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BIRDS AND ALL NATURE.

ILLUSTRATED BY COLOR PHOTOGRAPHY.

VOL. IV. AUGUST, 1898. NO. 2.

CONTENTS.

NATURE'S ADJUSTMENTS.

By W. E. Watt.

We have a general notion that whatever Nature does is just right. It has become an article of popular faith that the ways of Nature are not to be improved upon. We feel that he who proposes something better than what is offered by the forces of the material world is by far too presumptious. We look upon the man who would improve upon what is natural much as the old farmer did upon the lightning rod man. "No, sir; I'd never put a rod up over my house or barn to keep off the lightnin'. 'Twould be defyin' the Almighty. If he wants to strike me, do you suppose I'm goin' to appear before Him and say I put that up to stop him?"

When the qualities of the soil and conditions of the atmosphere have been propitious for the production of husk fiber, we look at the husk upon the corn or the beard of the wheat head and declare solemnly to our friends that the coming winter will be a severe one. We say that Nature knows what is about to occur and has provided for the protection of the grain. We infer that she has thought it all out beforehand and we can see but a small portion of her plans. It seems never to have occurred to us that grain left to shift for itself through the winter is just as well off and little likely to sustain injury when the husk is thin as when it is thick.

We examine the fur of the Squirrel in the fall and say winter will not be severe because there is not a heavy coat on the specimen examined. We think Nature tells the Squirrel in some mysterious way that there is to be a light winter and that it will not be worth while for him to put much of his summer energy into hair growing, or that he may as well count on frisking through the winter in scant garments because he will not suffer greatly so attired.

We are oblivious of the fact that the fur on the Squirrel depends as to its profusion upon the general health of the subject and the condition of the fluids of his system, and that these are much more influenced by the winter he last experienced and the food he has recently had than by the weather that is to be some months hence.

We frequently speak rapturously of the mimicry of Nature. The Giraffe escapes his enemy by appearing to be a part of a clump of tree trunks, the Butterfly felicitously reposes upon a limb with his gaudy colors folded away and an exterior presented which makes him appear a veritable dead leaf with no tempting juices for the destroying Bird. But the same Providence which gave [Pg 42] these marvelous powers of mimicry also gave the other parties the eyes to see and apparent judgment to penetrate the mask and secure the needed meal. And so the ravening Beast sometimes fastens himself upon the Giraffe in spite of the disguise and the Bird finds the Butterfly in his curious garb.

Those who know least about Nature are loudest in their praise of her remarkable adaptations for special ends. Those who know most about her are obliged to confess that while her ways are marvelous indeed and her adaptations strangely effective and various yet she does not provide accurately and certainly for all contingencies.

In fact there is no such thing in Nature as a perfect adaptation. No living thing is perfectly protected from its enemies. No part is accurately adjusted to the part to which it is to be applied. The beak and talons of the Eagle are not perfectly adapted to flesh tearing. The hoof of the Arabian Horse is not perfectly adapted to carrying him over the sands of the the desert, but the very preservation of the horse upon the sands requires that he shall be peculiarly shod to protect his hoof. No animal that Flies attack has a tail capable of whisking them from every part of its body. A Dog's teeth are beautifully adapted to many purposes, but he cannot remove a Tick from his skin. The Cat has particularly keen sight, adjustable to all degrees of light. But when the Ocelot was being photographed for the July number of Birds and All Nature the old Cat that purrs about the studio was not keen enough to see that it was a mounted animal. He came forward in a most belligerent attitude with glaring eyes and distended tail. When the artist gave the stuffed beast a slight motion the affrighted cat sped down the stairway and out of the building with the celerity hitherto entirely unsuspected in him.

There is no eye in Nature that sees perfectly and no ear that hears all that is going on. One animal is superior to others in certain ways, but none is perfect. All wings are not for flight. Some are better than others for sweeping through the air, but perfection is found in none.

In most animals are found organs which are not of use. They frequently resemble organs that are of the highest utility to some other form of life, but for the animal in question they are apparently waste material. When the Horse uses but one toe of each foot there seems to be little reason for his having the rudimentary forms of more. There are claws on the legs of many Dogs that have never been called into action. They are so far from the ground and so weak and immovable that the Dog himself does not know they are there.

In every man there are muscles beneath the scalp for moving the ear. We have no such need for ear motion as have many of the lower animals, but it is the despair of many a school boy to discover how few of the race are able to contract these muscles ever so slightly.

