

The Great Auk, or Garefowl



SYMINGTON GRIEVE

The Great Auk, or Garefowl

(*Alca impennis*, Linn.)

Its History, Archaeology, and Remains

SYMINGTON GRIEVE

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SAMPLE CHAPTER

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X

THE HABITS OF THE GAREFOWL, AND THE REGION IT LIVED IN.

The habits of the Garefowl appear to have led it to frequent those isolated situations where, under ordinary circumstances, it would be free from molestation by men, as the bird's want of the power of flight made it so helpless when on land. It is unfortunate that, owing perhaps to this instinctive retirement from places of human existence, we know really so little regarding it. One of the best descriptions we have is that by Martin, who, writing of St. Kilda,¹ says: "The sea-fowl are first the Gairfowl, being the stateliest, as well as the largest sort, and above the size of a solan goose; of a black colour, red about the eyes, a large white spot under each, a long broad bill. It stands stately, its whole body erected; its wings short, flies not at all; lays its eggs upon the bare rock, which if taken away, she lays no more for that year. She is whole footed [web-footed], and has the hatching-spot upon her breast, *i.e.* a bare spot from which the feathers have fallen off with the heat in hatching,—its egg is twice as big as that of a solan goose, and is variously spotted, black, green, and dark. It comes without regard to any wind, appears the first of May, and goes away about the middle of June."

A later writer, who visited St. Kilda in June 1758, says: "The bird visits the island in July;" but this is evidently a mistake, and he acknowledges he had not seen it himself.² Dr. John Alexander Smith refers to this, and seems to be of the opinion that in 1758 the Garefowl was breeding on some isolated skerry among the Hebrides, and was only seen at St. Kilda after the period of incubation was over.³ But we think this seems hardly probable, as when we have any mention of the Garefowl being seen at St. Kilda, it is always at its breeding-time. What came over the bird at other periods of the year is likely to remain a mystery; but though there was a generally accepted idea among the sailors and fishermen of Newfoundland⁴ that it did not leave soundings, it seems evident that it must have occasionally made long sea journeys. The stray birds that appeared from time to time at various parts of our coasts in this century, indicate that, as it did not breed during this period at any nearer point than Iceland, it must at least have found its way across the sea from

