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SKETCH OF THE COLLECTION

OF

RAPTORIAL BIRDS

IN THE

NORWICH MUSEUM.

BY

JOHN HENRY GURNEY.

PRICE SIXPENCE.

LONDON: JARROLD AND SONS,

3, PATERNOSTER BUILDINGS.



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RAPTORIAL BIRDS.

THE order of Birds called “Raptores,” or Birds of Prey, includes most of those species which feed on the flesh of other birds, and of quadrupeds, as well as some which subsist chiefly on reptiles, fishes, and the larger insects. Many of the birds of this important order, especially those which are called the diurnal birds of prey, are provided with wings of considerable power, enabling them both to soar aloft when scanning the landscape in quest of their prey, and also to descend upon it, when perceived by their acute vision, with a swoop of extraordinary rapidity and force; they are also provided with strong prehensile toes, armed with curved and sharp claws or talons, enabling them to seize and hold their prey with an effectual grasp; and their bills are armed with a sharp hook, terminating the upper jaw or mandible, and serving as a weapon for tearing in pieces the prey which is thus secured by the clutch

of their talons, and which is usually subdivided in this manner before it is swallowed. Most birds of prey, except the Owls, seek their food by day, and we have first to consider these diurnal Raptores, and subsequently to examine the nocturnal Raptores or Owls.

In the arrangement which has been adopted in the Norwich Museum, the series of diurnal birds of prey commences with the African Secretary Bird, the only species of the genus *Serpentarius*, which being one of the most abnormal birds of the group, seems naturally to occupy a post upon its outskirts.

The Secretary Bird (so-called because the long feathers at the back of its head have been thought to bear a fanciful resemblance to a pen fixed behind the ear of an amanuensis,) is the longest legged of all the birds of prey; and unlike most birds of the Raptorial order, is much addicted to running, which it seems to prefer to having recourse to flight; it in this manner courses over the sandy deserts of tropical and Southern Africa, chiefly feeding on the reptiles which are peculiar to those scorching sands, including many poisonous snakes, which the Secretary attacks without hesitation, and generally with impunity, stunning its prey with powerful blows of its foot, while it spreads its wing before it as a shield to defend its body from the serpent's bite.

Allied to the Secretary, but of smaller dimensions, is another African bird, (of which a second species inhabits the Island of Madagascar,) called the Gymno-

gene (of the genus *Polyboroides*), which is very remarkable as being the only bird known in which the upper tarsal joint (that is, the joint in the middle of the leg,) can to a certain extent be bent forwards as well as backwards—a power of which this bird avails itself when in searching for the frogs on which it frequently feeds, it inserts its foot into the fissures in the ground which are caused by the heat of an African sun, and in which the frogs of South Africa usually take refuge when the smaller pools of water are dried up.

Our next group is an American one, consisting of the birds called Caracaras, or Carrion-eating Hawks, and comprising the genera *Polyborus*, *Senex*, *Phalco-bœnus*, *Milvago*, and *Ibycter*.

The birds of the three first of these genera feed partly on carrion, and partly on insects, and small reptiles; but those of the genus *Ibycter* appear to subsist upon insects almost exclusively. Perhaps the most remarkable bird of this group is the species called *Senex australis*, which inhabits the Falkland Islands, and is noted for its singular propensity for carrying off any small object which may excite its curiosity. One of these birds was seen to purloin a pocket mariner's compass, and another actually pounced upon and carried off a sailor's glazed hat, which had been accidentally left on the ground at a spot frequented by these birds.

Between the Caracaras and the true Vultures is introduced the genus *Gypohierax*, consisting of a

single species, a native of tropical Africa, which is usually called the Angola Vulture, but which is scarcely entitled to that designation, as it differs from the Vultures, properly so called, in having its head clothed with feathers, and also in its habits, for, instead of feeding like the Vultures on carrion, it frequents the sea coasts, and lives like the Sea-Eagles by the capture of fish, though it varies its diet by also preying upon crabs.

The true Vultures are divided into the following genera—*Neophron*, *Coragyps*, *Cathartes*, *Gryphus*, *Sarcoramphus*, *Vultur*, and *Gyps*.

The genus *Neophron* consists of three species, of which one is found only in tropical and Southern Africa, another occurs in India, and the third, which bears the name of the Egyptian Vulture, is distributed throughout Africa, Southern Europe, and South-western Asia.

The predilection of all the true Vultures, for feeding on unclean offal, is most strongly developed in all the species of the genus *Neophron*, which, on that account, are most useful scavengers in those hot countries which they inhabit.

The Egyptian Vulture is interesting as having been satisfactorily identified, through the medium of its modern Arabic name of Rachama, with the unclean bird mentioned in the English version of the Pentateuch, under the title of "Gier—Eagle."

The four succeeding genera contain the American

Vultures, three of which (one belonging to the genus *Coragyps*, and two to the genus *Cathartes*,) perform services as scavengers in many tropical cities of America, similar to those for which the African towns are indebted to the Vultures of the genus *Neophron*.

Nearly allied to these smaller scavengers are the two great American Vultures, the *Cathartes californianus*, or Californian Vulture of the Rocky Mountains, and the *Gryphus condor*, or Condor Vulture of the Andes, the latter being the largest bird of prey known. Both these species are remarkable for the extraordinary altitudes at which they are sometimes observed to soar, and from whence they can discern their distant prey. The Condor attacks with equal avidity the newly dropped and weakly calf, or the abandoned carcase of any animal which may have accidentally perished in the gorges of the Andes, or on the adjacent plains.

The Californian Vulture is equally on the watch for such carcasses as may occur in the territory over which its range extends, and both species frequently descend to the shores of the Pacific Ocean to prey upon stranded whales, or upon seals which have been abandoned, after the sealer has secured the fur or the oil for the sake of which these animals are constantly destroyed on the western coasts of the American continent.

The remaining Vulture of the New World is that beautifully-coloured species (though the vivid hues of its

head and neck fade grievously in preserved specimens) which bears the name of the King Vulture, an appellation given to it because the small black Vultures, which are its fellow denizens of the tropical parts of America, always abstain from attacking a carcass on which the King Vulture has descended, until the latter has satiated his royal appetite and with slowly flapping pinions, has winged his way to the dead limb of some lofty tree, where, with his crimson head and purple neck nestled down between the cream-coloured feathers of his wings and shoulders, he will patiently sit till the return of hunger recalls him from the memories of his last feast to a quest for the repast which shall succeed it.

The two remaining genera, *Vultur* and *Gyps*, contain all the larger true Vultures of the Old World, some of which approach very closely in size to the American Condor. They are widely spread over the continent of Africa, and over the southern countries of Europe and Asia; and, like the rest of this tribe, subsist chiefly on abandoned carcasses of animals, which have accidentally died, or have fallen victims to the pursuit of either hunters or wild beasts. One of these species, the Fulvous Griffon Vulture, (*gyps fulvus*) was frequently sculptured by the ancient Egyptians on the entablatures of their temples, and is believed to have been held sacred by their priests, to one of their fabled deities, Maut, the Goddess of Maternity.

The Vultures are followed by the Læmmergeyers, of which there are two species differing very slightly from each other, and forming together the genus *Gypaëtus*, a name which signifies Vulture-Eagle, and thus indicates the natural position of the Læmmergeyers, which, both as regards their form and habits, are intermediate between the Vultures and the typical Eagles.

The Læmmergeyers inhabit the mountainous parts of Africa, and of many warm and temperate countries of Europe and Asia, and are much more in the habit of attacking living prey than are the true Vultures. One of the animals which they frequently devour is the tortoise, whose strong shell they contrive to shatter by carrying the reptile into the air and then dropping it on a rock or large stone; and it is remarkable that the ancient Greek tragedian, Æschylus, is recorded to have lost his life by a tortoise having been thus dropped upon his bald head whilst he was sleeping in the open air in the Island of Sicily, a locality inhabited till recently by Læmmergeyers, which still abound on the opposite shore of the Mediterranean, amongst the mountains of Northern Africa.

From the genus *Gypaëtus* we pass to that well-known and formidable group, the Eagles; commencing with those genera in which, as in *Gypaëtus*, the lower portion of the leg, called the tarsus, is clothed with feathers.

The first of these, the genus *Uroaëtus*, contains but

one species, the large wedge-tailed Eagle of Australia, which occupies this place because the conformation of its head, neck, and tail, appear to offer some special points of affinity to the genus *Gypaetus*, which it immediately succeeds.

The next genus, *Aquila*, contains all the most typical Eagles, of which the Golden Eagle is the best known as being the only feathered-legged Eagle, which is a native of the British Islands.

This magnificent bird, some two hundred years ago, nested amongst the rocks of Derbyshire, but it now only occurs in England as an occasional straggler, though a few pairs still nest in the Highlands of Scotland, on estates where they are not allowed to be destroyed. The greater number of the Scotch Golden Eagles have, however, been exterminated in consequence of their destroying lambs, fawns, grouse, and mountain hares, which appear to constitute their chief food. The Golden Eagle is found in Europe, North Africa, Asia, and North America, and is the only species of the genus which occurs in America, although the other species, to which our space will not allow us to refer in detail, have a wide distribution over the warm and temperate countries of the Old World.

The genus *Neopus*, which follows *Aquila*, is limited to two Oriental species, of which the best known is that called *Neopus malayensis*, which has frequently come under the notice of Indian Ornithologists as a

voracious devourer of the eggs of other birds, especially those of the Indian Pheasants. The extraordinarily long and sharp claws of this species are particularly worthy of observation. The second and less typical species of this genus, *Neopus gurneyi*, (which is a native of some of the islands in the Indian Ocean,) is remarkable for its great rarity, the Leyden and Norwich Museums being (it is believed) the only public collections which contain this fine bird.

The next group consists of those genera which are called Hawk-Eagles, because their wings are shorter, and their tails more developed than is the case with the typical Eagles, in both of which respects they resemble the true Hawks. Of these Hawk-Eagles the genera *Nisaëtus*, *Limnaëtus*, *Lophaëtus*, *Spizastur*, *Pternura*, and *Spizaëtus*, have the legs clothed with feathers as in the typical Eagles; whilst the other genera of the group, *Thrasaëtus* and *Morphnus*, have the tarsi bare of feathers and covered with scales, in which they resemble all the remaining non-typical members of the Aquiline family. The first of these genera, *Nisaëtus*, consists of three species, two of which are limited to Southern and Tropical Africa, the other, called Bonelli's Eagle, being spread over Southern Europe and Asia, and Northern Africa. All three species are comprised in the collection of the Norwich Museum.

