

THE  
BIRDS OF THE GLOBE.

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LADIES AND GENTLEMEN,—I cannot trouble you with a very long introduction this evening, because I have a very extensive subject to speak to **you** about—no less a one than the whole of the Birds of the Globe; and I cannot attempt or hope to give you more than a *very slight sketch* of such a large subject. The way in which I propose to introduce to you the birds of the globe will be by means of coloured illustrations of the principal families. On these I hope to make a few explanatory remarks as the lecture proceeds. You must understand that having devoted nearly the whole of my life to the study of birds, there is no one knows better than myself how impossible it is to illustrate the subject in its entirety *in the short space of one evening's discourse*. No person could hope in a single lecture to give more than a mere sketch of the birds which are found on the earth's surface; and therefore I request you to regard the present lecture as preliminary.

I am not going to weary you with many details of classification, for the very simple reason that at present naturalists are not agreed among themselves as to what is the most natural classification of the class of birds. One zoologist tries to classify them according to their muscles; another according to their bones; some adopt merely external features; and as these are the easiest to understand I am going to use external characters to give you some idea of the different orders of birds this evening. At the same time I must acknowledge the assistance I have had from the recent papers of



Professor Garrod, who, by his study of different anatomical and osteological characters of birds, bids fair, before long, to present us with the most natural classification which has yet been proposed ; at the same time he would be the first to admit that his systematic arrangement is not as yet perfected. I believe, however, that the natural system will be best explained by the man who correlates the internal structure of birds with the external form ; for the latter has surely been the result of internal modifications or of habit. A classification founded principally on personal observations of birds in a state of nature, and therefore eminently a *natural* one, has been propounded by our great countryman Wallace, to whose researches I am continually indebted, and in the arrangement of the series of birds in this evening's lecture, I have been to a certain extent influenced by the writings of this distinguished traveller and naturalist.

There are certain great natural orders which there is no difficulty in recognising ; it is on the classification of the minor divisions, such as the families and sub-families, that more discussion has arisen. It seems to me immaterial in what order we take these natural groups, which are of equal value, and I shall, therefore, commence with the Birds of Prey, or *Accipitres*.

The birds of prey are remarkable for their sharply-curved bills, and also for their strong and powerful talons, characters which are well represented in the bird's leg which we have before us now. We will roughly divide the birds of prey into three sections : Vultures, Hawks, and Owls. The first illustration is that of an Egyptian Vulture. [The lecture was profusely illustrated with coloured drawings of birds, which were shown by the oxy-hydrogen light.] Now the vultures, though not very handsome, and certainly birds of very filthy habits, are highly interesting as a study. For many years naturalists have been divided in their opinion as to whether the vultures sought their prey by means of a highly-developed power of smell, or a highly-developed power of sight. The celebrated naturalist, Waterton, who was looked upon as one of the keenest observers of his age, always said that the vultures hunted more by smell than by sight ; and he adduced many experiments made during his travels in South America to endorse this idea. But the balance of evidence collected by careful naturalists up to the present time is decidedly opposed to that view ; and there can be little doubt that the vulture hunts by sight. Thus if an animal is wounded and falls dead it is not the



effluvium arising from the carcase which attracts the vulture in the air, but it is his keen sight which enables him to see the dying beast, and so to descend to the carcase at once. In his flight the vulture circles very high in the air, and is almost invisible in the sky. Further off upon the horizon another vulture is circling, and further on still another; so that when the first sees his comrade descend to the ground he immediately follows his track; another sees the departure of the second and follows him; and thus it is that in a few minutes after an animal has been shot, although not one vulture may be in sight at the time when the creature falls, the whole carcase is covered with numberless birds. [Cf. Kirk, *Ibis*, 1864, p. 22: Anderss. B. Dam. Ld., p. 3, &c., &c.] All the Vulturidæ are tropical or intertropical in their habitat; they are the scavengers of the hot countries in which they live, and are most useful in clearing away offal and other rubbish, which if left to taint the air might breed a pestilence. They are found both in the Old and New World, but only come very occasionally into the northern parts.

The second division of the Birds of Prey, which we may roughly call "Hawks," as distinguished from "Vultures" and "Owls," is by far the largest, and would contain all Eagles, Buzzards, Kites, Falcons, &c. I shall shortly have to show you the true Falcons; but intermediate between the hawks and the vultures is a small assemblage generally peculiar to South and Central America, which are called the Caracaras. They have the aspect of the more noble hawks, but with that they combine to a great extent the habits of the vultures. They live upon the ground, frequent marshes to a great extent, and feed largely upon reptiles and frogs. They are remarkable for having the toes of the feet joined together near the base by a continuous web. This is their great characteristic, and we cannot fail to see how useful such a support to the foot must be in birds which live in marshy ground. One striking example of these Caracaras is exhibited to us in the Secretary Bird of which you have an illustration before you. They are found only in Africa, inhabiting the greater part of the continent below the Sahara, and are protected both by the European governments and by the natives in whose country they occur, on account of their great utility in destroying venomous snakes; and to kill one of these birds is an offence punishable by a heavy fine. Sometimes, I regret to say, the birds do not get the best of the encounter. A correspondent of mine,



noticing a conflict between a snake and a secretary, was surprised to see the latter suddenly run to a pool of water and fall down dead. On examining the bird he found that the snake had managed to draw blood from the point of one of the pinions. I may add that the name "Secretary Bird" is supposed to be given to it on account of the long feathers which we see behind the head, which represent, so people say, the quills of a secretary when writing; but I must confess that I have never seen a secretary with so many quills behind his ear.