The Lammergeier, or Bearded Vulture, is instinctively instructed to carry marrow bones and [Pg 43] Tortoises high into the air and drop them upon stones so as to obtain their contents. Yet he is not beyond making serious mistakes, for one of them is said to have taken the bald head of the great poet Aeschylus for a smooth stone, dropped a Tortoise upon it, and secured in lieu of a luscious

meal the lamentable demise of one of the greatest of men.

A true view of Nature leads us to regard whatever we find in an organism not as a perfect instrument to a given end, but as a remnant of what may have been produced by desire on the part of ancestors more or less remote. Indeed, it has well been said that our whole body is but a museum of antiquity of no practical interest, but of great historical importance. What we find in ourselves and elsewhere among living things is not to be regarded as creations perfectly adapted to given ends, for there is no perfect adaptation. Plants and animals are continually striving for it, but conditions change more rapidly than they and the chase is unsuccessful. Perfect adaptation would be stagnation.

A manifest design of Nature is that things may live. But death is the rule and life the exception. Out of a million seeds but one can grow. All may make something of a struggle; a few fortunate individuals thrive. Not the fittest, but usually some among those most fit. The whole range of life from the Bathybius Haeckelii to the tailless Ape exhibits a grand struggle for perfect adaptation with a greater or less failure in store for every individual. The human race is carrying on the same enterprise with the same results. The instant we seem to be fitted for our environment there comes a change of affairs that leaves us confronted with a problem just as interesting and urgent as the old one we flattered ourselves we were able to solve.

REASONING POWERS OF BIRDS.

THERE is something very remarkable in the almost reasoning powers manifested occasionally by birds in eluding pursuit or in turning attention from their nests and young, but in few is this more noticeable than in the Duck tribes. In Capt. Black's narrative of his Arctic land expedition the following instance of this is given:

"One of his companions, Mr. King, having shot a female Duck, fired again, and, as he thought, disabled its male companion. Accordingly, leaving the dead bird, which he had the mortification of seeing shortly afterward carried off by one of the white-headed Eagles, he waded into the water after the drake, which, far from being fluttered or alarmed, remained motionless, as if waiting to be taken up. Still, as he neared it, it glided easily away through innumerable little nooks and windings. Several times he reached out his hand to seize it, and having at last with great patience managed to coop it up in a corner, from which there appeared to be no escape, he was triumphantly bending down to take it, when, to his utter astonishment, it looked around at him, cried 'Quack!' and then flew away so strongly that he was convinced he had never hit it at all. The bird's object clearly was to draw the gunner away from its companion."

THE SQUIRREL'S ROAD.

It zigzags through the pastures brown,
And climbs old Pine Hill to its crown,
With many a broken stake and rail,
And gaps where beds of ivy trail.
In hollows of its mossy top
The pine-cone and the acorn drop;
While, here and there, aloft is seen
A timid, waving plume of green,
Where some shy seed has taken hold
With slender roots in moss and mold.

The squirrel, on his frequent trips
With corn and mast between his lips,
Glides in and out from rail to rail,
With ears erect and flashing tail.
Sometimes he stops, his spoil laid by,
To frisk and chatter merrily,
Or wash his little elfin face,
With many a flirt and queer grimace.
Anon he scolds a passing crow,
Jerking his pert tail to and fro,
Or scurries like a frightened thief
At shadow of a falling leaf.
All day along his fence-top road
He bears his harvest, load by load;
The acorn with its little hat;
The butternut, egg-shaped and fat;
The farmer's corn, from shock and wain;
Cheek-pouches-full of mealy grain;
Three-cornered beechnuts, thin of shell;
The chestnut, burred and armored well;
And walnuts, with their tight green coats
Close buttoned round their slender throats.

A busy little workman he,
Who loves his task, yet labors free,
Stops when he wills, to frisk and bark,
And never drudges after dark!
I love to hear his chirring cry,
When rosy sunrise stains the sky,
And see him flashing in his toil,
While frost like snow encrusts the soil.

With tail above his back, he sails
Along the angles of the rails,
Content to gain two rods in three,
And have sure highway from his tree.
Dear is the old-time squirrel way,
With mosses green and lichens gray,—
The straggling fence, that girds the hill,
And wanders through the pine woods still.
I loved it in my boyhood time,
I loved it in my manhood's prime,
Would in the corn-field I could lie,
And watch the squirrels zigzag by!

—James Buckham.