The genus *Limnaëtus* contains all the remaining Hawk-Eagles of the Asiatic Continent, and of the

Islands of the Indian Ocean; and our Museum is fortunate in also possessing all the known species of this genus, including some of considerable rarity—in the case of one of these, *Limnaëtus borneonensis*, the two specimens which we possess are the originals of the fine plate of this species in its adult and immature dress, given by Mr. Gould in his folio work on the Birds of Asia.

The genera *Spizastur* and *Pternura* are limited to the tropical portions of the American Continent. One species of the genus *Pternura*, which we possess, both in its immature and adult dress, (the *Pternura isidora* of New Grenada,) is so rare, that neither the British Museum nor the celebrated collection at Leyden contain an example of it. The two other species of the genus (*P. ornatus* and *P. tyrannus*) which from their being less rare, are better known to travellers, were both observed by Prince Maximilian of Wied, during his explorations of the Brazilian forests, to be much annoyed by Toucans, which mobbed them as small birds in England sometimes mob a Kestrel or an Owl. A specimen of *P. tyrannus*, obtained by this Naturalist, was killed whilst in the act of capturing an Opossum.

The genera *Lophaëtus* and *Spizaëtus* are confined to the Continent of Africa. Each genus consists of but a single species, and that which constitutes the genus *Spizaëtus*, *S. coronatus*, is one of the largest and most destructive Hawk-Eagles of the Old World. The

female specimen of *S. coronatus*, now in the Norwich Museum, was shot by Mr. Thomas Ayres, of Natal, just after it had killed a large Monkey of a species called *Cercopithecus lalandi*, which inhabits the forests of that colony, and of which the Museum contains a specimen.

But formidable as are the great African Hawk-Eagles, their near congener, the Harpy Eagle of Tropical America, (*Thraësatus harpya*) is even more so; and as regards the development of its talons, and the strength of its foot, is probably the most powerful bird of prey in existence.

Like the African *Spizaëtus coronatus*, the Harpy is a destroyer of monkeys, and is usually found in the forests where these animals abound. The remaining Eagle of this group (*Morphnus guianensis*), is, as its name denotes, a native of Guiana. It is inferior in size and power to the Harpy, but is a rarer species in European collections, probably from the circumstance of its geographical range being more limited than that of the Harpy.

The Hawk-Eagles are followed by a large group of Eagles of a feebler type, which mostly prey chiefly on small rodent quadrupeds, on the smaller reptiles, and on insects; and which, as they appear in some measure to combine the characteristics of the Buzzards and the Harriers with those of the Eagles, may be appropriately termed either Buzzard-Eagles or Harrier-Eagles; the former of these two names being that adopted in the Norwich Museum.

The genera among which the Buzzard-Eagles are distributed are the following—*Harpyhaliaëtus*, *Urubitornis*, *Urubitinga*, *Geranoaëtus*, *Hypomorphnus*, *Buteogallus*, *Herpetotheres*, *Spilornis*, *Circaëtus*, and *Helotar-sus*. Of these ten genera, the seven first belong to the New, and the three last to the Old World. The first of the American genera (*Harpyhaliaëtus*) consists of a single South American species, which is remarkable as being the only bird of prey known to feed on that unsavoury quadruped the South American Skunk; the succeeding genus, *Urubitornis*, also consists of but one species, *U. solitarius*, a bird of very great rarity in collections, but which we fortunately possess both in adult and in immature plumage.

Amongst the remaining American Buzzard-Eagles, there is one species which exceeds all the others in the beauty of its plumage, and also differs from them in the nature of its food, having a singularly vulturine predilection for feeding on putrid carrion. This bird is called, from a remarkable black band which crosses its breast, the single-banded Buzzard-Eagle (*Hypomorphnus unicolor*), and has a wide geographical range extending from Chili as far north as the southernmost states of the North American Union. One other South American species of this group* (*Urubitinga schistacea*) may also here be mentioned as of great rarity, and was first figured in the "Transactions" of the Zoological Society from a specimen in the Norwich Museum.

* It is, however, doubtful whether this species should not rather be placed amongst the Buzzards of the genus *Leucopternis*.

Leaving the American Eagle-Buzzards, we come to the genus *Spilornis*, the species of which are natives of the countries of South Eastern Asia, and of some of the Islands of the Indian Ocean, and are all adorned with a peculiarly spotted plumage, especially on the under parts, which at once distinguishes them from the other birds of this group. The following description of the mode of obtaining its prey practised by *Spilornis bacha*, the species which inhabits Ceylon, has been recorded by Mr. E. L. Layard, who was long a resident in that island.

“It frequents the borders of tanks and morasses, feeding on frogs, snakes, and lizards. Concealed in the dark foliage of some overhanging tree, it heedlessly marks the smaller frogs approach the grassy margin of the pool. Suddenly the large green bull frog (*Rana malabarica*) uplifts its head, and utters its booming call. The *Spilornis* is now all attention, with outstretched neck it fixes its glaring eyes on its desired prey, lower and lower it bends, for the frog with a croak of triumph gains a log, but a shadow glides over him ; in vain he crouches, and his colour becomes a dull brown, so closely resembling the log, that human eyes would take him for a knot in the decaying timber ; with noiseless rapidity the barred-wings pass on, and the log is untenanted. Fast clutched in the talons of his merciless foe the prey is borne to the well-known perch, and a sharp blow on the back of the head from the bill of the bird deprives it of life.”

Nearly allied to *Spilornis* is the genus *Circaëtus*, all the species of which are natives of the African Continent, but one of them (*Circaëtus gallicus*) also occurs in the southern countries of Europe and Asia. The

Norwich Museum possesses all the known species of this genus, one of which, *Circaëtus fasciolatus*, has only been found in the Colony of Natal, and is so scarce, that the two specimens at Norwich, and one in the British Museum, are the only examples known to exist in any European collection.

The female specimen now at Norwich was found, when killed, to have been feeding very plentifully on winged *termites*, which constitute, at certain seasons, a very favourite article of food for many of the South African birds of prey. This specimen was figured in the "Ibis," for the year 1862.*

The remaining birds of this group consist of the African Short-tailed Eagles, of the genus *Helotarsus*; of these there are two species, differing in the colour of the back, which in the adult bird of the commoner sort is rufous, whilst in the other, and scarcer species, it is of a pale salmon colour; but both races are conspicuous for their beauty of colouring when alive; their legs and feet, and the bare skin between the bill and the eye, being then of a bright coral red. These Eagles are remarkable for the shortness of the tail, and this, with the comparative length of the wings, and the elongated feathers of the head, (which can be partially raised during life) gives them a singular and grotesque appearance.

Their usual flight is calm and majestic, but occasionally they soar to a great height, from which they

* Another rare species of this genus (*L. Beaudouini*), was figured in the same volume from a specimen in the Norwich Museum.

allow themselves partially to descend, after the manner of tumbler pigeons, again rising and repeating their aerial gambols. It was in consequence of this habit that the eminent French traveller and naturalist, Le Vaillant, gave to the rufous-backed race of these Eagles the name of "Le Bateleur," or "the Tumbler."

The Bateleur Eagle feeds frequently on carrion, but is also a great destroyer of snakes, which it usually does not devour on the spot, but carries away to a distance securely grasped in its powerful talons. It is probably this habit which has suggested to the Arabs of North Eastern Africa, (who entertain many superstitions about this Eagle,) the belief that the Bateleur, if its young ones are injured, will carry in its talons medicinal roots for their relief; for the curling and writhing of a snake when borne on high through the air, would cause it much to resemble the contortions of a twisted root. It is a curious coincidence, that the ancient Egyptian priests attributed to the fabled Phoenix the habit of carrying to its nest twigs of aromatic and spice-bearing plants, and as the Bateleur Eagle is a native of the countries lying immediately to the South of Egypt and Nubia, and certainly resembles the description given of the Phoenix by ancient authors more nearly than does any other bird now known, it seems not improbable that it is the species on the existence of which the ancient fable of the Phoenix was originally founded.

Although the Bateleur becomes docile in captivity,

it is a remarkably fierce bird in its native state, and Mr. James Chapman, in his South African travels, relates a curious instance of his having been most pertinaciously attacked by one of these Eagles, at which he had fired when it was sitting on its nest.

The Buzzard-Eagles are followed by the Sea-Eagles, of which there are nine species all comprised in the genus *Haliaëtus*.

The Sea-Eagles are for the most part powerful birds, frequenting the sea coasts and the larger rivers and lakes in every quarter of the globe, and feeding partly on fish and partly on other animal food of various descriptions.

The largest and most powerful of the Sea-Eagles is the species inhabiting Kamskatcha, (*Haliaëtus pelagicus*) which is very rare in collections, and of which, though we possess two immature specimens, we have at present no adult example.

The species which occasionally frequents in winter the eastern coasts of England, and which still nests in some mountainous parts of Scotland and Ireland, is the next in size to that inhabiting Kamskatcha, and much more extensively diffused, as it extends its range westward to Greenland, and eastward to Japan, and is found in most of the maritime countries of Europe and Asia, as well as of Northern Africa; it is usually called the white-tailed or cinereous Sea-Eagle (*Haliaëtus albicilla*). The Norwich Museum possesses a grey variety of this Eagle, which is believed to be

almost unique; it was obtained many years since in Ireland, and is figured in Meyer's British Birds.

As space will not allow us to refer more particularly to the remaining species of *Haliaëtus*, we now pass on to the succeeding genus, *Pandion*, the Osprey. Ospreys are found frequenting situations similar to those inhabited by the Sea-Eagles, in most countries of the globe, and feed exclusively on fish, for the capture of which, their powerful talons and roughened soles are admirably adapted. The Osprey frequently pounces on fish with so great an impetus as to plunge completely below the surface of the water, from which it again rapidly emerges with the scaly prey grasped in its talons, which it then bears away to some convenient perch, and forthwith devours.

There is a slight variation in the size of the Ospreys found in different parts of the globe, on account of which some Naturalists have divided the genus *Pandion* into four species, but these seem rather to be mere local varieties of one widely spread and almost cosmopolitan race.