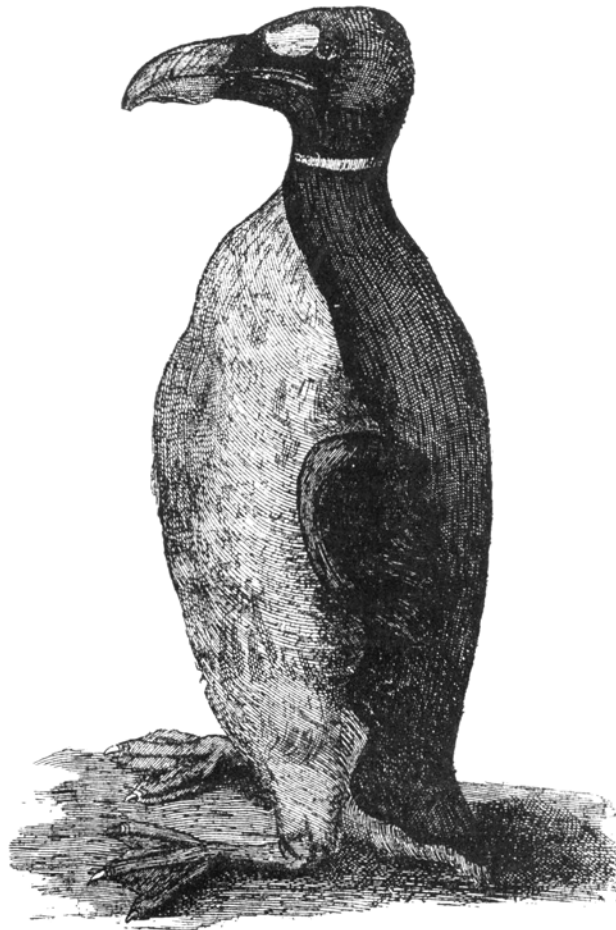
there. If this was the case when the bird had become so rare, we may infer that it migrated in much larger numbers in early times when it existed in such strong colonies. It is said "that they swam with their heads much lifted up, but their necks drawn in; they never tried to flap along the water, but dived as soon as alarmed. On the rocks they sat more upright than either the guillemots or razorbills, and their station was further removed from the sea. They were easily frightened by noise, but not by what they saw. They sometimes uttered a few low croaks. They have never been known to defend their eggs, but would bite fiercely if they had the chance when caught. They walk or run with little short steps, and go straight like a man. One has been known to drop down some two fathoms off the rock into the water. Finally, I may add that the colour of the inside of their mouths is said to have been yellow, as in the allied species."⁵ Eggert Olafsson, writing in 1772,⁶ says: "The eggs lie together on the bird's dung; they build no nest. Several Garefowls have this nest and eggs in common." Professor Steenstrup, writing 13th April 1885, informs us that "Mr. E. Olafsson never saw the Garefowl living, or at its nesting place." He adds, "Olafsson's statements regarding the habits of the birds that breed upon the rocks is in accordance with the relations of other authors. In narrating the capture of the last pair of Garefowls at Eldey in 1844, the writer remarks:⁷ "As the men clambered up they saw two Garefowls sitting among numberless other rock-birds (*Uria troile* and *Alca torda*), and at once gave chase. The Garefowls showed not the slightest disposition to repel the invaders, but immediately ran along under the high cliff, their heads erect, their little wings somewhat extended. They uttered no cry of alarm, and moved, with their short steps, about as quickly as a man could walk. Jon (Brandsson), with outstretched arms, drove one into a corner, where he soon had it fast. Sigurðr (Isleffsson) and Ketil pursued the second, and the former seized it close to the edge of the rock, here risen to a precipice some fathoms high, the water being directly below it. Ketil (Ketilson) then returned to the sloping shelf whence the birds had started, and saw an egg lying on the lava slab, which he knew to be a Garefowl's. He took it up, but finding it was broken, put it down again. Whether there was not another egg is uncertain. All this took place in much less time than it takes to tell it."

The Garefowl appears to have been either excessively stupid or insatiable in its appetite. One was caught about 1812 near Papa Westray, Orkney, on the open sea by some fishermen, who enticed it to the side of the boat by holding out a few fish,⁸ and then striking it with an oar, either stunned or killed it outright,⁹ which, does not appear to be certain, but the result was that the bird was captured. Another instance of the same kind occurred with the specimen caught alive at the entrance to Waterford Harbour in May 1834.¹⁰ There are also several notices of its having been caught with baited lines by vessels crossing the banks of Newfoundland.¹¹

The Danish naturalist, Olaus Wormius, gives a figure of this bird. He appears to have drawn it from a living specimen he had obtained from the Färoe Islands, and which lived under his care for several months. The peculiarity of the figure is, that it shows the Garefowl with a white ring round its

neck,¹² which most probably indicates the bird was in its spring plumage, and was just throwing off the white feathers that appeared on its throat and neck during winter.¹³ (Note, p. 75.)

In Pennant's "British Zoology," vol. ii., London, 1812, p. 146, is given a figure of the bird swimming. Pennant says: "It lays one egg, which is six inches long, of a white colour; some are irregularly marked with purplish lines crossing each other, others blotched with black, and ferruginous about the thicker end. If the egg is taken away it will not lay another that season. . . . It lays its egg close to the sea-mark, being incapable, by reason of the shortness of its wings, to mount higher.¹⁴ . . . The length of the bird to the end of its toes is three feet, that of the bill to the corner of the mouth four inches and a quarter; part of the upper mandible is covered with short black velvet-like feathers; it is very strong, compressed, and marked with several furrows that tally both above and below. Between the eyes and the bill, on each side, is a large white spot; the rest of the head, the neck, back, tail, and wings are of a glossy black. The wings are so small as to be useless for flight, the length from the tip of the longest quill-feathers to the first joint being only four inches and a quarter."