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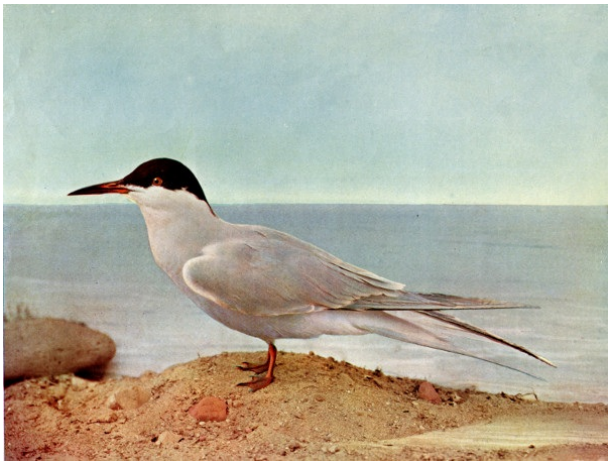

From col. Chi. Acad. Sciences.

WILSON'S TERN.
½ Life-size.

Nature Study Pub. Co., 1898, Chicago.

THE COMMON TERN.

ACCORDING to Colonel Goss, these birds are abundant on the Atlantic coast, decreasing in numbers west, and are rare and exceptional on the Pacific coast. They are migratory, arriving from the middle of April to the first of May, returning as early as the first of September. Their habitat is chiefly eastern temperate North America and various parts of the eastern hemisphere, breeding irregularly throughout the range. The nests have been found from the south coast of Florida to the Arctic circle, on the lakes in Wisconsin, and in large numbers in several of the Magdalen Isles, Gulf of St. Lawrence. Writers disagree as to the composition of their nests, some maintaining that they are made of seaweeds and grasses, others that they are without material of any kind, the eggs lying upon the bare ground in a slight depression in the sand. The eggs are three or four, of a pale blueish or greenish drab, thickly and rather evenly spotted and blotched with varying shades of light and dark brown, with shell markings of pale lilac, ovate in form.

Mr. George H. Mackay has described the Terns of Muskeget Island, Massachusetts, and in a recent article in the "Auk," he says: "Civilization is continually encroaching upon the places along the coast occupied by the Terns until there remain at the present time few localities adapted for such breeding resorts. I visited and remained on Muskegon Island July 3-5, 1897, and while there made, as has heretofore been my custom, an exhaustive examination of all the breeding grounds of the Terns. I found on visiting Gravelly Island a considerable falling off from the status of June, 1896, in both nests and eggs; the occupants were also different, being now almost entirely Common Terns, its former possessors having to a large extent abandoned it." Mr. Mackay has been endeavoring to protect the Terns from the destructive encroachments of hunters and so-called "eggers." He says that this season the Terns arrived at Muskeget in large flocks, thousands dropping from the sky when they were first observed. The number of young birds was unusually large, larger than has been before noticed, which result is probably due to the protection which has been extended to them throughout the breeding season, a condition they have not before enjoyed.

This Tern enjoys a large assortment of names: Sea Swallow, Wilson's Tern, Red Shank, Mackerel Gull, and Summer Gull, are a few of them by which it is known in various localities. In several places on the Atlantic coast it breeds in company with other species, such as Forster's, Arctic, and Roseate Terns, the Laughing Gull, and others. Here they breed by thousands, fairly filling the air when disturbed. They place their nests all over the land above high water line, on the beach, on the sides of the bluffs, and even in the garden cultivated by the lighthouse keeper. At Gull Island fresh eggs can be obtained from the 10th of June to the middle of July, as egging parties keep them cleaned off about as fast as they are laid. Public opinion is rapidly coming to the rescue of these beautiful birds, and we may reasonably hope that they may not be wholly exterminated. In connection with this article, we call the reader's attention to Vol. I, pages 103-104, where the Black Tern is depicted and described.

BIRDS AND ANIMALS IN THE PHILIPPINES.