We will proceed now to an illustration of one of the nobler hawks. The bird we have before us is the white-shouldered Imperial Eagle, a native of Southern Europe. Now we are always accustomed to associate everything grand and noble with the eagle, but that is a very much exaggerated idea, as I can assure you; and if it were not for the fact that gamekeepers shoot all the eagles that make their appearance in England, we should have a better opportunity of studying their habits. Eagles are very little more than great buzzards, and there is nothing but their grand flight to inspire us with respect for their character. Now the Imperial Eagles, of which there are three species, grand as they look, are by no means such magnificent fellows as we should fancy from their appearance. Mr. Hume, a good observer, writing from India, calls one of these eagles a "great hulking kite," an "ignoble feeder," and says that he has plundered the nest of a pair of these great birds without their having flapped a pinion in its defence, or attempted to attack the intruder who robbed their nest.

I now show you one of the true falcons, the Greenland Falcon, a bird which very rarely comes over to England in winter. In Greenland it is by no means rare, though it is not so common as in former days. We learn that in the Middle Ages a present of a pair of these birds, from one monarch to another, was always considered a right royal gift. I cannot pass by this falcon without calling your attention to an instance of protective colouring which is exhibited in the birds of Greenland. Of course that country is during the greater part of the year under snow. The Greenland Falcon, as represented in our picture, is preying upon the ptarmigan. The ptarmigan in summer is a very dark bird, almost black. Supposing that this black bird never changed its plumage, what chance would it stand against the hawk or the owl in the winter, when the whole ground is covered with snow, or in



the autumn, when the general mossy character of the country gives a grey tint to it? Why, in a minute it would be gobbled up by the birds of prey, because it would remain as a black speck in the midst of the snow. Therefore we have in these birds a wonderful provision of Nature, for we find that the ptarmigan changes its plumage with the season of the year. In summer it is black, the country being darkest at that time; in autumn it changes to a grey colour, so that it assimilates to the general mossy and grey colour of the country; while in winter, when the snow is all over the place, the colour of the ptarmigan is white. Thus we see an instance of the way in which the balance of Nature is preserved. Of course the same rule applies to the falcon and the snowy owl, which are also white, for if they were black they would have no chance of catching birds in a country covered with snow, where their dark forms would be easily seen approaching.

Now, after the diurnal birds of prey, or those that fly by day, we must turn to the nocturnal, or the birds of prey which fly by night. This is the general or popular division of the two groups, but it is not quite a correct one, because there are owls which fly entirely by day, while there are hawks which fly by night. But taking the two groups as a whole, it is a very fair division to divide them into diurnal and nocturnal birds of prey. The owls differ from the hawks in having the outer toe reversible—that is to say, they are able to turn it backwards or forwards as they please, and this gives them a very great purchase in capturing their prey. I am sorry to say that the general superstition caused by the melancholy notes and shrieks of the owl renders it an object of fear to most people in the countries it inhabits; but I hope that a kindlier spirit towards these much maligned birds will prevail, and that instead of seeing them nailed up as vermin in a “keeper’s larder,” they may be afforded that protection which they merit on account of their utility to the farmer in keeping down mice and rats. The illustration now before us represents the Great Eagle Owl (*Bubo ignavus*). I hope that you will take my word for it that the owls are birds which ought to be protected and not killed, because of the amount of good that they do.

Well, after the birds of prey, I want to consider a very large order, which is generally known to present systematists as the Picarian Order of birds (*Picariæ*). The characters on which this order is founded are chiefly osteological, and I need not trouble you with details, for which we have not the time, but I shall try to show



you in a more simple way the general characteristics of the group. They are divided into two large divisions, which may be called scansorial or climbing, and fissirostral or wide-mouthed birds. Now of the first the Woodpecker is a good example; of the second the Kingfisher or the Goatsucker; both of which I will show you presently. If you look at the foot, which is represented at the left-hand corner of the picture now before us, you will see that the toes are there placed two and two; not three in front and one behind, like the common sparrow or canary, or any familiar bird, but two and two in pairs; and this is the principal characteristic of the climbing birds. Then I show you here—that I need not refer to it when I come to the picture of the bird—the woodpecker's head. You see what a strong bill he has, and what a curious long tongue with little barbs at the end. Now of course the first question that occurs to us is, where does the woodpecker put his long tongue? He cannot keep it in his throat, as other birds do, because of its length. Well the nature of the woodpecker's tongue is thus explained: the tongue bones are produced backwards and curl over the back of the skull till they are inserted in the cavity of the right nostril, and these are furnished with muscles which enable it to dart out its tongue to the extreme length which we see here. At the same time the latter is furnished with a glutinous fluid to which the insects become attached, and are thus more easily secured. Of the climbing birds the most highly-developed perhaps are the Parrots, which by many zoologists are considered to form a separate order (*Psittaci*). Here we have an example of the common Grey Parrot, which we often see in cages; but here he is not represented on a perch or in a cage, but in his native forest. And I must tell you that Mr. Kevlemans, whose services I have been so fortunate as to secure for these pictures, has possessed the rare advantage of studying the birds in Western Africa, where of course the tropics have afforded him the opportunity of illustrating the birds in a state of nature, which could not have been done by an English artist who had never visited those parts. Now the grey parrot in the part of Africa which the artist visited—namely, Prince's Island—was a very common bird, and he has worked up its natural history, and written a good deal about it. There he found the parrots going in flocks in the forest. In the daytime they visit the maize-fields of the inhabitants, and do a great deal of damage. Within half a day's journey from Prince's Island is the island of St. Thomas; and although the conditions of the