Anser magellanicus, seu Pinguini of Olaus Wormius; from Farøe, 1655. Great Auk (*Alca impennis*, Linn.) Facsimile of original figure reduced in size by one-third.

It is of interest to compare the above with the description given by Dr. Fleming,¹⁵ as he had an opportunity of observing the living bird such as has been afforded to no other British naturalist this century—Length, 3 feet; bill, dorsally, 3 inches; in front of the nostrils, 2 1/4; in the gape, 4 1/2; depth, 1 5/8 inches; 7 ridges in the upper and 11 in the lower mandible; legs black; irides chestnut; margin of the eyelid black; inside the mouth orange; head, back, and neck black—the latter with a brownish tinge; quills dusky; secondaries tipped with white; breast and belly white. In winter the brownish-black of the throat and foreneck is replaced with white. When fed in confinement it holds up its head, expressing its anxiety by shaking its head and neck and uttering a gurgling noise; it dives and swims under water, “even with a long cord attached to its foot, with incredible swiftness.”

The recorded occurrences of the observation or capture of the Garefowl and the discovery of its remains appear to limit it to the region north of 48 degrees north latitude in the European area, and 42 degrees in the American; and while in the latter its occurrences are well authenticated south of 70 degrees, in the former it is said to have been found only as far north as the borders of the Arctic Circle. By far the most northerly stations at which the Great Auk bred were those situated on the shores of Iceland and east Greenland. (See Professor Steenstrup's Remarks, Appendix IV.) This circumstance may perhaps be accounted for by the more temperate climate prevailing in the eastern area from the effects of the Gulf Stream.

It is almost certain that the Garefowl has not been met with in high northern latitudes east of Norway¹⁶ or Iceland, though there is an unauthenticated report that one was met with at Spitzbergen.¹⁷ There are statements made in the works of various authors on natural history which might lead to the supposition that the native home of the Garefowl was upon the ice-flows of hyperborean regions,¹⁸ but these statements seem to have been made under a mistaken impression as to what was the real habitat of this bird.¹⁹

Even so lately as 1868 a well-known Swiss writer on natural history gave a beautifully executed plate in colour, showing the birds sitting on snow-covered ice of great thickness above an ice-hole, while the background is filled in with mountains of ice. The illustration is given in connection with a paper which is a valuable addition to the literature on the Great Auk.²⁰

The Garefowl does not appear to have thriven when removed to situations away from the coast; and Mohr informs us that the peasants of Iceland believed the bird was blind when on land.²¹ A writer, who lived two centuries ago, had several at different times, which were easily tamed, but did not live long inland. These birds were caught at the Farøe Isles.²² Another specimen from the same locality was sent to the Danish naturalist, Olaus Wormius, and from what he states,²³ it appears to have lived only a few months from the time he received it.

In corroboration of the above, we have the instance of the Great Auk captured at the entrance to Waterford Harbour in September 1834, which, when caught, appeared to be starving, as it came to the side of the boat to get food, and for some days after its capture ate greedily of potatoes mashed in

milk. Ten days after it was caught, the bird was sold to Mr. Davis, who sent it to Mr. Gough of Horetown, County Wexford. For about three weeks after the bird's arrival at its new home it was not known to eat anything; but fearing it would succumb from want of food, Mr. Gough caused potatoes and milk to be forced down its throat, and from that time it ate voraciously until within a day or two of its death, which occurred a little over four months from the time of its capture. When in Mr. Gough's possession its principal food was trout and other fresh-water fish, which it preferred to fish from the sea. When supplied with food which it was fond of, it often stroked its head with its foot, and also performed this operation on other occasions. It swallowed the fish entire. It was rather fierce, and stood very erect.