We now come to the group of Kites comprising the following genera — *Haliastur*, *Milvus*, *Gypoictinia*, *Rosthramus*, *Nauclerus*, *Gampsonyx*, *Elanus*, and *Ictinia*.

The genus *Haliastur* consists of four species, which are found in South Eastern Asia, the Islands of the Indian Ocean, and Australia, and which, like the Sea-Eagles, feed in great measure upon fish. The Indian

species is considered sacred to the Hindoo deity Vishnu, from whence it has received the Anglo-Indian appellation of the Brahming Kite.

Dr. Jerdon, in his work on the "Birds of India," says, that "near cities it is very tame and fearless. I have often seen one catching fish thrown up to it by some pious Hindoo."

The genus *Milvus*, which next follows, comprises the Kites, properly so-called, of which there are seven species widely spread over the temperate and tropical countries of the Old World. The best known, and perhaps the handsomest of the Kites is the species which was formerly abundant in Great Britain, though it has now become nearly extinct, having been destroyed almost everywhere either by game-keepers, or by ornithological collectors. This Kite has been called the Royal Kite (*Milvus regalis*), because in former times it was a favourite amusement of the Kings of France to fly their falcons at the kite in the same manner in which they hawked the heron.

The late Col. Montagu, whose work on "English Birds" was published in 1802, when the Kite was still common in many parts of England, thus describes its habits.

"This bird, from its great length of wings and tail, is capable of supporting itself in the air with very little motion, and for a great continuance, but is slow in flight; its depredations, therefore, are confined to such animals as are found on the ground, young rabbits, hares, and game of all kinds, poultry and young

birds incapable of flying; it will also attack young lambs, and feed greedily on carrion. In defect of these it readily eats mice, worms, and insects, and even snakes, the bones of which we have taken from the nest. It frequently resorts to the environs of towns to feed on offal, and is seen to sweep such matter from the surface of water with great dexterity."

In Africa, and Southern and Eastern Asia, Kites of various descriptions abound in many of the cities, where they act as scavengers, and become excessively bold in their habits, of which many anecdotes are recorded. Amongst these is one related by Mr. Layard of the large eastern Kite (*Milvus govinda*) in the following words: "In one instance I saw a lad about thirteen years old, struck to the ground by the sudden pounce of a Kite, which bore off a good-sized fish from a basket the boy was carrying on his head."

The next genus, *Gypoictinia*, consists of a single Australian species, which is very rare in collections, and which is a desideratum in the Norwich Museum, though we possess a wing of this scarce bird, which was sent over from the Swan River with other birds' wings, intended as plumes for ladies' hats.

The following genus, *Rosthramus*, also consists of a single species, a bird of gregarious and migratory habits, which is found in marshy districts throughout the warmer portions of North and South America. It is remarkable for the awl-shaped point in which the upper mandible of its bill terminates, and which, with its very sharp talons, is excellently adapted to its

requirements, as it usually preys upon small fresh-water fish, and aquatic reptiles, which are often very slippery and difficult to retain when captured.

The succeeding genus, *Nauclerus*, consists of two species, in both of which the long and elegant forked-tail is a conspicuous feature. The larger species is a native of the warmer countries of America; the smaller, of tropical Africa. The habits of the American species, as observed in Texas, have been so well described in the "Ibis," by Mr. Dresser, that we insert the following extract from his notes.

"This bird presents a singularly pleasing appearance on the wing, gliding in large circles without apparent effort; still the flight is very rapid, the tail is generally very widely spread, and when sailing in circles, the wings are kept almost motionless. I watched one very closely as it was hunting after grasshoppers on a piece of prairie. It went over the ground as carefully as a well-trained pointer, every now and then stooping to pick up a grasshopper, and to me the feet and bill appeared to touch the insect simultaneously. They seem very fond of wasp-grubs, and will carry a nest up to some high perch, and sit there holding it in one claw, and picking out the grubs. I saw one drop a nest and catch it before it reached the ground. I examined the stomachs of ten or twelve, and found them to contain sometimes beetles, and sometimes grasshoppers."

The remaining genera of Kites consist of birds which, like those of the genus *Nauclerus*, feed principally on insects. Of these three genera, two (*Gampsonyx* and *Ictinia*) are limited to the American Continent; but the third (*Elanus*) is not only repre-

sented in America, but extends also to Southern Europe and Asia, Africa, Australia, and many Islands of the Indian Ocean.

Nearly allied to the insect-eating Kites are the birds of the succeeding group, the Perns, which consist of the following genera—*Pernis*, *Henicopernis*, *Machæramphus*, *Regerhinus*, *Cymindis*, *Aviceda*, and *Baza*.

The first of these genera contains three species, one of which, *Pernis apivorus*—the European Pern, or as it is popularly called, the Honey Buzzard, is a summer visitor to Great Britain, where it occasionally breeds, and would doubtless do so more frequently (especially in the wooded parts of the southern counties,) if it were not so constantly destroyed by game-keepers and collectors.

This species, like its near congener, the Crested Honey Pern of India, is exceedingly fond of the grubs of the wasp, in search of which it habitually scratches out from the ground the nests of this insect; and there is no doubt that the mistaken idea that the bird in attacking such nests (and perhaps those of wild bees,) is seeking for honey, has given rise to its popular name of Honey Buzzard.

Beside the grubs of wasps, the European and Indian Honey Perns are very destructive to the eggs of smaller birds; and the European species has been also observed to frequent the borders of ponds, where it captures dragon flies, which it chases on the wing,

and also preys upon frogs, and occasionally on small fresh-water fish. It likewise feeds on various other descriptions of insects, as well as on lizards.

The European Pern, before it has attained its adult dress, frequently assumes remarkable and beautiful variations of plumage, examples of which, obtained in Norfolk, are preserved in our collection of British Birds.

The succeeding genus, *Henicopernis*, consists of one species, the Long-tailed Pern of New Guinea, and some of the adjacent islands. It is a bird of very great rarity in European collections, and does not exist in the British Museum; but there is a fine pair in the Norwich collection, which were obtained, one in the Island of Mysol, and the other in New Guinea, by the celebrated traveller, Mr. Alfred R. Wallace.

The genus *Henicopernis* is followed by another genus, *Machœramphus*, composed of two species, both of great rarity, one of which is a native of Malacca, the other of Damara Land, where it was discovered by the late C. J. Andersson, after whom it was named. Only two specimens of this Damara species are known to exist in collections, one in the British Museum, the other in our collection at Norwich, to which it was presented by its discoverer. This last-mentioned specimen is the original of the figure of this species contained in the "Transactions" of the Zoological Society for 1867.

Andersson's Pern is remarkable for the small size of

the horny portion of its bill as compared with its very large gape, a peculiarity which it possesses in a greater degree than probably any other bird of prey. Mr. Andersson has recorded that it feeds on bats, and he believed that it chiefly seeks its food in the twilight.

The next genera, *Cymindis* and *Regerhinus*, are both composed of species inhabiting tropical America, including one species of *Regerhinus*, which is found in the Island of Cuba. They are all birds of considerable beauty of plumage, especially in their immature stages; and the birds of the genus *Regerhinus*, are also remarkable for the extraordinary development of the upper mandible of the bill. The remaining species of the group of Terns, are contained in the two very closely allied genera of *Aviceda* and *Baza*.

The genus *Aviceda* contains one species inhabiting tropical and Southern Africa, and another which is only found in Madagascar, and is still a desideratum in our Museum.

Of the genus *Baza*, one species is a native of India and Ceylon, another of Australia, and five others occur in various islands of the Indian Ocean. The birds of both these genera are mostly very elegant in the markings of their plumage, and are all of them more or less conspicuously crested. The species inhabiting India and Ceylon (*Baza lophotes*), though the smallest; is perhaps the most handsome of these birds, and is referred to by Mr. Layard in his notes on the Birds of Ceylon in the following terms:—

“I shot one at Jaffna with half a lizard in its maw, and Mr. Mitford procured another at Ratnapoora feeding on bees, which it captured sometimes on the wing, and sometimes by darting at the nest ; it was attended by its mate, and the two sat together on the dead branches of a tree, raising and depressing their crests.”

We have now arrived at the group of Falcons, the larger species of which are birds of great power of wing, bill, and talon, and of highly carnivorous habits ; whilst the smaller Falcons are for the most part more or less insectivorous.

Amongst the partially insectivorous Falcons must be included the four species which form the genus *Hieracidea*, of which two inhabit Australia, and two are natives of New Zealand. The habits of the species which is found in New South Wales, (*Hieracidea berigora*) are thus described by Mr. Gould.

“Although it sometimes captures and preys upon birds and small quadrupeds, its principal food consists of carrion, reptiles, and insects ; the crops of several that I dissected were literally crammed with the latter kind of food. It is generally met with in pairs, but at the seasons when hordes of caterpillars infest the newly-sprung herbage, it congregates in flocks of many hundreds.”

Of the succeeding genus, *Tinnunculus*, one species is scattered over the whole of the American Continent except the arctic region ; while a second nearly allied race is limited to the Island of Cuba. Two others (one of which is our well-known British Kestrel,) are widely spread over the continents of Europe, Asia,

and Africa. Three species are peculiar to the African continent, and three others are respectively limited to the Seychelles, to Mauritius, and to Madagascar, together with three small adjacent islands. Of the remaining two species, one is Australian, and the other a native of the Celebes, and of some other islands in the Indian Ocean. The habits of the Kestrels generally appear to be very similar to those of our British species, which preys upon the smallest quadrupeds and reptiles, (giving the preference to mice and lizards,) and also on little birds, insects, and earth worms.

Closely allied to the Kestrels are the two species of red-footed Hobby, which form the genus *Erythropus*. Of these two races, the western species (*Erythropus vespertinus*) is only an occasional and very rare visitor to Great Britain, but is abundant in some parts of Southern Europe, of Western and Central Asia, and of the African Continent, where it extends its south-westerly migrations as far as Damara Land, in which country the late Mr. Andersson observed that it arrived every year at the commencement of the rainy season, and often in flocks of thousands of individuals, which chiefly feed during their sojourn in Damara Land on the white ants or *termites* that abound in that country. The eastern Red-footed Hobby (*Erythropus amurensis*) differs from the western bird in having the under wing coverts in the adult males pure white instead of dark slate colour, and also in the

female birds being much less rufous, especially about the head and breast. This species inhabits the Eastern Countries of Asia, and also occurs in South Eastern Africa, where it appears to replace the western species, with which, however, it sometimes consorts when it crosses the African Continent, and meets the migratory flocks of its western congener in Damara Land.