two islands are very much the same, on St. Thomas there is not a single grey parrot to be found, but on that island the common Black Kite abounds. In Prince's Island the parrot is very common, and not a single kite is to be found there. The two birds seem as if by mutual consent to have selected these two islands as their respective habitations; and if by any chance an unlucky parrot is blown across to the island of St. Thomas the kites immediately assemble and make short work of it; and if a kite should by any chance wander to Prince's Island it is served the same by the parrots. Before passing from this order of birds I want to show you another kind of parrot, which is one of the most extraordinary of all. This is the Great Black Cockatoo, a very rare bird, only found in Northern Australia, New Guinea, and the adjacent islands. There is not much known of his habits, and I only show him to you as an extremely curious species. His bill is said to be so powerful that he is able to break with it a hard nut which it is impossible for a strong man to crack with a hammer.

We will proceed to another family of climbing birds, namely, the *Cuculidæ* or cuckoos. Speaking in the country I must not suppose that there is anyone in the room who does not know what this bird is, as it is an English bird; but in London I often ask the question, and I know that it has puzzled a good many people to tell me what it is. It is our common cuckoo, a bird more often heard than seen. I daresay some of you would like to know where the cuckoo goes when it leaves Europe. I can tell you for certain, having seen specimens from that locality, that the cuckoo goes right down Africa to the Cape of Good Hope; it also goes into India, and is not uncommon there during the cold season. Some people suppose that it even travels farther, and specimens are said to have been received from the island of Celebes, in the Moluccas. Now the cuckoo is a bird of such extraordinary habits that it would not be difficult for me to occupy the rest of the time this evening with stories concerning it; but time will not allow me to do more than draw attention to one or two facts in the natural history of the bird. You know that it never builds its own nest. It lays or places its eggs in the nests of other birds. Popular belief has always supposed that the cuckoo lays its eggs in the nests of the birds; but it is now a pretty well-known fact that the cuckoo does not do so, but lays its egg on the ground, takes it in its beak, and places it in the nest of the bird which it selects to be the foster-parent of its young. Now my own expe-



rience bears out the theory which has been brought forward by some good naturalists, that the egg of the cuckoo found in the nest of a bird is scarcely distinguishable from the eggs of that bird whose nest it selects. In Berkshire, where I have chiefly studied the cuckoo, the nest principally adopted by the bird is that of the water-wagtail; and I have been many times struck by the extreme resemblance of the cuckoo's egg to those of the water-wagtail—there seemed to be no difference except in size. Well, then, on the other hand, many cuckoos' eggs very much resemble the eggs of the lark, but are of a darker brown. The Germans, who pay much attention to the study of birds, and are very patient in their investigations, have recently written much on the subject, and one man has stated that sometimes the cuckoo lays perfectly blue eggs, which it deposits in the nest of the hedge-sparrow. The hedge-sparrow, as we know, is the generally-accredited foster-parent of the cuckoo; but never in my experience have I found a brown cuckoo's egg along with the blue eggs of the hedge-sparrow. I just throw these few hints out on a point to be studied by anybody interested in this subject, because it is a very remarkable thing if the cuckoo should lay dark eggs and place them in the nest of the hedge-sparrow. If so, it seems to me to dispose of the theory of the assimilative colouring of the eggs; or else we must believe that the hedge-sparrow is more stupid than most birds, and is not able to distinguish between its own eggs and those of the cuckoo. There are many other facts connected with the cuckoo, but time will not allow me to draw your attention to them.

Turning to the true *Picariæ*, we must first study the Tourakoes and Cuckoos, birds which Mr. Garrod would place in a different sub-class to all the others, as more closely allied to the *Gallinæ*. There is so much that is excellent and unanswerable in his arrangement of birds, that I regret to see that his studies lead him to place these birds so far from what I consider their natural position; and in this point I must follow Mr. Wallace. At the same time it must be remembered that Mr. Garrod gives exact characters for his classification; but I think that in this case those that he gives are not of the importance that he considers them, when weighed with others more significant, as to the real affinities of these two families. The tourakoes have two toes before and two behind, although it is not on record that they ever climb up trees or use their feet as parrots do. They are natives of Africa,



