and literature. Scientifically it is usually known as *Cygnus olor.* Its large size, its spotless white plumage, its orange-red bill, surmounted by a black knob (technically the “ berry ”) larger in the male than in the female, its black legs and stately appear­ance on the water are familiar, either from figures innumerable or from direct observation, to almost every one. When left to itself its nest is a large mass of aquatic plants, often piled to the height of a couple of feet and possibly some six feet in diameter. In the midst of this is a hollow which contains the eggs, generally from five to nine in number, of a greyish-olive colour. The period of incubation is between five and six weeks, and the young when hatched are clothed in sooty-grey down, which is succeeded by feathers of sooty-brown. This suit is gradually replaced by white, but the young birds are more than *a* twelve­month old before they lose all trace of colouring and become wholly white.

It was, however, noticed by Plot *(N.H. Staffordshire,* p. 228) more than 200 years ago that certain swans on the Trent had white cygnets; and it was subsequently observed of such birds that both parents and progeny had legs of a paler colour, while the young had not the “ blue bill ” of ordinary swans at the same age that has in some parts of the country given them a name, besides offering a few other minor differences. These, being examined by W. Yarrell led him to announce *(Proc. Zool. Society,* 1838, p. 19) the birds presenting them as forming a distinct species, *C. immutabilis,* to which the English name of “ Polish ” swan had already been attached by the London poulterers,@@1 but which is now regarded merely as a variety, not in any way specially associated with Poland but possibly a dimorphic form.

The whooper, whistling or wild swan@@2 of modem usage, *Cygnus musicus,* which was doubtless always a winter-visitant to Britain, though nearly as bulky and quite as purely white in its adult plumage, is at once recognizable from the species which has been half domesticated by its wholly different but equally graceful carriage, and its bill—which is black at the tip and lemon-yellow for a great part of its base. This entirely distinct species is a native of Iceland, eastern Lapland and northern Russia, whence it wanders southward in autumn, and the musical tones it utters (contrasting with the silence that has caused its relative to be often called the mute swan) have been celebrated from the time of Homer to our own. Otherwise in a general way there is little difference between the habits of the two, and very closely allied to the whooper is a much smaller species, with very well marked characteristics, known as Bewick’s Swan, *C. bewicki.* This was first indicated as a variety of the last by P. S. Pallas, but its specific validity is now fully established. Apart from size, it may be externally distinguished from the whooper by the bill having only a small patch of yellow, which inclines to an orange rather than a lemon tint; while internally the difference of the vocal organs is well marked, and its cry, though melodious enough, is unlike. It has a more easterly home in the north than the whooper, but in winter not infrequently occurs in Britain.

Both the species last mentioned have their representatives in North America, and in each case the transatlantic bird is con­siderably larger than that of the Old World. The first is the trumpeter-swan, *C. buccinator,* which has the bill wholly black, and the second the *C. columbianus*—greatly resembling Bewick’s swan, but with the coloured patches on the bill of less extent and deepening almost into scarlet. South America produces two very distinct birds commonly regarded as swans, *Cygnus tnelanocoryphus,* the black-necked swan, and that which is called *Coscoroba.* This last, *C. Candida,* which inhabits the southern extremity of the continent to Chile and the Argentine territory and visits the Falkland Islands, is the smallest species known—pure white in colour except the tip of its primaries, but having a red bill, and red feet.@@3 The former, if not discovered by earlier navigators, was

observed by Narbrough on the 2nd of August 1670 in the Strait of Magellan, as announced in 1694 in the first edition of his *Voyage* (p. 52). It was subsequently found on the Falkland Islands during the French settlement there in 1764-1765, as stated by Pernetty *(Voyage,* 2nd cd., ii. 26, 99), and was first technically described in 1782 by Molina *(Saggio sulla stor. nat. del Chile,* pp. 234, 344). Its range seems to be much the same as that of the Coscoroba, except that it comes farther to the northward, to the coast of southern Brazil on the cast, and perhaps into Bolivia on the west. It is a very handsome bird, of large size, with a bright red nasal knob, a black neck and the rest of its plumage pure white. It has been introduced into Europe, and breeds freely in confinement.