Dr. Burkitt supplied the following description of this specimen, now in the University Museum, Dublin:— "This bird, a young female, is not in good plumage;²⁴ the head, back, wings, legs, and feet are sooty black; between the bill and eye, on each side of the head, there is a large patch of white, mottled with blackish feathers; the neck is white, slightly mottled with black; the front of the body white, the lesser quills tipped with white."²⁵

	<i>Inches</i>
Length (total); tail not perfect	29
Length of folded wing (from carpus to point of longest quill)	5 1/2
Length of bill from forehead	3 3/4
Length of bill from gape or rictus	4 1/2
Length of tarsus	2 1/4
Length of middle toe	2 5/8
... and nail	3 3/8
Length of inner toe	2 1/12
... and nail	2 6/8
Length of outer toe	2 5/8
... and nail	3 1/16
Length of tail, which is broken, may have been about	2
Depth (greatest) of bill, exceeding	1 1/2"

In addition to the foregoing there is the notice by Audubon of the Great Auk caught by the brother of his engraver on the Banks of Newfoundland. He writes as follows:— "The only authentic account of the occurrence of this bird on our coast that I possess, was obtained from Mr. Henry Havell, brother of my engraver, who, when on his passage from New York to England, hooked a Great Auk on the Bank of Newfoundland in extremely boisterous weather. On being hauled on board it was left at liberty on the deck; it walked very awkwardly, often tumbling over, bit every one within reach of its powerful bill, and refused food of all kinds. After continuing several days on board it was restored to its proper element."²⁶

These are the only statements known to us which point to the Garefowl not thriving when in captivity; but if there are any other records in existence

that would throw light on this subject, it would be of interest to have them published.

We believe that the only reference to the food of the Great Auk when in a state of freedom is made by O. Fabricius, who says— “The Great Auk fed on *Cottus scorpius*, or the bull-head, and *Cyclopterus lumpus*, or the lump-fish, and *other fishes* of the same size.”²⁷ From the bony nature of the bodies of the fishes he names, we think it most unlikely that they were among the principal foods of the Great Auk, and if any of those birds were so unfortunate as to swallow any of those fishes they might be expected to suffer internal pangs worse than those of hunger. Fabricius must have had some reason for making the statement, and it is possible that on examining the stomachs of some of those birds he may have found bones of the fishes in question. We suspect that the other fishes he refers to would be the staple food of the Great Auk, much more than the two he names. His statement would lead to the belief that the size was more important than the variety of the fish, and this appears to be a confirmation of the observations of others that the Great Auk swallowed fish whole. The same writer tells us, “that the stomach of a young bird in grey down (we do not think this can have been a young *Alca impennis*) captured in August contained roseroot (*Sedum rhodiola*) and littoral vegetable matter, but no fishes.”²⁸ This is possible, as the roseroot grows on the ledges and crevices of sea-cliffs and on the boulders on rocky shores almost to within reach of the waves at high water, and the littoral deposits, composed of the seaweeds and other vegetable matter washed up by the waves, would be all within reach of the young sea birds before they launched out upon the ocean on their own account.²⁹

Fabricius is the only writer we know of who says he saw the young of the Great Auk, and who gives even the slightest description of it. Unfortunately what he says makes it more than doubtful that the bird he describes was a young Garefowl. He states that the one he refers to was captured during August, and was covered with grey down, “pullum vidi, mense Augusto captum lanuginem griseam tantum habentem.” If this young bird was captured by Fabricius during the month of August, it seems almost certain that it could not be a young Garefowl, for the egg of the Garefowl was hatched out by the middle of June, and the young bird would be well feathered by August, and would have very little if any grey down. It is also to be remembered that the Garefowl laid only one egg each year, and it is generally supposed that shortly after the young one was hatched it betook itself to the sea, as when it came from the shell it was fitted for swimming and diving. It is therefore more likely to have been the young of some other large swimming bird that Fabricius mistook for a young Garefowl, and this may account for the vegetable matter found in its stomach, as the usual food of the Garefowl appears to have been fish.