and, with the exception of two or three species out of the eighteen known, are remarkable for the red colour which we see depicted in the wing of the bird before us. I have been informed by a naturalist who has travelled much in South Africa that when a storm comes on, and this bird is caught in it, the colour is entirely washed out of the wing, and the feathers become white; and after two or three days the colour is renewed. We know that if we take a skin of this bird, and use soap and water, we are able without difficulty to wash out that red colour, and it immediately becomes quite white, while the water is stained red. An English chemist of repute, Professor Church, took some feathers of this bird and analysed them to find out the substance of which the red colour was composed; and he found that it was allied to copper—a new substance entirely—and he gave to it the name of turacine, from the name of the family. I do not know whether the story I have told you about the bird being enabled to renew the colour, in a state of nature, is true, but it seems highly improbable, and the damaged plume would most likely remain worn and faded until the next moult. In Africa, as well as the Himalayas, occur the honey-guides (*Indicatoridæ*); but the African species alone, as far as we know at present, are worthy of the popular designation. You must have heard or read of these little birds in the books of African travellers, how that, by incessant calling, they lead the hunter step by step to the bees' nest, and wait in the neighbourhood, patiently, until the honey is taken, when they descend for a portion of the comb, which is always left as the share of the "guide." I regret that I have not an illustration of this family to show you, nor of the next, the climbing barbets (*Capionidæ*). In structure and habits these two families form a very evident link between the cuckoos and the toucans; indeed one species of barbet, nearly the largest of all, has received the name of *Tetragonops rhamphastinus* on account of its general similarity to a Rhamphastos or toucan. The great bulk of the scansorial barbets are African and Indian, but there are also a fair quantity of species found in Tropical America. The picture now before us represents an example of the family of toucans which I mentioned just now. These are all natives of South America and Central America; nothing of the kind is found in the Old World. The curious position of the bird on the right represents the habitual manner in which these birds sleep, and although their bill looks so large and clumsy, it is in reality the lightest structure imaginable, being full of air cells.



The tongue is remarkable, extending the whole length of that long bill, and being of a horny character with a feathered tip.

Among the climbing birds of which I spoke just now, I showed you a specimen of the woodpecker's tongue. Here is an example of the great Spotted Woodpecker, by no means a rare bird in certain parts of England. I have nothing much to say about it, but you will observe by the illustration that the disposition of the toes is eminently typical of the group of climbing birds. I now want you to look at that long bill which is the lower figure in the picture, and the curious stout foot below it. They are the bill and foot of a kingfisher (*Alcedinidæ*), which is one of the best examples of the wide-mouthed and flat-footed birds of the second division of the *Picariæ*. The outer and middle toes of the kingfisher are joined together for two thirds of their extent, so that it produces a very splayed sole to the foot, and this is one of their greatest peculiarities. We will now proceed to show you some of the birds themselves. The first that we have to speak to you about is an example of our common Kingfisher. I have not time to say anything very particular about the habits of this bird, although having written a book about the family I ought to be able to say a good deal; but I am afraid that if I began I should go on so long as to exhaust your patience. It is decidedly the brightest of our British birds, but is not equal to some foreign members of the same family inhabiting the tropical parts of Asia and Africa. Some of these do not feed at all on fish, but live entirely in the forests, where they chase insects. The shape of the kingfisher is not very striking as regards elegance—nothing like the beautiful and elegant forms of the insect-eating species, many of which have very long tails. But to a fish-catching species such an appendage would be very much in the way; and therefore, although our bird may be eclipsed in some respects by his more brilliant brethren of the tropics, we cannot but admire the admirable adaptation of his form to his requirements—the long bill to cleave the water in his downward plunge, and the tail not long enough to impede, but of sufficient dimensions to guide him as a rudder as he makes the stroke. Closely allied to the kingfishers are a little family of birds consisting of only four or five species, the Todies (*Todidæ*). There is very little known about them. They are all inhabitants of the West Indian Islands, to which they are entirely confined; none are found on the continent of America itself. In their



habits they are more like flycatchers than kingfishers, although their anatomy connects them with the latter family. From the todies we will pass to the motmots (*Momotidæ*), another American family, remarkable, as you may see, for their racket tails. But a more curious fact is that the appearance of this tail is produced by the birds themselves. At first, of course, the two middle tail feathers are of the same length as the others when the tail is newly moulted; and I have seen several examples, probably of young birds, who, being inexperienced, have begun nibbling the wrong feather; and they have not known, till the middle one began to shoot out beyond the others, which was the one to begin on. It is an undoubted fact that these birds nibble away the web from the shaft, leaving it quite bare.

Another family of brilliant birds belonging to the same group are the Trogons (*Trogonidæ*). These birds are found in Central and South America, in Africa and tropical Asia. Unfortunately their brilliant plumage has made them very fashionable, and the result is that they are much in demand for ladies' hats, not so much in England as in Paris, and this has caused the almost entire destruction of some of these beautiful Trogons. This picture represents one of the most picturesque of the group. A few years ago it was by no means rare in the forests of Guatemala; but now I am informed that the Indians who hunt the bird have to travel 300 or 400 miles before they come to any forests containing any number of them.

The illustration now before us represents the European Bee-eater, the type of the family *Meropidæ*. As its name implies, the bird lives on bees and other *hymenoptera*, and is, therefore, very destructive to hives in certain parts of Southern Europe, where the bird occurs. Occasionally it wanders as far north as England, where it meets with (literally) a warm welcome, being at once shot and placed in a collection. This, I regret to say, is usually the case with rare visitants to this country; but the bee-eater finds a hard fate in other countries besides England, for in Morocco and certain other countries he is shot in numbers during migration and sent to adorn ladies' hats in London and Paris. Five hundred were consigned in one lot last year to England. When the bee-eater quits Europe, which he does during our winter, he betakes himself to the Cape, and in South Africa he rears another brood. Very few European birds do this; and it is a matter of



congratulation that this second brood probably replenishes the loss occasioned by the persecution of the species during its sojourn in Europe. Another closely-allied family, the Rollers (*Coraciadæ*), must be alluded to here, though I have not an illustration to show you.