A greater interest than attaches to the South American birds last mentioned is that which invests the black swan of Australia, *Chenopis atrata.* Considered for so many centuries to be an im­possibility, the knowledge of its existence seems to have impressed (more perhaps than anything else) the popular mind with the notion of the extreme divergence—not to say the contrariety—of the organic products of that country. By a singular stroke of fortune we are able to name the precise day on which this unexpected dis­covery was made. The Dutch navigator Willem de Vlaming, visiting the west coast of Zuidland (Southland), sent two of his boats on the 6th of January 1697 to explore an estuary he had found. There their crews saw at first two and then more black swans, of which they caught four, taking two of them alive to Batavia ; and Valcntyn, who several years later recounted this voyage, gives in his work@@4 a plate representing the ship, boats and birds, at the mouth of what is now known from this circumstance as Swan river, the most important stream of the thriving colony of West Australia, which has adopted this very bird as its armorial symbol. Valentyn, however, was not the first to publish this interesting discovery. News of it soon reached Amsterdam, and the burgo­master of that city, Witsen by name, himself a fellow of the Royal Society, lost no time in communicating the chief facts ascertained, and among them the finding of the black swans, to Martin Lister, by whom they were laid before that society in October 1698, and printed in its *Philosophical Transactions,* xx. 361. Subsequent voyagers, Cook and others, found that the range of the species extended over the greater part of Australia, in many districts of which it was abundant. It has since rapidly decreased in numbers, but is not likely soon to cease to exist as a wild bird, while its singular and ornamental appearance will probably preserve it as a modified captive in most civilized countries. The species scarcely needs description : the sooty black of its general plumage is relieved by the snowy white of its flight-feathers and its coral-like bill banded with ivory.

The Cygninae admittedly form a well-defined group of the family Anatidae, and there is now no doubt as to its limits, except in the case of the Coscoroba above mentioned. This bird would seem to be, as is so often found in members of the South American fauna, a more generalized form, presenting several characteristics of the Anatinae, while the rest, even its black-necked compatriot and the almost wholly black swan of Australia, have a higher morphological rank. Excluding from consideration the little- known *C. davidi,* of the five or six species of the northern hemisphere four present the curious character, somewhat analogous to that found in certain cranes *(q.v.),* of the penetration of the sternum by the trachea nearly to the posterior end of the keel, whence it returns forward and upward again to revert and enter the lungs; but in the two larger of these species, when adult, the loop of the trachea between the walls of the keel takes a vertical direction, while in the two smaller the bend is horizontal, thus affording an easy mode of recognizing the respective species of each. Fossil remains of more than one species of swan have been found. The most remarkable is *C. falconeri,* which was nearly a third larger than the mute swan, and was described from a Maltese cave by W. K. Parker in the Zoological Society's *Transactions,* vi. 119-124, pl. 30. (A.N.)

**SWANAGE,** a watering-place and seaport in the eastern parliamentary division of Dorsetshire, England, 9 m. S.Sw. from Bournemouth by sea, and 132 m. S.W. by W. from London by the London & South-Western railway. Pop. of urban district (1901), 3408. It lies on the picturesque Swanage Bay, on the east coast of the so-called Isle of Purbeck, the district lying south of Poole Harbour. The coast is wild and pre­cipitous, and numerous caves occur in the cliffs. Inland are open, high-lying downs. Swanage Bay has a beautiful sandy beach affording excellent bathing. In the town, the church 1870, p. 430) from a single specimen in the Museum of Peking, should be removed from the sub-family Cygninae. Of *C. coscoroba* Mr Gibson remarks *(Ibis,* 1880, pp. 36, 37j that its “ note is a loud trumpet-call," and that it swims with “ the neck curved and the wings raised after the true swan model.”

@@@’ M. Gerbe, in his edition of Degland’s *Ornithologie Européenne* (ii. 477), makes the amusing mistake of attributing this name to the *fourreurs* (furriers) of London, and of reading it *Cygne du pôle* (polar, and not Polish, swan)!

@@@2 In some districts it is called by wild-fowlers “ elk,” which per­haps may be cognate with the Icelandic *Alft* and the Old German *Elbs* or *Elps* (cf. Gesner, *Ornithologia,* pp. 358, 359), though by modern Germans *Elb-schwan* seems to be used for the preceding species.

@@@•Dr Stejneger *(Proc. U. S. Nat. Museum,* 1882, pp. 177-179) has been at much pains to show that this is no swan at all, but merely a large Anatine form. Further research may prove that his views are well founded, and that this, with another very imperfectly known species, *C. davidi,* described by Swinhoe *(Proc. Zool. Soc.,*

@@@\* Commonly quoted as *Oud en nieuw Oost Indien* (Amsterdam, 1726). The incidents of the voyage are related in Deel iii. Hoofdst. iv. (which has for its title Description of Banda), pp. 68-71.