

FALCO CANDICANS, J. F. Gmel.

Greenland Falcon, dark race.

THE birds figured on the two accompanying Plates differ from both the white or true *Falco candicans* and the *F. islandus*, and moreover are so inconstant in their markings that I have never seen two specimens that had the tail similarly marked; for while the barrings of the feathers are perfect in one, in another they are interrupted. In one the second and third feathers from the middle ones may be wholly white; in another the same feathers may be more or less barred. A degree of inconstancy also occurs in the markings of the back and wings, although generally to a less extent; but the young of the year of the white *F. candicans* and the young of this dark race assimilate in being lightly coloured, in which respect they offer a decided contrast to the young of *Falco gyrfalco* and *F. islandus*, which at the same period of their existence are both dark. By some persons it may be supposed that the individuals of the dark race change their plumage as they advance in age, and ultimately become white; but if the assertion of those ornithologists who have paid special attention to these Falcons, that the plumage they assume at their second moult is carried throughout life, be correct, this will not be the case; and that this theory is the true one would seem to be confirmed by the fact that a Greenland Falcon which lived for some years in the Gardens of the Zoological Society never exhibited any subsequent change. Professor Newton states that the true Icelander is believed to breed in the southern parts of Greenland. If this is the case, it appears to me probable that this dark or mongrel race may be due to the interbreeding of *F. islandus* and *F. candicans*, in which event the progeny would naturally be intermediate in colour and markings. As an instance in point I may cite the results of a cross between our two species of Pheasants (*Phasianus colchicus* and *P. torquatus*), the progeny of which not only differ in their plumage from the parent stocks, but even as compared with one another. If this is not the cause of the abnormal state of plumage of these Falcons, I am at a loss to account for it. I may mention that these strongly marked birds appear to be more exclusively natives of South Greenland, and that it is from the Danish settlements in that country that specimens are sent to Europe. It is the young of these indistinctly marked birds that most frequently visit Britain, of which Lord Cawdor's specimen, now in the British Museum, is an example, and is represented in the second figure, or young of the dark race, in the accompanying Plate.

Whether these noble Falcons have all sprung from one stock is a question not easily answered; neither is it easy to say, in that case, which most approximates to the common progenitor; but we may, I think, fairly conclude that it must have been the *Falco candicans* in its whitest and purest state, inasmuch as it is the bird which inhabits the highest northern regions, or the icebound portions of the arctic zone. Geologists will tell us that, in ages gone by, Iceland and Northern Europe were in the same state, and that glaciers, instead of the peaty morasses which now exist, then prevailed. May not the physical changes that have taken place in more recent periods have had an influence on the colouring of these Falcons? That such a change has been effected in the case of the common Grouse (*Lagopus scoticus*) I feel assured, inasmuch as I find no difference, except that of colour, between it and the white *Lagopus saliceti* of Norway and America. To assert positively that the milder atmosphere of our more humid sea-girt islands, and their more peaty and heathery soil, is the cause of the difference in colour between the two birds, would perhaps be speaking too strongly; yet I think it probable that such a theory would be the right one.

Those who have studied the birds of the world in their entirety must have been struck with the fact that, while certain forms are abundant in one portion of the globe, they are totally absent from the opposite one. For instance, in the northern or arctic hemisphere Auks, Puffins, and Guillemots abound, while none of these forms are to be found in the opposite or southern hemisphere, their place there being occupied by Penguins and Albatrosses. This is not easily to be accounted for, since, on the other hand, Cormorants haunt the sea-girt rocks of every part of the globe, and Gulls and Terns are no less universally dispersed. This absence of certain forms, again, from countries not very far distant from those in which such forms are numerous is further exemplified in the fact that, while there are neither Swallows nor Crows in New Zealand, Norfolk Island, or perhaps the whole of Polynesia, Swallows, Martins, and Swifts are abundant in Australia, and Crows are as numerous there as in any other country—all, however, being specifically different from the birds thus called which inhabit the same latitudes in the northern hemisphere. Were it necessary, other instances of this apparent limitation of species in certain parts of the globe might be cited almost *ad infinitum*; and we might theorize to a similar extent as to why a Crow should not inhabit New Zealand as well as Australia, or why Swallows should be plentiful in the one country and not in the other. The