The only immature specimens of the Great Auk that are believed to have been preserved are a specimen at Prague, and the one in the Newcastle-on-Tyne Museum, which probably came from Newfoundland, but which it is supposed may have been sent from Fabricius to Marmaduke Tunstall of Wycliffe, a collector of zoological specimens who lived during the latter half of

last century.³⁰ This collection of Tunstall's subsequently passed into the hands of Mr. George Allan of Blackwell Grange, near Darlington, from whom it received considerable additions, and in 1822 was bought by G. T. Fox, Esq., F.L.S., for the Literary and Philosophical Society of Newcastle-on-Tyne, and now forms part of the Newcastle-on-Tyne Museum. Mr. Allan had written notes on the various birds, but that part which refers to the Great Auk appears to have been penned after receiving information that was mostly erroneous. Extracts from these notes were published by Mr. Fox in 1827 in a "Synopsis of the Newcastle-on-Tyne Museum," 8vo. At p. 92, Mr. Fox refers as follows to the specimen of the Great Auk under consideration:—"Our bird is apparently a young one, agreeably to Mr. Allan's remark. I add some description of it, as the young was not known to Temminck. Neck black, spotted or mottled with white; bill, upper mandible, with one large sulcus at the base, none at the tip, in this respect analogous to the young and old razorbill (*Alca Torda* and *Pica*, Linn.); six or eight grooves at the tip of the lower mandible, but without the white ground."³¹

It is somewhat extraordinary that with this exception, and possibly another skin preserved at Prague in Austria,³² all the stuffed skins are those of mature birds; but it is perhaps attributable to the desire on the part of the captors to get as fine specimens as possible for collections, as under ordinary circumstances these would be of most value, and the scientific world only wakened up when it was too late to a sense of the want of stuffed specimens to illustrate the various stages of Great Auk life.

The plumage of the bird is known to have varied according to the season of the year, and a similar change takes place among allied species. The following evidence all points to the conclusion that it had more white feathers upon its throat and neck in winter than in summer. In the figure we give of the Great Auk at p. 68, which is a reduced fac-simile of the original picture taken by Olaus Wormius in 1655 from a living bird, the peculiar feature is the white ring round its neck, which we may believe would not been shown there unless it had existed in the live specimen, or had been put on the figure for some purpose. The late Dr. John Alexander Smith, referring to this specimen, remarks this white collar, and thinks it may be explained "*as a mere variety, due to the remains of its winter plumage, when the throat and neck are more or less replaced with white.*"³³ Professor John Fleming, D.D., writing of the specimen he obtained at St. Kilda in 1821, says: "*In winter the brownish-black of the throat and fore-neck is replaced with white.*"³⁴ Mr. H. E. Dresser gives the following descriptions of the Great Auk, but his statement regarding the number of furrows upon the mandible of the young bird in Newcastle-on-Tyne Museum, which is evidently taken from Latham, does not appear to be correct, if we may accept what Mr. Fox says, whom we have just quoted:—

"*Adult in Summer.*—Head, hind neck, throat, and entire upper parts, with the wings and tail, black; secondary feathers tipped with white, and between the beak and the eye there is also a large oval patch of white; breast and underparts generally pure white; beak and legs black, the former very strong, and with several vertical furrows on the lower mandible; iris deep brown.

Total length, about 30 inches; beak, 3 inches 6 lines; wing, 6 inches; tail, 2 inches; tarsus, 2 inches 1 line.

“Adult in Winter.—Figured by Donovan from specimen formerly in the Leverian Museum, as having the chin, throat, and front of the neck white instead of black.

“Young (only in the Newcastle Museum). Like the adult, but having only two or three furrows on the mandible instead of from six to ten.”³⁵

Professor Steenstrup informs the author that one of the stuffed skins in the Royal University Zoological Museum, Copenhagen, is that of a bird in winter plumage.³⁶

Edmund de Selys-Longchamps, writing of the specimen preserved in the Dublin Museum, says that of all the many specimens examined by him in the different museums of Europe, this is the only one in winter plumage;³⁷ possibly he had not seen the Copenhagen specimen.