The eastern Red-footed Hobby is a rare bird in European collections, and was figured in the "Ibis" for 1868, from specimens in the Norwich Museum. The succeeding genus, *Polihierax*, contains but two species, one of which (*Polihierax semitorquatus*), a native of tropical and Southern Africa, is remarkable for its very small size, and elegant plumage. The Norwich Museum possesses a pair of these beautiful and scarce birds, which were obtained in Namaqua Land, South West Africa, by the late Mr. C. J. Andersson.

Diminutive as is this smallest of the African Falcons, it is surpassed in this respect by the four species of Dwarf-Falcon which constitutes the genus *Hierax*, and which inhabit the south-eastern countries of Asia, and some of the Islands of the Indian Ocean.

These beautiful little Falcons are the smallest of the diurnal birds of prey; but notwithstanding their liliputian dimensions, they are able to capture and destroy the small birds which, with various insects, constitute their food.

The next genus, *Asalon*, contains two species, one

of which, the Merlin, is well-known as the smallest of the Falcons indigenous to Great Britain. This species is sometimes trained by falconers to the pursuit of the lark ; and in former days, when falconry was common, was chosen for the use of ladies, being of course much lighter than the larger Falcons, which the gentlemen of olden times were in the habit of carrying to the field.

The Merlin is widely spread over Europe and Asia, and also visits the northern portions of the African Continent.

In America it is replaced by a nearly-allied but slightly smaller species, there called the "Pigeon-Hawk," respecting which the late John James Audubon wrote as follows :—

"It is when the shores of our eastern rivers are swarming with myriads of Rice-buntings, and other migratory birds, that the daring feats of this little spirited Falcon are displayed. * * * * * As you are gazing in astonishment at the multitudes of feathered travellers, all of a sudden a larger bird attracts your eye ; it sweeps along in the stillness of the autumnal evening with a rapidity seldom equalled, creating confusion, terror, and dismay along the whole shore. The flocks rise en masse, with a fluttering which comes strangely on your ear ; double, and double again, turn and wind over the marsh, agitated and fearful of imminent danger ; and now closely crowded they would fain escape, but alas ! one has been singled out, and in the twinkling of an eye, the Pigeon-Hawk, darting into the middle of the flock, seizes and carries him off. * * * * * The daring spirit which the Pigeon-Hawk displays, exceeds that of any other Hawk of its size. It seizes the Red-breasted Thrush, the Wild Pigeon, and even the Golden-winged Woodpecker on

land, whilst along the shores it chases several species of Snipes, as well as the Green-winged Teal. * * * Even the presence of the tyrant man it little heeds; and in Pennsylvania one of this species came almost right upon me whilst in pursuit of a dove which found safety in my bosom from its persecutor."

The succeeding genus, *Chiquera*, is also composed of two species, one a native of inter-tropical Africa, the other of India, where it bears the native name Turumti. Dr. Jerdon, in his interesting work on the Birds of India, gives the following account of this species:—

"It frequents gardens, groves of trees, and even large single trees in the open country, whence it sallies forth, sometimes circling aloft, but more generally, especially in the heat of the day, gliding with inconceivable rapidity along some hedgerow or 'bund' of a tank, or across some fields, and pouncing suddenly on some lark, sparrow, or wagtail. * * * * It preys chiefly on small birds, especially the social larks, sparrows, and the smaller ringed-plovers, also not unfrequently on bats, which I have seen it seize on the wing just at dusk. * * * * It has a shrill angry scream, and is very courageous, driving away crows, kites, or even the Wokhab Eagle, † from the vicinity of its nest or perch. * * * * It is occasionally reclaimed and flown at quail partridges, mynas, but especially at the Indian Roller. In pursuit of this quarry the Falcon follows most closely and perseveringly, but is often balked by the extraordinary evolutions of the Roller, which now darts off obliquely, then tumbles down perpendicularly, screaming all the time, and endeavouring to gain the shelter of the nearest tree or grove; but even here he is not safe, the Falcon follows him from branch to branch, and sooner or later the exhausted quarry falls a victim to the ruthless bird of prey."

† *Aquila punctata*.

Our next two genera, *Harpagus* and *Dissodectes*, are (like the genera *Aviceda* and *Baza* amongst the Terns,) distinguished by a double notch or tooth in the cutting edge of either side of the upper mandible. The genus, *Harpagus*, consists of two species, which are both natives of Tropical America. The genus *Dissodectes*, of three species, of which two are natives of inter-tropical Africa, and the third of the Island of Madagascar. The rarer of the two African species (*Dissodectes dickinsoni*) was discovered by the late Dr. Dickinson on the banks of the river Shiré, in South Eastern Africa, and was figured in the "Ibis" for 1864, from a specimen in the Norwich Museum. It is believed that the British and Norwich Museums are the only collections which contain specimens of this very scarce species.

The succeeding genus, *Hypotrionchis*, comprises the Hobbies, of which there are nine species known, three of which are natives of America, and six of the temperate and warmer countries of the Old World, where they are widely spread over Europe, Asia, and Africa, as well as in Madagascar, Australia, and several of the Islands in the Indian Ocean. They are all birds of comparatively small bulk of body, and of great proportionate length of wing, points that are well exemplified in the British Hobby, which is a summer visitor to this country, where it formerly bred regularly in the larger woods, especially those of the southern counties, but is now so fre-

quently shot at and destroyed, that it seldom has the opportunity of following its natural instinct in this respect, and is altogether a much rarer bird in England than was formerly the case.

The British Hobby extends its range eastward to China, and southward to the Cape of Good Hope. It feeds much on small birds, but is also partial to cockchaffers, dragon flies, and other large insects, which it captures on the wing. Like the Merlin, the Hobby is sometimes trained for hawking larks, and "larks killed wt. the hobbye," forms an item of fare in the curious and still existing household accounts of the Lestranges of Hunstanton Hall, in the reign of Henry the Eighth.

The remaining genus of Falcons bears the name of *Falco*, as it comprises all those species which are considered typical Falcons, and which are the largest and most powerful birds of the falconine group, and the most highly esteemed for the purposes of falconry.

The first species of the genus is *Falco peregrinator*, which is arranged at the head of the typical Falcons, as bearing the greatest resemblance to the birds of the preceding genus, the Hobbies. This species is a native of Southern and Central India, and Ceylon; but in Northern India it is replaced by a nearly allied race,* *Falco atriceps*, a very rare bird in collections, of which an adult male from the Punjâb is in the Norwich

* By some ornithologists *Falco atriceps* is not admitted as a distinct species.

Museum. These Falcons are trained in India for the chase of the smaller Indian bustards, as well as of partridges, and some of the gallinaceous birds.

The third species, *F. peregrinus*, has been called, from its migratory habits, the Peregrine Falcon, and was the Falcon most frequently used in former times in Great Britain and Europe for hawking the heron and other marsh birds, for which purpose it is still employed in India.

The Peregrine Falcon naturally preys much upon sea-fowl, and still frequents many parts of Great Britain, nesting in rocky cliffs, and usually preferring those adjacent to the sea-coast, though in very much smaller numbers than in former times when guns were scarcer, and wild birds less molested than is now the case.

The Peregrine Falcon has the widest geographical range of any species of the genus *falco*, extending over the continents of America, Africa, Europe, and Asia, extending as far northwards as the Arctic regions, and as far south as Chili in America, and the Cape of Good Hope Colony in Africa; its western range reaching to Vancouver's Island, and its eastern to Japan.

In Australia and Tasmania the Peregrine Falcon is replaced by an allied species, *Falco melanogenys*, which principally differs from the true Peregrine in the narrowness of the intervals which divide the black transverse bars on the under parts of the adult bird; this species ranges northwards to many of the islands

of the Indian Ocean, and even to the coast of China; and it has also been met with on the coast of Patagonia.

The southern portions of the African Continent, as well as the Island of Madagascar, and those of the Comoro group, possess another Falcon which, in the character of its markings, resembles *Falco melanogenys*, but which, from its smaller size, has obtained the name of *Falco minor*. These five Falcons, *peregrinator*, *atriceps*, *peregrinus*, *melanogenys*, and *minor*, may be considered as forming the first group of species in the genus *Falco*, the second group being composed of two species, holding a position intermediate between the Peregrine and its nearest congeners on the one hand, and the Lanner and its immediate allies (to which we shall subsequently refer) on the other.

The two species forming this second group are the Barbary Falcon (*Falco tunetanus*), one of the smallest species of the genus, which, as its name imports, is a native of Northern Africa, as well as of Southern Europe, and South-western Asia, and the Babylonian Falcon, so-called because the first specimen brought to this country was obtained near the site of the ancient Babylon. This species, which is somewhat larger than the Barbary Falcon, was first figured and described in the "Ibis" for 1861, from a specimen obtained in Oude by Major Irby, and presented by that gentleman to the Norwich Museum.

The Babylonian Falcon is called by the falconers of Northern India the Red-headed Shaheen, and is

trained to the chase of the smaller water-fowl. In its wild state it has a singular propensity for chasing bats in the evening, capturing them on the wing apparently more for the sake of sport than of food.

The third subdivision of the genus *Falco* consists of the Lanner (*Falco lanarius*) and two other nearly allied species.

The Lanner is a Falcon of great beauty, much resembling the Babylonian Falcon in general appearance, but with a more completely rufous head. It is a native of Southern Europe, South-western Asia, and Northern Africa, and is trained for falconry by the Arabs, for which purpose it was formerly much esteemed by the falconers of Germany. The Lanner is remarkable as having been the sacred Falcon of the ancient Egyptians, upon whose monuments its representation frequently occurs.

In Abyssinia and the countries adjacent, as well as in those parts of Western Africa which lie in the same latitude, a Falcon is found which only differs from the Lanner in its somewhat deeper colouring. This Falcon bears the name of *Falco tanypterus*, and is the second species of the Lanner group, the third species being *Falco cervicalis* of South Africa, which in its adult state is readily distinguished from its more northern congeners, by the entire absence of spots and marks on its under surface, thus presenting a beautifully rich and unbroken cream-coloured plumage from the throat downwards.