We have one of the most extraordinary looking examples of the fissirostral group in the Hornbills (*Bucerotidæ*). This gentleman is represented as performing a very curious act, one peculiar to the family. He is engaged in feeding his wife with some fruit, after having carefully boxed her up in a tree along with her egg. This curious habit of the hornbill has been proved to belong to the family wherever any have been found. Wallace, when travelling in the Malay Archipelago, found it was true of the Sumatran species. Livingstone long ago related it concerning the South African ones; and a little while ago I had a very curious confirmation of it with regard to some of the West African species. I had a collector on the West Coast of Africa, an old negro, one of the Fantees, for whom we went to fight. They have always been spoken of by our soldiers as a very despicable race. I never found that with this old negro; in fact, he was rather sharper than the rest of mankind, for when he sent me collections of these and other birds he had the knack of making them out to be worth something like £180, when he was glad to accept £25. I was so much struck with his individual acuteness that I begged him to give me a little of his experience about the birds which he shot. One day he sent me an old female hornbill and a young one, which he had cut out of a hole in a tree; and this is his story of the bird, told in his own words: "When the female go to sit, the male he her shut in tree. If he no bring food, then she angry. If he no then bring food, then she more angry—swear. If he no then bring food, then she curse him for die. Man—beef—beefy—beef!" I never could make out what the last part meant—whether it was really the cry of the hornbill, who perhaps having lived under British protection on the West Coast of Africa had learned to speak English; or whether it was the negro's best imitation of the cry of the enraged and starving hen bird. However that may be, there is not in the whole range of ornithology a more curious fact than that of the male hornbill shutting up the female during the nesting season, nor one apparently more inexplicable, as the exertions of the male bird to supply the hen with food reduce him to the utmost



distress; nor is the female, when liberated, in a more prosperous condition. The emaciation of the male is comprehensible, as Dr. Murie has shown that the envelope in which the food is contained is actually composed of the epithelial lining of the bird's stomach.

Closely allied to the Hornbills are the Hoopoes (*Upupidæ*), of which this is an example. The Hoopoes, by reason of their sandy colour, might be known almost certainly to be inhabitants of a desert region. There is, no doubt, much scope for study in the assimilative colouring of the plumage of birds to the different countries which they inhabit. I gave you an instance of it just now in the white falcon and the birds of Greenland. Here we have an instance of a sandy-coloured bird which is chiefly a frequenter of sandy and arid localities. It is said that this sandy colour is a great protection to the hoopoe, for on seeing a hawk he is sharp enough to throw himself flat on the ground, turn his wings round, stick up his bill in the air, so as to look as much as possible like a bit of old rag.

Before leaving this group we have to consider three other families, one of which, the Goatsuckers (*Caprimulgidæ*), of which the bird before us is an example, have the widest gape. Any one who has examined a goatsucker must have been struck with its enormous mouth, and still more by the extraordinary long stiff bristles which are found on either side of the mouth. The use of these bristles has been variously estimated. By some people it has been said that they are of use to the bird in guiding the moths and small insects, on which it feeds in the dusk of the evening, into its mouth. I think there is another explanation of it, and that is found in the curious comb which is attached to the middle toe of the bird's foot: this is doubtless used in scratching the ground, and I fancy there is some connection between this toe of the goatsucker and the bristles, because by constant scratching this comb-like appendage must become very much clogged, and the stiff bristles would be of use in cleaning it. At all events I cannot see the slightest reason for their being required to catch moths, because if the creature's mouth is not large enough to catch a moth, no amount of bristles would ever help them in.

The last two families of Picarian birds are the Swifts (*Cypselidæ*) and the Humming-birds (*Trochilidæ*). They form, in the opinion of some naturalists, a distinct order (*Macrochires*). Of the first of



these families the common swift is a typical example, and this is the bird in our picture. It only visits us during the summer. It may interest you to know the winter home of the swifts. Like the cuckoo, this bird, when it leaves our shores, goes, principally by the route of the Nile valley, down to the Cape of Good Hope.

I need hardly tell you that the little Humming-bird now before us is magnified many times above its natural size, because the bird is not in reality much larger than our finger. The humming-birds are entirely natives of America. Some few species manage to get up into North America and one occurs even in Canada in the summer; but the bulk, consisting of about 500 different kinds, are only found in Central and South America. Some of them are very rare; all are very beautiful. The present one is unfortunately, I am sorry to say, a favourite with the ladies for their hats. He is brought in immense numbers to this country. Not long ago I heard of 30,000 skins being sold by auction for  $2\frac{1}{2}$ d. each, for plumes, so that it will not be long before this will be one of the rarest of the hummers. Of one of these humming-birds only one specimen is known, and I know a gentleman who has offered £50 for a specimen of one of these birds, and has not been able to get it. A friend of mine when travelling from Peru down the Amazon saw the tail of one of these rare humming-birds in the head-dress of an Indian chief; but beyond a single specimen in an English collection there is not another known; so that although some hummers are common, you will see that others are extremely rare.