FOOTNOTES

- ¹ “A Voyage to St. Kilda, May 29, 1697,” by M. Martin, gent. Published, London, 1753, p. 27.
- ² “History of St. Kilda,” by the Rev. Mr. Kenneth Macaulay, minister of Ardnamurchan, missionary to the island from the Society for Propagating Christian Knowledge, London 1764, p. 156.
- ³ “Proceedings of the Scottish Society of Antiquaries,” vol. i. N.S., p. 90, 1878-79.
- ⁴ A writer in the “English Pilot” for 1794, quoted by Sir Richard Bonnycastle (“Newfoundland in 1842,” vol. i. p. 232) states— “There is also another thing to be taken notice of in treating of this coast, that you may know this [bank] by the great quantities of fowls upon the bank, namely, shearwaters, willocks, noddies, gulls, penguins (*i.e.* Great Auks), &c., without any exceptions, which is a mistake, for I have seen all these fowls a hundred leagues off this bank, the penguins (*i.e.* Great Auks) excepted.”
- ⁵ Mr. (now Professor) A. Newton on Mr. J. Wolley’s “Researches in Iceland respecting the Garefowl.” *Ibis*, vol. iii., 1861, p. 393.
- ⁶ E. Olafsson og B. Palsson Reise igj. Island. Sorøe, 1772, f. 896, 831.
- ⁷ Professor A. Newton on “Researches in Iceland.” *Ibis*, vol. iii., 1861, p. 391. See also p. 21 of this work.
- ⁸ “Transactions of Tyneside Naturalists’ Field Club,” vol. iv. p. 116.
- ⁹ Dr. Latham, “General History of Birds,” vol. x.
- ¹⁰ Thomson’s “Birds of Ireland,” vol. iii. p. 238.
- ¹¹ Audubon, “Ornithological Biography,” 1838, and Edward’s “Natural History of Birds,” part iii. London, 1750.
- ¹² “Museum Wormianum seu Historiae Rerum Rariorum” (Copenhagen), Leyden, 1655, p. 301.
- ¹³ “Proceedings of Scottish Society of Antiquaries,” vol. i. N.S., p. 98. See also p. 75 of this work.
- ¹⁴ Macaulay’s “History of St. Kilda,” p. 156.

- ¹⁵ "History of British Animals." Dr. Fleming, 1828. 8vo.
- ¹⁶ "Videnskabelige Meddelelser," 1855, Nr. 3-7, "Et Bidrag til Geirfuglens," p. 95. It seems very doubtful if the bird Professor Steenstrup refers to, and which was shot in 1848 by Herr Laurenz Brodtkorb, of Wardøe, was really a Garefowl. See for further information *Ibis*, vol. iii., 1861, p. 376. Professor Steenstrup, writing us, 13th April 1885, says: "Certainly not a Garefowl."
- ¹⁷ "British Ornithology," vol. ii. p. 433. Mr. Selby, from whom this report appears to have first emanated, and which has been copied into other works, stated to Professor A. Newton it was a mistake. *Ibis*, vol. iii., 1861, p. 376.
- ¹⁸ "Temminck in the Manuel d'Ornithologie" (2de partie, p. 940, 1820). "Annals of the Lyceum of Nat. Hist.," New York, vol. ii., 1828, p. 432. "The Birds of Europe," vol. v. John Gould, London, 1837. Text leaf to Pl. 400. Richardson's "Fauna Borealis, Americana," 1831, &c.
- ¹⁹ The *Ibis*, vol. iii. p. 15. Professor J. Reinhardt, Copenhagen, on the Birds of Greenland.
- ²⁰ M. Victor Fatio, in "Bulletin de la Société Suisse," tome ii. 1re partie. Plate I.
- ²¹ "Forsøg til en Islandsk Naturhistorie," &c., ved N. Mohr, Copenhagen, 1786, p. 28.
- ²² Debes, "Faeroa Reserata," p. 130. Published 1673.
- ²³ "Museum Wormianum seu Historiae Rerum Rariorum" (Copenhagen). Leyden, 1655, p. 301.
- ²⁴ It is said this bird died while moulting. "Birds of Europe," H. E. Dresser, vol. viii. p. 564.
- ²⁵ "Natural History of Ireland," 1851, vol. iii. pp. 238, 239. Also a valuable paper by T. H. Gurney, jun., in the "Zoologist," 1868, 2d series, pp. 1449-1452.
- ²⁶ "Orn. Biog.," vol. iv., 1838, p. 316. Mr. R. Champley, in a letter dated 7th February 1885, referring to the bill of the Great Auk, says: "As the number of furrows give strength to the bill in holding or severing fish when taken, the fewer the furrows the weaker the bill. The furrows act as angle iron does to strengthen a vertical iron tube like the Menai Bridge. When the bird caught a fish there would be a great strain on the bill, for the older birds would take and grasp at heavier fish." See remarks on "fish," p. 70.
- ²⁷ "Fauna Groenlandica," p. 82.
- ²⁸ "Fauna Groenlandica," p. 82. Professor Steenstrup, in a letter dated 16th March 1885, says, "This young bird of Fabricius has really nothing to do with *Alca impennis*." Also "Et Bidrag til Geirfuglens," Videnskabelige Meddelelser, 1855, p. 41.
- ²⁹ Lightfoot, "Flora Scotica," London, 1777, vol. ii. p. 620, says, "The inhabitants of Greenland eat roseroot as a garden stuff."
- ³⁰ Latham ("General Synopsis of Birds," London, 1785, 4to. iii. p. 312), says, "In Mr. Tunstall's Museum is one of these (Great Auks), with only two or three furrows on the bill, and the oval space between the bill and the eye speckled black and white. This is probably a young bird." Professor Steenstrup, writing us 13th April 1885, informs us that it is a mistake to suppose that this young bird was sent from Fabricius.
- ³¹ See Appendix, Professor Blasius' remarks, p. 166.
- ³² "Bulletin de la Société Ornithologique Suisse," tome ii. 1re partie, p. 82. Professor Steenstrup, writing us 13th April 1885, remarks, "I think it is not so