The fourth group of typical Falcons consists of the Saker,* (*Falco sacer*) and two allied, but smaller species. The Saker is a larger Falcon than the Lanner, and has a more eastern geographical range. In Europe it is only found in Turkey and Southern Russia, whence it extends eastwards to China.

In Africa it has a comparatively limited range, reaching from Algeria to the Red Sea. The Arabs of the Sahara use both this Falcon and the Lanner for the chase of the Houbara bustard; and the Saker is also trained for falconry in some countries of Central Asia.

The Saker is occasionally found in Northern India, but in the Indian peninsula generally, its place is supplied by its smaller congener, *Falco jugger*, which is there called the Jugger or Lugger Falcon, and is much in use among the Indian falconers for the chase of the smaller species of heron, and other birds of feebler type than those at which the Peregrine is there flown.

The third Falcon of this group, which closely resembles the Jugger, is a native of Mexico and the adjacent countries of North America. It is a rare species in collections, and the Norwich Museum is fortunate in possessing this Falcon and also the two

* Some naturalists divide this species into two distinct races, (*F. sacer* and *F. milvipes*,) but the correctness of this view is at present doubtful. Both these supposed races are represented in the Norwich Museum.

equally rare Australian species which form the fifth group. One of these Australian Falcons is of a uniform dark brown colour, and bears the name of *Falco subniger*; the other species is grey, and is called *Falco hypoleucus*. *Falco hypoleucus* has not been found beyond the limits of Australia, but *Falco subniger* is said also to have been obtained in New Zealand.

The only remaining group of typical Falcons consists of those which inhabit the most northern parts of Europe, Asia, and America, and bear the name of Gyr-Falcons.

These are the largest and most powerful of the Falcons, and were the most highly valued of any that were anciently used for purposes of falconry.

The most beautiful of the Gyr-Falcons is that in which the ground colour is white, and which bears the name of *Falco candicans*. This species is found more or less frequently in all the most northern countries of the globe, but it appears to be most numerous in Greenland, where it breeds, and in Iceland, where it occurs during the winter months.

The northern portions of the Old and New Worlds also possess Gyr-Falcons, in which the ground colouring, instead of being white, as in *Falco candicans*, is of a dark grey. These grey Gyr-Falcons are divided into two species, the race which is found in Northern Europe and probably in Northern Asia also, having received the name of *Falco gyrfalco*, or the Norway Falcon, whilst the somewhat larger race, which in-

habits Iceland, Greenland, and the arctic portion of the mainland of North America, has been named *Falco islandicus*, or the Iceland Falcon. There are, however, some slight differences in the plumages of the Grey Falcons which are included under the latter appellation, and these, in the opinion of some Naturalists, are sufficient to subdivide the western Grey race into three distinct races—the Icelandic, the Greenlandic, and the Labrador.

Both the White Gyr-Falcon, and also the Grey Gyr-Falcons of Iceland and of Scandinavia, occasionally, but very rarely, occur in Great Britain as winter visitors.

We have dwelt at some length on the typical Falcons as forming a genus to which, from its associations with ancient falconry, great interest attaches, and must now pass on to the family of Buzzards, a widely-spread group of birds of prey, somewhat resembling the Falcons in their general form, but greatly inferior to them in power of flight and general vigour, courage, and activity; in consequence of which the Buzzards prey less upon the larger gallinaceous and aquatic birds, than is the habit of the typical Falcons, and more upon the smaller quadrupeds and reptiles.

The Buzzards are arranged in four genera, *Archibuteo*, *Buteo*, *Tachytiorchis*, and *Leucopternis*. The first of these contain the Rough-legged Buzzards, so called because, in them only, the tarsi are clothed with feathers—not all round the leg as in the

feathered-legged Eagles, but merely on the front and sides.

The various species forming this genus are found in Europe, Asia, and North America. The European Rough-legged Buzzard (*Archibuteo lagopus*) has been known, though very rarely, to breed in Great Britain, and is not an unfrequent autumnal visitor to our coasts, where in some years it has appeared in considerable numbers, especially in the Eastern Counties. These migratory arrivals are almost entirely composed of birds of the year, which have probably traversed the German Ocean after leaving their native haunts in the north of Norway and Sweden, where they in great measure subsist on that singular little rodent, the Lemming, the strange migrations of which are believed considerably to influence the movements of this and other Scandinavian birds of prey.

Of the genus *Buteo*, one species, *Buteo vulgaris*, is a native of England, where it is called the Common Buzzard, because, though now comparatively rare, it was before the trap and the gun had reduced its numbers, one of the commonest of the British Birds of prey. This species is found throughout most parts of Europe and Western Asia; its chief food appears to consist of mice, moles, and lizards. The Norwich Museum contains a fine series of various species of the genus *Buteo*, as well as of the two succeeding genera, *Tachytriorchis* and *Leucopternis*, both of which are limited to the Continent of America.

Several species of these three genera which we possess are birds of considerable rarity, amongst which we may particularly mention the type specimens of *Buteo fuliginosus*, figured in the transactions of the Zoological Society, and the type specimen of *Tachytiorchis zonocercus*, which has been also figured there, as well as subsequently in Mr. D. G. Elliot's recent folio work on the Birds of North America.

Another species which our Museum possesses, and which, like *Buteo fuliginosus* and *Tachytiorchis zonocercus*, is a native of the most southerly countries of North America, may also be mentioned as being, not only very rare, but also very conspicuous for the beauty of its snow-white plumage. This handsome Buzzard bears the name of *Leucopternis ghiesbreghtii*, given to it in honour of its discoverer Auguste Ghiesbreght, a Belgian naturalist, who first obtained this species in Southern Mexico, not far from Vera Cruz.

Leaving the Buzzards, we now arrive at two genera composed of birds which appear to form a link between the Buzzards and the Hawks, and which therefore may with propriety be termed Buzzard-Hawks. The first of these genera, *Poliornis*, is limited to Eastern and South-eastern Asia, and the neighbouring islands, with the exception of one species, which is a native of Abyssinia, and the adjacent countries of Africa.

The second genus, *Asturina*, is composed of various

species inhabiting tropical America, and one of which occurs also in the West Indies. The habits of the birds of both these genera partake much of the somewhat sluggish character of the Buzzards, to which they are probably more closely allied than they are to the Hawks.

Two of the American Buzzard-Hawks, *Asturina nattereri* and *Asturina pucherani*, have recently been figured by Messrs. Sclater and Salvin in their admirable work, entitled "Exotic Ornithology," from specimens which are preserved in the Norwich Museum.

The Hawks, properly so called, which form the next group for our consideration, are distinguished by their short wings, rather long legs, and large tails, to which latter peculiarity they are probably in great measure indebted for their remarkable power of turning rapidly in their course when pursuing their prey, which they are thus able to follow amongst trees and shrubs in a manner which the longer-winged Kites and Falcons are unable to attempt.

Many of the Hawks are birds of great courage and activity, and very powerful in proportion to their size. The family of Hawks is represented in almost all parts of the world, and is divided into the following genera—*Leucospiza*, *Tachyspiza*, *Urospiza*, *Accipiter*, *Lophospiza*, *Astur*, *Melierax*, *Micrastur*, and *Ischnoscles*.

The genus *Leucospiza* contains but two species, *Novæ-hollandæ* and *rayi*, both natives of Australia, and

the former of which occurs in New Guinea and Tasmania, and is remarkable as being the only bird of prey whose entire plumage is of a pure and unbroken white, a circumstance which makes this species one of the most striking and beautiful of its family.

The following genus, *Tachyspiza*, contains a single small species, *Tachyspiza soloensis*, which is a native of South Eastern Asia, and of the adjacent islands, and which is separated from the other hawks on account of the remarkable proportionate shortness of the tarsi.

This is succeeded by the genus *Urospiza*, consisting of several species which are scattered over the islands of the Indian Ocean, and three of which occur as far south as Australia, two of them being also found in Tasmania.

One species of this genus, *Urospiza haplochrous*, a native of New Caledonia, was first figured and described in the "Ibis" for 1859, from a specimen in the Norwich Museum.

The following genus, *Accipiter*, consists of a large number of species scattered over Europe, Asia, Africa, America, and many oceanic islands, all more or less closely related to the well-known Sparrow-Hawk of Great Britain, which, however, is itself a bird of extended geographical range, being found as far eastward as Japan. This well-known species is remarkable for the great power and courage which it displays in proportion to its size, and was formerly trained for hawking the partridge. It was in former times very

common in this country, and though much persecuted by gamekeepers, who dread its ravages amongst young pheasants, is still far from being rare.

The Norwich Museum contains several very scarce species comprised in this genus, one of which, *Accipiter brutus*, is remarkable as having been hitherto only found in the small island of Mayotta, which lies to the north-west of Madagascar. The specimen of this Hawk, which is in the Norwich Museum, is believed to be the only one existing in this country.

The following rare species of this genus have been figured from specimens in the Norwich Museum, viz., *Accipiter stevensoni*, from China, in the "Ibis" for 1863; *A. francesii*, from Madagascar, in the "Ibis" for 1864; *A. collaris*, from Tropical America, in the "Ibis" for 1860; and *A. guttatus* and *A. ventralis* from the same region, in Sclater and Salvin's Exotic Ornithology.

The genus *Accipiter* is followed by *Lophospiza*, a restricted genus, composed of two, or according to some authors, three species, natives of South Eastern Asia, and the adjoining islands.

To this succeeds the genus *Astur*, of which the typical species is the European Goshawk, *Astur palumbarius*, a noble bird of great power and courage, which is found in most parts of Europe, and in many countries of temperate Asia, as well as in some parts of Northern Africa. It is a rare bird in Great Britain, but was probably more abundant in this country

before the introduction of fire-arms. It is still used for falconry in many parts of Asia, as it formerly was in this country, where it seems to have been principally flown at the pheasant, being less adapted than the longer winged falcons for the pursuit of the heron.

The Norwich Museum possesses two specimens of a rare West African Goshawk, *Astur macrurus*, one of which has been figured in the "Ibis" for 1870. The next genus, *Melierax*, is composed of hawks somewhat allied to the Goshawks, but forming a distinct group peculiar to the Continent of Africa. The largest species of the genus, *Melierax musicus*, or the Chanting hawk, is so named from the melodious character of its whistling note, a peculiarity which is common to at least one other species of this genus, but has not been observed in other birds of prey; the notes of the Raptorial birds being as a rule too harsh and strident, and too little modulated to be considered musical.