We now come to the great order of Passeres or Perching Birds, of which I can only show you a few striking examples, to illustrate some of the principal families. Among the most aberrant of all the order may be mentioned the Ground Thrushes (*Pittidæ*). You will see in the bird before you one remarkable for the varied tints of its colouring, and for its squat form. The members of this family are found only in the Old World, the greater number of species occurring in the Malay Archipelago, but they are also found in Australia and the Indian peninsula. One species has been obtained in China, and one is also found in the forests of Western Africa. I must tell you that the exact place of *Pitta* in the natural system is not yet satisfactorily determined; but it will probably be found to have intimate relations with certain American families of ground-loving birds, such as the *Pterotochidæ*, *Formicariidæ*, &c. We must pass by several families of birds in



rapid succession—the Tyrant birds (*Tyrannidæ*), Chatterers, (*Cotingidæ*, *Pipridæ*). But before quitting this group of Passerine birds I will shew you two very striking chatterers. In America this family is largely represented, and one of the most curious of them is the Bell-bird. There are three species, and all have these curious ornamental appendages on the head. There is no doubt that the bird is able to raise and deflect these appendages, the purpose of which is doubtless ornamentation. Among the chatterers this is one of the most peculiar—the Cock of the Rock (*Rupicola crocea*). This is also an American genus. Three species are known—a yellow one in Demerara (this present one), and two blood-red, found in Ecuador and Peru. Little has been recorded of their habits.

The birds which we have just been considering, though remarkable for brilliant plumage, are not celebrated for their vocal powers; and it is a well-known fact that the birds of the tropics cannot rival our own plain-coloured species in the matter of song. The larger number of the families which I shall now introduce to your notice contain good songsters. First of all, then, come the true Thrushes (*Turdidæ*), and there can scarcely be a bird more familiar to you than our common Thrush. I have, therefore, here chosen the Redwing as an illustration of the family. It is a well-known winter visitor to this country, and though it does not sing much when it is here, when he returns to Norway, where he breeds, he has a very decent song, though by no means so good as that of the common thrush. Here is another instance of a dull-coloured thrush, which has its dullness of plumage compensated by one of the most beautiful songs in the world. It is an American Mocking Bird (*Mimus*). The mocking birds form a little genus peculiar to America, and they are found from the north to the south of that continent; and not only do they possess good songs of their own, but they are also capital mimics; hence their name, and very celebrated they are for their wonderful powers.

No better instance of the fact which I have mentioned above could be found than in our English Nightingale (*Daulias luscinia*). I am sorry that Manchester is so far north, that you do not get nightingales to come up here; but I am sure if they did you would appreciate them a great deal better than we used to do in London, for if ever there was need of protection by Act of Parliament, it was for the nightingales. I assure you that in the Highgate and Barnet Woods, to the north of London, the nightingale is very



plentiful on his arrival. I have heard five or six myself this summer singing at once, and very glad I was to hear them, and to think that Parliament had interfered to protect these beautiful songsters. Before that Act was passed I have known to be brought to one shop in the north of London, 300 cock nightingales, all singing birds, which had been caught within three weeks of their first arrival in this country. I think you will agree with me that it was time something should be done to protect them from the bird-catchers. Perhaps you do not know where the nightingale goes in winter. I did not know until after the late war in Africa. That was one of the benefits which accrued to science from that war. It taught us where the nightingale went in winter, for it was found by one of our officers in the forests of Ashantee. Before that we always thought they went to Algeria; now we know they go right across the Sahara to the forests of the West Coast.

After the warblers comes a little family of birds very widely spread over the world, the Creepers (*Certhiidae*). We have one illustration of that family in England, the little common creeper; but the one I have chosen to show you to-night is the most beautiful of the family, the Wall Creeper (*Tichodroma muraria*). This bird is found on the Alps and the mountains of Southern Europe, stretching across Turkey and Asia as far as the North-west Provinces of India. His habits are very much the same as those of our little creeper, only he frequents the rocks and walls instead of trees.

I dare say the next little bird is familiar to many of you. I have chosen him as an example of the family of Titmice (*Paridae*). It is our little English Bottle Titmouse, and he is a remarkable bird in more ways than one. I dare say few of you know that he is one of the small number of birds which are peculiar to the British Islands. That fact has been ignored or overlooked by many naturalists till I pointed it out a few years ago—that our common little bottle titmouse is quite a different bird from the bottle tit of the Continent, which has a pure white head in both male and female. I have had great difficulty in getting this fact recognised, although I have numbers of specimens to prove it. I have shown it to many Continental naturalists, who at once see the difference; but English naturalists seem chary of giving up a belief which has been impressed upon them in everyone of their books for years, however erroneous the fact may be. I can assure you that if you would only take the trouble to get specimens of



the little titmouse from the Continent you would see that it was a very different looking bird, and really the difference is what we ought to expect. We do not know how long the British Islands have been separated from the Continent, and we *expect* to find different birds in the islands lying off America, or any other continent, to those found upon that Continent; but because this suggestion has been made with regard to European birds there is great difficulty in believing it. Now all our resident birds are more or less different from those on the Continent, and it would be wonderful if, with our moist climate and separation from the Continent, it were not so. They not only differ in plumage, but many of their habits are quite different, and some day I hope to recount to you some of the researches I have made into this subject.

After the Titmice we come to a very powerful family of birds, the Shrikes or Butcher Birds (*Laniidæ*). We have one little species which comes over to England from South Africa in the summer, and in the winter we are visited by the great grey shrike, which is the species before us. The habits of all these birds are the same; they catch insects, impale them on thorns and leave them to get a little decomposed before they commence to eat them. They don't at all mind eating small birds, as well as beetles and other insects; and a shrike's larder, which some of you may have seen, is often a conglomeration of festering and decaying insects.

