I ask for no more ;
When it's cracked they can fill it with chalk,
Till it fetches its weight in gold-ore.

There are only just threescore-and-ten
Of such eggs in existence to-day,
And no longer a live specimen
Of the fowl any further to lay.

Each egg has a long pedigree,
Drawn up from the date of its birth ;
They'll be smashed, till at last there will be
But one on the face of the earth.

Ah ! then, if that egg were but mine,
My treasure at once I would float
In the City—the chance would be fine
An unlimited boom to promote !

I would turn myself into a Trust,
With a Board and the rest of the Tribe ;
The Market we'd nicely adjust,
While the public would rush to subscribe.

The world, I am sure, would take shares
In my single and marvellous egg ;
I'd buy up the arch millionaires,
And reduce them to work or to beg !

Alas ! it is merely a dream,
For I haven't the guineas to spend
At these Auk-tions (ahem !) and my scheme
With my Lay of the Egg's at an end."

I believe this is the first time that the skin preserved in the Museum of M. le Baron de Vilmarès at Nièlles-les-Ardes has been recorded in Britain, and Mons. H. Duchaussoy, who first drew attention to it, deserves our congratulations upon its discovery. It was to the same gentleman that I was indebted for the information that the skin that belonged to the collection of Mons. Ernest Delegorgue was amissing. I think that, although there is a missing link in the evidence, the probability is that this is the skin that I had recorded as belonging to the Hon. W. Rothschild, and figured on Plate III., p. 269. If it is not the skin from the Delegorgue collection, then it is an unknown skin, so that we have one skin at least, and perhaps two, to record as additions to my previously published lists.

Additional bones, representing at least, four if not five, specimens, appear to have been discovered in the kitchen-middens of the coast of Ireland, as I have just recorded, so these have to be added to former lists; and also bones from Danish kitchen-middens, representing at least eight individuals.

The summary of existing remains of the Great Auk or Garefowl (*Alca impennis* Linn.) may now be stated as follows:—

Number of birds represented by the following remains—

Skins	80 or 82
Skeletons, more or less complete	23 „ 24
Detached bones	862 „ 874
Physiological preparations	2 „ 3
Eggs	71 „ 72

Birthplace of the late Professor J. Japetus S. Steenstrup.—From the information contained in Chambers's 'Encyclopædia,' I gave, at p. 272 of this volume, Vang, in Norway, as the birthplace of the late Professor Steenstrup. I am now informed that his birthplace was Vang, in Thy, north-west part of Jutland.

[All changes of Alcine remains, noted by me to 31st July 1898 from 31st July 1897, are mentioned in this paper.—S. G.]