The remaining genera, *Micrastur* and *Ischnosceles*, are both composed of hawks which are natives of tropical America, and from which we may pass to consider the remaining family of diurnal Raptores, the Harriers, a remarkable group found in almost all countries of the globe, except within the Arctic Circle, but mostly preferring level and often marshy districts to those of greater elevation.

The Harriers are birds of a somewhat slender and elegant form, but are not distinguished for any great

force or courage; and their habit is to skim over the open country at no great elevation, occasionally sweeping down to seize their prey, which consists of small birds, or the eggs or young of larger species, and of small rodent quadrupeds, and the smaller reptiles.

In most species of Harriers, the male bird when fully adult, has the plumage more or less tinted with grey, the female of most of the known species being brown. It is also remarkable that in those species in which the color of the eye is known, the iris is pale yellow in the adult males, but almost always brown, or brownish yellow in the females. The Harriers possess a facial disk of small feathers surrounding the cheek, which gives them a peculiar appearance, differing in this respect from that of other diurnal birds of prey, and somewhat resembling the Owls.

In the arrangement adopted in the Norwich Museum, the Harriers are all comprised in one genus, which bears the name of *Circus*, and the collection there preserved contains one specimen which is at present entirely unique, viz., the only known example of *Circus macroscelus* of Madagascar, presented to the Museum by its discoverer, Mr. Edward Newton. This specimen has not yet been figured, as it is thought not to be fully adult, but the circumstances under which it was obtained are thus recorded by Mr. Newton in the "Ibis" for 1863.

"On the 22nd of September, 1862, we were quietly paddling through a clump of tall bulrushes, where we had marked down a

small flock of the little white-breasted Duck (*Nettapus auritus*), when I saw a Harrier hover for an instant just above the rushes, and plunge down into them; immediately there was an outcry from some water fowl, probably a Porphyrio, one species of which I had before killed in this same clump of rushes. We pushed on to the spot with some difficulty, as the canoe's head was in another direction, and it was no easy matter turning it among the rushes. The Marmites would not keep quiet, but were constantly talking, and as we were not nearly within shot, I was in considerable excitement for fear the Harrier should fly away before we got up. However, when we were about thirty-five yards off, he rose, and I killed him; on picking him up, I found he had been robbing some water-fowl's nest, his mouth and crop containing three young birds, evidently taken from the egg-shell, with fragments of the latter coloured pinkish white, with red spots like that of a Water Rail or Porphyrio."

Two other rare Harriers in the collection of the Norwich Museum are the originals of published figures, viz., a female of *Circus maillardi*, obtained in the Island of Reunion, and presented to the Museum by Mr. and Mrs. F. Bedingfeld, which was figured in the "Ibis" for 1863, and a pair of the *Circus wolfi* of New Caledonia, which were figured in the proceedings of the Zoological Society for 1865, and from which this species was first described.

Three species of Harrier are natives of the British Islands, and though far less common than was the case when fire-arms were less abundant, and when marshes were more extensive, are still not unfrequently obtained in many parts of Great Britain. These are *Circus cyaneus*, the Hen Harrier; *C. cineraceus*,

Montagu's Harrier; and *C. æruginosus*, the Marsh Harrier.

The Hen Harrier, when more abundant than it now is, was in ill repute with preservers of game from its propensity to destroy partridge's eggs, and its name of Hen Harrier implies that it also occasionally harried the good-wife's poultry yard, in connection with which it is worthy of remark, that in the Irish language this bird is called "Pee hah ne gârk," signifying "the crow that kills the hens;" and it is said that in some parts of Ireland the poultry are still occasionally the victims of its depredations.

Both the Hen Harrier and the Montagu Harrier frequent the upland moors as well as the marsh lands, but the Marsh Harrier, as its name imports, almost entirely confines itself to localities which are more or less of a marshy character, and especially to such as produce large beds of rushes, over which it is in the habit of hovering when in search of its prey.

All three of the British Harriers are widely spread over Europe, Asia, and Northern Africa; and the Montagu's Harrier also extends its range as far southwards as the colony of the Cape of Good Hope.

The remainder of the birds of prey are comprised in the large family of Strigidæ or Owls, which, from the nocturnal or crepuscular habits of most members of the group, are styled nocturnal Raptores, in contradistinction to the previously mentioned groups,

which are composed of birds that, with the exception of a few semi-crepuscular species, seek their prey by day, and are therefore called diurnal Raptores, as has been already mentioned.

The plumage of the Owls is soft and downy, the feathers being mostly large, pliant, and elastic, their wings are of considerable length and breadth, the larger quill-feathers are very broad, and their flight is buoyant and remarkably noiseless, thus enabling them to steal unheard upon their prey during the stillness of the evening or morning twilight, or of the quiet moonlight night.

The ears of the Owls are provided with larger orifices than those of the other birds, enabling them to catch the rustling sound of the small nocturnal quadruped, passing amongst grass or over dead leaves; whilst their eyes, which are large and with great power of dilation or contraction in the iris, are admirably fitted to enable them to descry their prey in the dusk, but are in most Owls little able to bear the brighter beams of daylight.

The bill in the Owls is sharply hooked at the point of the upper mandible, as in the diurnal birds of prey, but is not, as in many of the latter, furnished with tooth-like notches on its cutting edges. The foot is furnished with sharp and curved talons, and the outer toe is more or less reversible. The food of Owls consists of the smaller mammalia, chiefly rodents and bats, of birds which they mostly seize when

roosting or on their nests, of the larger insects and of small lizards, and in some cases of crustacea and such fresh-water fish as frequent shallow streams and pools.

Many Owls have two singular tufts of feathers on their heads, from whence they are called Horned-Owls. In the Norwich Museum the Horned-Owls form the first portion of the series, and are divided into the following genera—*Phasmoptynx*, *Brachyotus*, *Otus*, *Ptilopsis*, *Scops*, *Pseudoscops*, *Lophostrix*, *Ketupa*, *Pseudoptynx*, *Bubo*, *Urrua*, and *Huhua*.

The genus *Phasmoptynx* contains a single species, which is scattered over most countries of Africa, and also occurs in Arabia, and in Southern Spain. This Owl much resembles in size and habits, that well-known British species, of which so many specimens migrate in autumn to our eastern coasts—the Short-horned Owl, also often called the Woodcock Owl, from the season of its migration usually coinciding with that of the Woodcock.

The Short-horned Owl is the only species forming the succeeding genus *Brachyotus*; it is a bird which, unlike most other Owls, does not frequent wooded districts, but prefers either heathy moorlands or rushy marshes, where it squats, when at rest, upon the ground, upon which it also forms its nest. Though it now very seldom breeds in England, it is known to have done so more frequently before cultivation and drainage had reduced its favourite haunts to their

present comparatively narrow limits. The Short-horned Owl has probably the widest geographical range of any known bird, and is found in most parts of Europe, Asia, Africa, and America, as well as in various insular localities, of which the Sandwich Islands are perhaps the most remarkable.

The Long-horned Owl of the British Islands is the type of the succeeding genus, *Otus*, all the other well ascertained species of which are American, excepting one that is a native of Madagascar. The British Long-horned Owl (*Otus vulgaris*) is one of the handsomest of the tribe, and from the increase of fir plantations in which it loves to nest, appears to be resident in this country in somewhat increasing numbers.

The greater number of the Long-eared Owls, which occur in Great Britain, are, however, migratory individuals, arriving in the autumn from Northern Europe, whither they mostly return on the approach of Spring. This species is generally spread over Europe and many parts of Asia, and also occurs in winter in Northern Africa.

The genus *Ptilopsis* was instituted for the reception of a peculiar species of Small-horned Owl, a native of Africa; and that of *Pseudoscops* was similarly instituted for the reception of a species peculiar to Jamaica, but the remaining Small-horned Owls, of which the various species are widely scattered over Europe, Asia, Africa, and America, as well as over many oceanic

islands, are all comprised in the genus *Scops*,* of which the best known species is *Scops zorca*, an inhabitant of Europe, and also of Northern Africa and of some parts of Asia, as well as an occasional though rare visitor to the British Isles.

This extremely beautiful little bird is a woodland species, feeding chiefly upon mice and insects. A specimen, which was found some years since disabled by flying against the lantern of Cromer lighthouse contained the remains of a mouse, together with those of three caterpillars and several earwigs.

The genus *Lophotrix* comprises two species, of somewhat larger size than those of the preceding genera, and remarkable for the length and beauty of their tufts or "horns;" they are both natives of tropical America.

The succeeding genus, *Ketupa*, consists of three species of large Oriental Horned Owls, which are especially remarkable for having the tarsus, or lower joint of the leg, more completely divested of plumage than is the case in any other Horned Owls, a peculiarity which is well suited to the habits of the birds of this genus, which prey chiefly upon crabs and fish.

Of the three species of the genus *Ketupa*, the largest is limited to Northern India, and the smallest

* Some of the species inhabiting India and some islands of the Eastern Ocean may not improperly be considered as forming a distinct genus, which has received the name of *Lempigius*.

is found in the peninsula of Malacca, and the adjacent islands, whilst a third species intermediate in size, which bears the name of *Ketupa ceylonensis*, from having been first observed in the Island of Ceylon, is now known to extend its range as far west as Syria, and as far east as the coast of China.

The succeeding genus, *Pseudoptynx*, consists of a single species which inhabits the Philippine Islands, and appears to form a link between the genus *Ketupa* which precedes, and the genus *Bubo* which follows it. The genus *Bubo* comprises the largest of the Horned Owls, distinguished, on account of their great size, by the appellation of Eagle Owls.

The species forming the genus *Bubo* are found in Europe, Asia, Africa, and America; the largest of them, *Bubo maximus*, (which is an occasional though very rare visitor to the British Isles,) has a very wide geographical range, being found to extend from Western Europe to the coast of China, and also occurring as a winter visitor in Northern Africa. It is remarkable that this magnificent bird of prey, a native of the wildest mountain forests, will occasionally breed freely in confinement, a result which has nowhere been more favourably attained than in the Aviary of Mr. Edward Fountaine, of Easton in Norfolk, who was the first to bring this fact under the notice of Naturalists, and who has succeeded in rearing young Eagle Owls, which have themselves become the parents of a second generation, also bred and reared in confinement.