After the shrikes we have the Flycatchers (*Muscicapidæ*). I do not select as an illustration our common brown Flycatcher, as it is a very plain bird, but show you one more beautiful, the Paradise Flycatcher of India. Of course, as I told you before, a bird living in the tropics, with such a brilliant plumage, is not likely to sing, and this bird does not; but he is very beautiful as regards his plumage and long white tail. We have an illustration here of the family of Orioles (*Orioliidæ*), in the Golden Oriole, a bird which is plentiful in most parts of Europe during the summer, and migrates in winter down the Nile valley to the Cape of Good Hope. It occasionally visits this country; several of them have been seen of late years in the Scilly Islands, off the coast of Cornwall.

Here we have an illustration of the Birds of Paradise (*Paradiseidæ*). This one before us is by no means the most striking of that gaudy family, but it is sufficiently curious to show you somewhat of the



way in which all these birds are decorated. There is not one of them but what is ornamented with long plumes in some fantastic fashion. This is the King Bird of Paradise. All the members of this family are only found in New Guinea, or in the islands of the Malay Archipelago. I have no doubt that if the Government accedes to the request of the people of Australia, and annexes New Guinea, we shall be able to find a good many new kinds of birds of paradise; and I should not wonder if it was some naturalist who put the Australian Government up to the idea of annexing it for that purpose!

We now come to consider the family of Crows (*Corvidæ*). You all know what the old black rook is, and I have not brought an illustration of the Rook or Crow, because they are quite black, and very uninteresting in appearance; but I show you the Magpie and the Jay, which are two of our handsomest British species. Both the jays and the magpies are typical northern forms, the latter being found over the whole of Europe and Northern Asia, several species being met with in the Himalayas. The Jays have the same distribution as the magpies; but in America, where magpies occur, no typical Jays are met with, but they are replaced by more brilliantly coloured species, whose general aspect is blue.

I have not brought an illustration of our common starling, because it is such a well-known bird; but, as a representative of the family of Starlings (*Sturnidæ*), I introduce to you a Glossy Thrush. All these birds are found in Africa, and they have the manners of our own starling—going in flocks, and having a harsh chattering note—but they are more brilliantly coloured than our own bird. I shall show next a remarkable kind of starling, and one of which it will be difficult to see a specimen in a few years. The bird now before us is the fast-expiring Huia Bird of New Zealand. I draw your attention to the very curious difference in the bills of these two specimens before us. One, you see, has a very long curved bill; the other a short stout one. The latter is the male; the one with the curved bill is the female. The natives of New Zealand have an anecdote respecting these birds. They say they always hunt in the forests in company, and the male, with his strong bill, knocks off the bark and discovers a grub underneath, and the female takes the grub out.

The bird now before us is one of the Hang-nests (*Icteridæ*), and the family which it represents is intermediate between the Starlings and the Weaver Birds (*Ploceidæ*). Indeed the nest that



it builds is very similar to the structure of the latter family. If any ladies fancy that they are good hands at tying a knot, I can assure them that this little weaver which we now see before us can teach them a lesson even in that. If any of you ever come to the British Museum, and will take the trouble to visit the "Nest Room," you will see some very striking examples of the weaver-birds' work, and you will agree that they weave their nests in the most wonderful manner. The nests are five or six times the size of the birds, who build in companies on trees. It is said that they are so attached to the art of weaving that even when a pair have completed their nest, and the hen bird is sitting, the male bird cannot keep from weaving, but makes himself a little bower, with a branch across it, where he perches, and sings to the female while she sits.

I shall complete this hasty sketch of the great order of perching birds by showing you an illustration of two Finches (*Fringillidæ*). These may be taken as typical examples of the conical-billed section of the Passeres, the characters of which I just now showed you in contrast to a thin-billed bird. The first is a Chaffinch, the most typical of all finches; and the second example of the family which I propose to show you will be the Crossbill, and the legend which is connected with the crossed mandibles and blood-red colour of this bird you will perhaps allow me to introduce to you in the words of the poet Longfellow:—

#### THE LEGEND OF THE CROSS BILL.

(From the German of Julius Moson.)

On the Cross the dying Saviour  
Heavenward lifts his eyelids calm,  
Feels, but scarcely feels, a trembling  
In his pierced and bleeding palm.

And by all the world forsaken,  
Sees he how with zealous care  
At the ruthless nail of iron  
A little bird is striving there.

Stained with blood, and never tiring,  
With its beak it doth not cease :  
From the cross 'twould free the Saviour,  
Its Creator's Son release.



And the Saviour speaks in mildness :  
 "Blest be thou of all the good !  
 Bear, as token of this moment,  
 Marks of blood and holy rood !"

And that bird is called the crossbill ;  
 Covered all with blood so clear,  
 In the groves of pine it singeth  
 Songs, like legends, strange to hear.

We must now pass to the next order, the Gallinæ, including the Doves and Game Birds, and the characteristics of these two groups are now shown in the accompanying slide. Here you have an illustration of the ordinary Wood Pigeon's head and that of a common fowl. As an example of a typical pigeon I have shown a picture of our ordinary English Ringdove or Wood Pigeon ; and, as an aberrant member of the family, one of the Crowned Pigeon, a native of the Molucca Islands—it may be seen in the Zoological Gardens of London and on the Continent. The bird is ornamented with a tuft of pretty little feathers, which has earned for him the vernacular name he bears.