extraordinary, as nearly all the individuals killed and skinned have been caught on the rocks during the breeding season, and consequently all have been old birds; proportionately very rarely have they been killed on the sea."

- ³³ "Proceedings of the Society of Antiquaries of Scotland," 1878-79, p. 98.
- ³⁴ "Edinburgh Philosophical Journal," vol. x. p. 97. Professor J. Steenstrup, writing us on 4th February 1885, mentions that the white neck ring shown in the figure of the Great Auk in the "Museum Wormianum seu Historiae Rerum Rariorum, 1655," and of which we give a reduced reproduction at p. 68, is artificial. Professor Steenstrup, 13th April 1885, draws our attention to what he states, "Et Bidrag til Geirfuglens," "Videnskabelige Meddelelser," 1855, No. 3-7, p. 84, note * * *. "An artificial ring perhaps bearing a name or inscription." He adds, "There is no reason why such a ring should be produced by the change of plumage."
- ³⁵ "Birds of Europe." H. E. Dresser, vol. viii. p. 563. The youngest specimen known is that in Newcastle; but there is also another young stuffed skin in Prague, pp. 71, 75, and Appendix p. 157. In a letter, dated 7th February 1885, Mr. R. Champley writes us as follows: "Respecting the immature Newcastle bird, when I saw it a fortnight ago I noticed one furrow at base, and one furrow at extremity of bill. My own has eight furrows at the extremity, and proves the former to be a young bird and the latter an old one." Professor A. Fritsch of Prague has kindly sent us a figure of the young bird in the Prague Museum as it appears in his great work, "Naturgeschichte der Vogel Europa's;" and if the drawing is correct, it must be considerably older than the young specimen at Newcastle, as six furrows are shown on the upper and seven on the under mandible.
- ³⁶ In letter dated 25th August 1883. Writing again on 13th April 1883, Professor Steenstrup informs us that in his opinion Benicken's description of the Garefowl in winter plumage is the best. The bird described by Benicken is the bird in winter plumage in the Royal Zoological Museum, Copenhagen. As this information regarding the importance of Benicken's description has reached us as we are going to press, and his paper is not accessible at such short notice, we must content ourselves by giving the reference to his information regarding the winter plumage. *Ibis*, 1824, p. 887.
- ³⁷ "Comptes rendus des Séances de la Société Entomologique de Belgique," 1876, 7th Oct., p. 70.