The genera *Urrua* and *Huhua* likewise include Eagle Owls, more or less closely allied to those of the genus *Bubo*; of these genera, *Urrua* contains but a single species, a native of India; *Huhua*, on the contrary, comprise several species, some of which are natives of Africa, and others of South-Eastern Asia and the adjacent islands.

It may be remarked, that in the Owls of the genus *Huhua*, the iris of the eye is of a dark-brown, instead of being of a brilliant orange, as in *Bubo* and *Urrua*. Some of the species of the genus *Huhua* preserved in the Norwich Museum are birds of great interest and rarity.

The genera of Hornless Owls, at which we have now arrived, are the following:—*Scotopelia*, *Myrtha*, *Bulaca*, *Ciccaba*, *Macabra*, *Pulsatrix*, *Syrnium*, *Nyctea*, *Surnia*, *Nyctale*, *Gisella*, *Microptynx*, *Glaucidium*, *Gymnoglaux*, *Pholeoptynx*, *Tænioglaux*, *Microglaux Athene*, *Spiloglaux*, *Ieraglaux*, *Ninox*, *Sceloglaux*, *Scelostrix*, *Strix*, and *Phodilus*. The genus *Scotopelia* contains two species, one of which, *Scotopelia Peli*, is alike remarkable for its great size, its beauty, and its rarity. It is a native of Tropical Africa, and like one of the large South African Horned Owls (*Huhua verreauxi*), has been observed to prey on the wild guinea fowls, which are abundant in many parts of that continent, and which these large owls capture whilst roosting. It also feeds on fish, the remains of which were found in the stomach of the specimen originally obtained by

the Dutch Naturalist, Pel, to whom we owe the discovery of this fine species. One of the specimens of *Scotopelia Peli* now preserved in the Norwich Museum, was the only example of this owl ever known to have been brought alive to Europe; it lived many years in captivity, and its portrait was published in the "Ibis" for 1859. Through the kind intervention of Mr. R. B. Sharpe, our Museum also possesses a unique specimen of an allied smaller species, *Scotopelia ussheri*, figured in the "Ibis" for 1871. The succeeding genera, *Myrtha* and *Bulaca*, contain some of the most beautiful species belonging to the family of Owls. They are all natives of South-Eastern Asia, and the adjacent islands, excepting two species of the genus *Myrtha*, and which inhabit Tropical and Southern Africa. One of these African species is *Myrtha woodfordi*; the other, a newly discovered allied species, *M. nuchale*, of which our Museum possesses the type specimen. The genus *Ciccaba*, which we have next to notice, is composed of three species, inhabiting the intertropical portion of the American Continent, which is also the habitat of the Owls comprised in the succeeding genera, *Macabra* and *Pulsatrix*. Two species belonging to the genera *Ciccaba* and *Macabra* (viz., *C. nigrolineata* and *M. albitarse*,) were first figured in the "Transactions" of the Zoological Society from specimens in the Norwich Museum.

The next genus, *Syrnium*, is composed of various species, which are natives of North America, Northern

Africa, Europe, and Asia. The most typical species of the genus *Syrnium* is the well-known *S. aluco*, the Tawny or Ivy Owl of the British Islands, which is very generally diffused over the Continent of Europe, as well as over some parts of North Africa and Asia; the largest species of the genus is, however, the magnificent Cinereous or Lap Owl, (*S. cinereum*) a native of the most northern countries of Europe, Asia, and America, of which the Norwich Museum possesses an unusually fine series, consisting of fourteen specimens, most of which were collected in Lapland by that indefatigable ornithologist, the late Mr. John Wolley, and presented, after his decease, to the Norwich Museum by his father, the Rev. John Wolley, together with many other valuable specimens obtained by him during various expeditions in Northern Scandinavia.

The succeeding genus, *Nyctea*, contains but one species, the large and beautiful Snowy Owl, which is appropriately so named both as regards the pure white plumage which is predominant in its dress, and perhaps also with reference to the arctic regions which it usually inhabits. It is found in the most northern parts of Europe, Asia, and America, but sometimes strays further south, especially in Autumn and Winter, when specimens are occasionally obtained in Scotland, and also, but less frequently, in England and Ireland. The Snowy Owl is a bird of voracious and somewhat omnivorous appetite, and the following fact related by

Sir John Richardson, in his "Boat Voyage through Rupert's Land," is interesting as illustrating its character in this respect, as well as affording evidence of the great boldness and power of the Peregrine Falcon, which in North America is often found in the same districts as those inhabited by this great Owl.

"A Snowy Owl, in flying over a cliff on the banks of the Mackenzie River, seized and carried off an unfledged Peregrine in its claws, and crossing to the opposite bank, alighted to devour it; the parent falcon followed, screaming loudly, and stooping with extreme rapidity, killed the Owl by a single blow."

The genus *Nyctea* is followed by the genus *Syrnium*, containing but two species, which, from their small and inconspicuous facial disk, somewhat approach in appearance the diurnal birds of prey, and are called in consequence Hawk-Owls. These birds are much smaller than the Snowy Owl, but resemble it in habits. One species inhabits the most northern countries of America; the other, those of Europe and Asia; and the latter has been obtained, though very rarely, in Great Britain. All these northern Owls have the toes thickly clothed with feathers, a provision which doubtless much conduces to their comfort in the high latitudes which they frequent, and which is also possessed, though hardly to the same extent, by the small northern Owls of the genus *Nyctale*, consisting of two North American species, and of one that is common to North America and Europe and parts of

Asia; the latter, which is called Tengmalm's Owl, is also an occasional but very rare visitor to Great Britain.

The genus *Nyctale* is followed by other genera of small Owls; these are *Gisella*, containing a single rare species from tropical South America, (*Gisella harrisii*) *Microptynx*, containing the smallest of the European Owls (*Microptynx passerina*), which is also a native of Northern Asia; *Glaucidium* containing several species, all of which are natives of America, and one of which (*Glaucidium pumilum*) is perhaps the smallest Owl in existence. Most of these little Owls of the genus *Glaucidium* subsist principally on insects.

The genus *Glaucidium* is followed by the genus *Gymnoglaux*, consisting of two species of small and somewhat bare-legged West Indian Owls, one of which, *Gymnoglaux nudipes*, was figured in the "Ibis" for 1859, from specimens obtained in the island of St. Croix, and presented to the Norwich Museum by Messrs. Alfred and Edward Newton.

The next genus, *Pholeoptynx*, contains the curious burrowing Owls, which are natives of some parts of the American Continent, and also of some of the West Indian Islands. These Owls usually inhabit the holes made by various rodent quadrupeds, such as the Woshee, (*Spermophilus douglassii*) in British Columbia, and the Wishton-wish, (*S. ludovicianus*) on the North American prairies.

Mr. J. K. Lord, in his interesting work on British

Columbia, mentions having found, in one hole which he examined, a female Woshee, a burrowing Owl, with her two eggs, and a "green-racer" Snake, a reptile which, as well as the Rattle Snake, is, like the burrowing Owl, an unbidden guest in the dwellings of the North American Spermophilæ. Mr. Lord adds—

"The burrowing Owl is strictly of diurnal habits, and feeds principally on crickets, grasshoppers, large beetles, and larvæ."

These Owls are not, however, wholly dependent for a home on the labours of their four-footed hosts, as one which lived in confinement in the gardens of the Zoological Society, excavated a burrow for itself in the earthen floor of its cage, of sufficient dimensions to shelter it effectually from view, whenever it desired to retreat from the inspection of visitors, or for the purpose of repose.

Three other genera of small Owls here follow, composed of species widely spread over the countries of the Old World, and severally bearing the names of *Tænioglaux*, *Microglaux*, and *Athene*, of which last genus, one species (*Athene meridionalis*) is celebrated as having been anciently dedicated in Attica (where it still abounds) to the tutelary goddess of ancient Athens.

The genus *Spiloglaux*, which is next in order, contains some of the smaller Owls, which are natives of Tasmania, Australia, New Guinea, and Timor, together with one species which is a common bird in

New Zealand, where it is noted for a cry much resembling the words "more pork," a demand which is said to have greatly scandalized a military officer newly arrived from England, who first heard it when inspecting his troops on parade, and who was slow to believe that the ill-timed request proceeded only from a feathered biped on an adjacent tree.

The succeeding genera, *Ieraglaux*, *Ninox*, and *Sceloglaux*, contain various Owls, which are natives of Australia, South Eastern Asia, and many islands of the surrounding ocean, which may be briefly defined as comprised in an irregular triangle, having at its several angles respectively the islands of Japan, Madagascar, and New Zealand. The Owls of these three genera are more or less remarkable for the comparatively small size and contracted appearance of the facial disk, giving to many of them an appearance somewhat resembling that of the diurnal birds of prey. One rare species of this group (*Sceloglaux albifacies* of New Zealand), which is the only species in the genus *Sceloglaux*, was figured by Mr. Gould in the supplement to his magnificent work on the Birds of Australia, from a specimen now preserved in the Norwich Museum.

Only one group more now remains to be mentioned in concluding our somewhat lengthy notice of the birds of prey. This comprises the genera *Scelostrix*, *Strix*, and *Phodilus*, and its best known representative species is the familiar *Strix flammea*, the Barn Owl of

the British Islands, which is also a common bird throughout Europe, as well as in Western Asia, and Northern Africa.

Other species of the genus *Strix* are found in almost all countries of the globe, the largest being the chestnut-faced Owl, *Strix castanops*, of Tasmania.

Of the allied genera, *Scelostrix* and *Phodilus*, the first is limited to Southern Africa, South Eastern Asia, some of the islands of the Indian Ocean, and Australia; the second occurs in South Eastern Asia, and in some of the adjacent islands; but the Owls composing these genera do not present any feature requiring special notice in this slight sketch, and with them we may therefore now bid adieu to the birds of prey, of which we have endeavoured to present a slight outline, in the hope that it may perhaps assist in making this portion of the collection more interesting to those visitors who may chance to peruse the foregoing pages.

The End.