The next illustration will show you that interesting extinct bird the Dodo, formerly inhabiting the Island of Mauritius. In the island of Samoa, in the Pacific, there is a pigeon which is very rare, but now that several specimens have been obtained, its anatomy has been carefully worked out, and it is considered to be the nearest ally of the Dodo : it is called the Tooth-billed Pigeon (*Didunculus*), and, as you see, is rather a finely-coloured bird. I cannot say much for the beauty of the Dodo, but a certain amount of interest attaches to this bird, which was living about two hundred years ago, but has now disappeared from the face of the earth. The range of the Dodo was very restricted. It was only found in the south-west corner of the Island of Mauritius, and when the island was colonised the bird soon became extinct. The sailors are said to have killed a great many of them for the sake of their breast bones to sharpen their knives upon. There is a tolerably perfect skeleton of the bird in the British Museum, but all existing specimens of the bird have long since disappeared.

The game birds have several very well marked families, as the Grouse, Pheasants, Partridges, &c. Here is an illustration of a Grouse, a family which is chiefly found in the northern parts of Europe and America. This is the largest of the family, the Cock of the Woods, or Capercailzie.



I will now show you the Monâl, or Himalayan Pheasant, which is one of the most beautiful of all the family. This is the male bird. The female is brown, and has none of the metallic plumage of its mate : indeed the females of nearly all the game birds are plainly coloured in comparison with the males.

This is a remarkably fine-looking Pheasant. It is the only specimen that has arrived in Europe, and the unique example is at present in the British Museum. It is called Buliver's Pheasant, or the Lobed Pheasant, on account of the blue lobes which ornament its head. It comes from the Lawas Mountains, in the northern part of Borneo, a part in which no European has ever set foot. It is one of the most startling birds we have seen for many years, not only on account of its beautiful plumage, but because of its structure and the number of its tail-feathers, which exceed in number those of any other game bird known. It is surprising that such a beautiful bird should have remained so long undiscovered, and I was glad to get such an interesting addition for the national collection.

The bird now before us is the Great Bustard, a bird which once was pretty common in England, but civilisation has drained the marshes it frequented. During the French and German war we had nearly a dozen Bustards whose capture was recorded in England. It was supposed by some that the cannonading of the contending armies frightened these birds from their accustomed haunts over to this country ; but they were all killed, and no attempt was made to reintroduce this bird.

We shall now pass to the consideration of a large group, popularly known as Wading Birds. These are remarkable, as a rule, for their long legs, which enable them to wade in the water. Although the order (*Grallæ*) has been of late divided into several divisions, which seem to me well characterised, I have no time left to dilate upon these different sections ; but I can, in the few moments remaining to me, do no more than show you some of the most peculiar forms. One of the most beautiful of the Cranes is now before us, namely, the Crowned Crane, a native of Africa. The next bird is the Shoe-bill, also peculiar to Africa, where it was discovered by Consul Petherick, who procured the species in the upper districts of the Nile. Next we have the ordinary White Stork, which occasionally comes over to England. In Holland and other parts of Europe they breed on the houses, and are held in great respect by the people, who are very careful not to molest or injure them.



The present illustration represents the Spoon-bill, a bird which used to be plentiful in certain parts of England before the destruction of its haunts through the progress of civilisation. It is still found in some numbers in Holland and in Southern Europe.

Then we have a family of Rails (*Rallidæ*), which are remarkable for their thin bodies, long legs, and elongated toes. They live in the rushes and reeds by the side of water, and the thin make of their bodies enables them to penetrate the reeds with ease. This bird is a Jacana, and it is able to walk upon the leaves of water lilies with his long thin toes. The specimen before us is the Madagascar *Parra*, and the group he represents is found in India, Africa, and South America.

In accordance with modern classification, I have here to show you a Flamingo, as a representative of the family *Phœnicopteridæ*. Although we have no member of the family in England, they are very plentiful in Southern Europe, and indeed throughout the tropical portions of the Old and New World.

As an example of the great family of Snipes, we have an illustration of the Woodcock, and of the rest of the large group of the *Limicolæ*, the Plover and a Gull are representatives. To exemplify the Swimming-Birds, I pass in succession before you the Paradise Duck of New Zealand, remarkable for the striking difference in the sexes, where the female is as handsome as the male. The Swan, the Pelican, a Darter, and a Frigate bird come next; and lastly, we have a Penguin and a Great Auk, the latter once plentiful in certain parts of England, but now, unhappily, extinct. I cannot conclude my present discourse without bringing before you some illustrations of the flightless birds, of which the Ostrich is one of the most typical examples. The bird before us at present is a Cassowary, and Sidney Smith's couplet—

If I were a cassowary on the plains of Timbuctoo,  
And I met a missionary, I'd eat him, and his hymn-book, too !

will doubtless occur to many of you. However clever this may be as a specimen of his powers in joining together uncouth words in a witty couplet, it unfortunately fails in giving an indication of the exact habitat of the genus *Casuaricus*, which is only found in Northern Australia and the adjacent Papuan Islands. Of all the flightless birds there is none more remarkable than the Apteryx of New Zealand, with which I close my illustrations to-night.



As I stated at the outset of my lecture, I have not attempted to bring before you any new scientific arrangement, nor have I entered into details of the classification of birds. A systematist would easily find fault with the order in which I have introduced them to your notice, but I may fairly hope that in the short space of time allotted to me, aided by the talented pencil of my friend Mr. Keulemans, I have, in a comprehensible though unscientific method, introduced to your notice some of the most interesting representatives of the Birds of the Globe.