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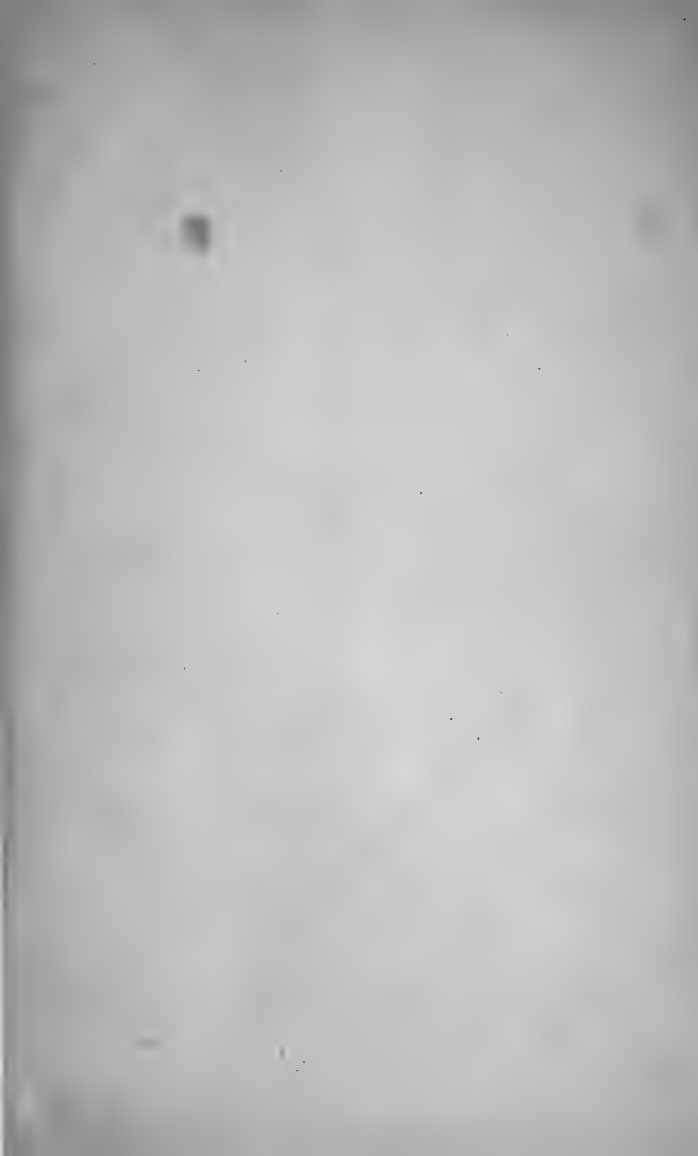
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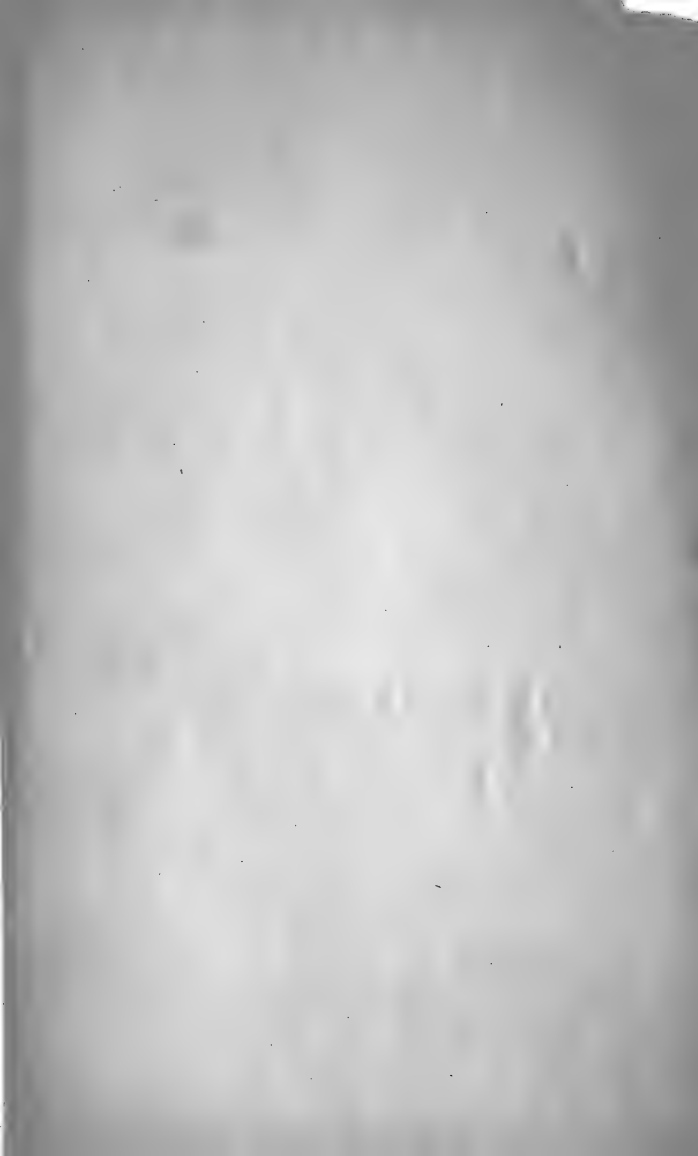
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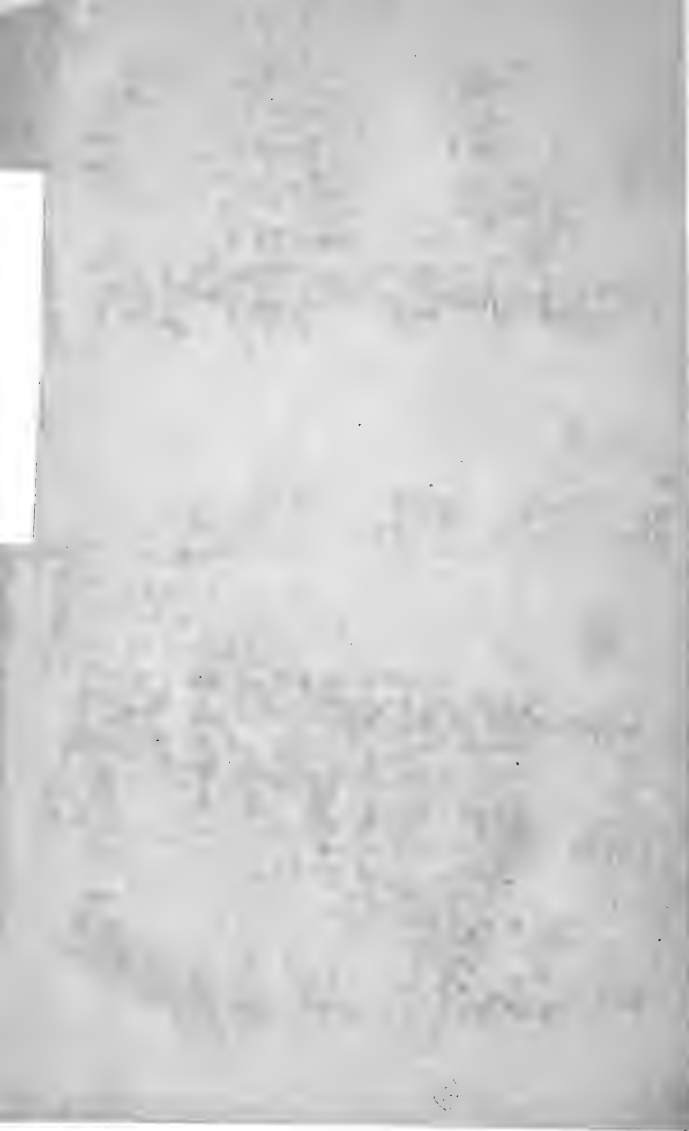
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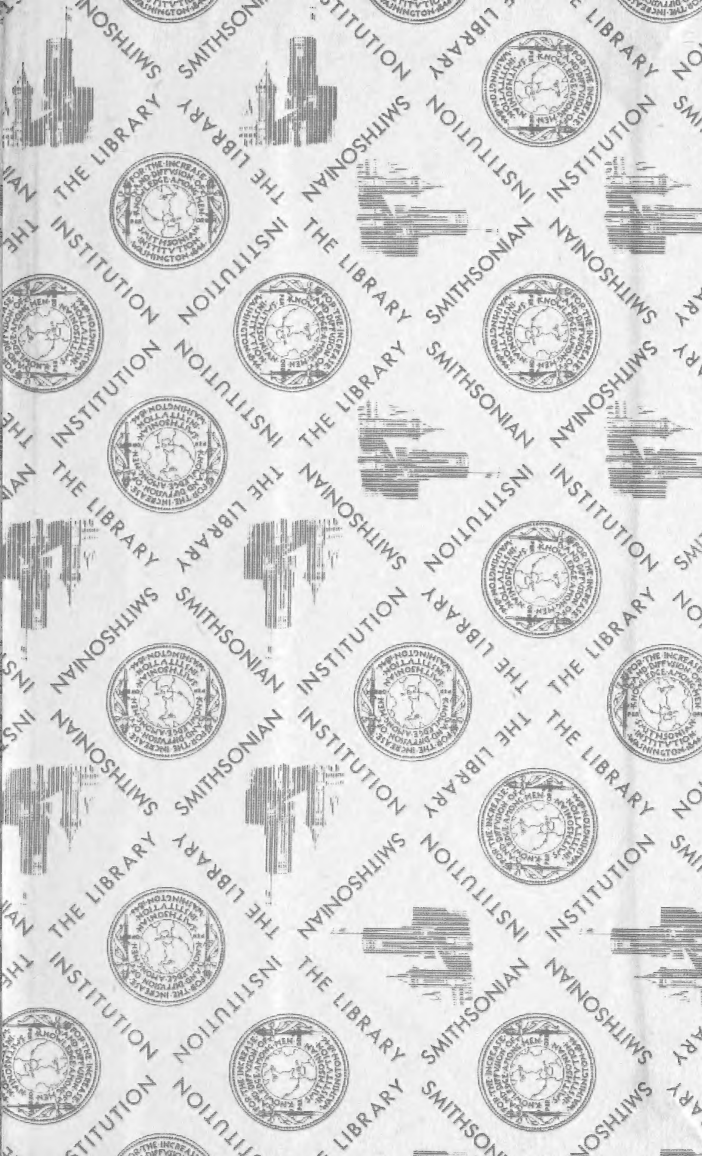












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