I DOUBT if any islands have such a countless variety of animals and flying and creeping things as the Philippines. A stubby variety of horses, fat and furry ponies, is used in Manila and towns. Oxen and a species of Buffaloes are used for heavy draft purposes. The mountains teem with deer. Goats, Swine, Rabbits, and Sheep abound in the mountains and forests in all degrees of wildness. The wild hogs on Samar have sometimes killed natives. There are several hundred varieties of birds, and about twenty that are not known elsewhere. Parrots are more common in the backwoods than Robins are here. Among the forests close to the coasts are found peculiar birds of the Swallow tribe. They make a strange food that the Chinese are so fond of—the bird's nest. Hundreds of natives earn their sole livelihood by hunting at certain seasons for these birds' nests and selling them to the Chinese. Of Monkeys there are a dozen varieties. Bats are simply enormous. They are of the vampire variety. No wonder there is a vast deal of superstition and dread among people in the tropics concerning vampires. They are frightfully uncanny. I have seen vampire bats with bodies as large as common house cats, and with wings that expand five feet from tip to tip. Let any one be seated or strolling along some moonlight night and have one of those black things come suddenly swooping down past him, and he will have some cause for nervous prostration. I knew one of those Bats to go sailing into the big hotel dining room at Manila one evening when dinner was serving. It came as a horrible apparition. Some women fainted and others shrieked as they went under the tables. The men ran out of the room.

"The seacoast is rich in many forms of fish. The natives, like the Hawaiians, know how to catch them, too. All the natives in the Philippines that I ever knew about (except the rich and aristocratic people in Manila) are fishers. They catch a species of mullet there that is delicious. When these fish come up the coast from the China Sea in schools, the natives will abandon any occupation and even leave a sick hammock to go out and angle off the coast."

Ornithologists all over the world are much interested in the great exhibition of birds about to be opened at St. Petersburg. It is to be an international exhibition, in that it is the aim to exhibit the birds native to every country of the world. The czar has placed himself at its head, the Russian government will assist it with money and influence, and the European and other governments which were invited to take part in the project have replied favorably. The exhibition has now assumed such gigantic proportions that it has been found necessary to postpone it from the summer of this year to the summer of next year to allow as many regions as possible on the earth to be represented.

BIRDS MENTIONED IN THE BIBLE.

Bittern, Cormorant, Cuckoo, Dove, Eagle, Hawk, Heron, Kite, Lapwing, Night-hawk, Osprey, Ostrich, Owl— little and large—Peacock, Pelican, Quail, Raven, Sparrow, Stork, Swan, Swallow, and Vulture.

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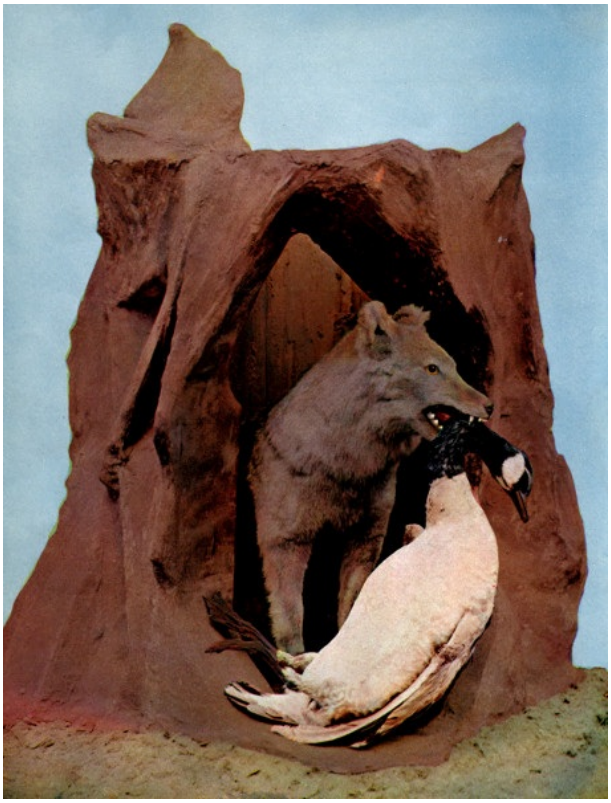

From col. Mr. F. Kaempfer.

COYOTE.
⅙ Life-size.

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THE PRAIRIE WOLF.

THIS species is more commonly known in the western states by the name Coyote, where it makes night so hideous that novices unused to the "unearthly serenade" feel a dismal longing for other latitudes. It is in size about half way between the Red Fox (see p. 67) and Gray Wolf, of which we shall present a portrait in a subsequent number. Its color is similar to that of its larger relative of the plains, but is of a more yellowish cast.

The Prairie Wolf is an inhabitant of the plains and mountains west of the Missouri river, and is said to be found from the British possessions south into Mexico, whence it derived its common name, Coyote. It was formerly very numerous, but the increase of population and the disposition to hunt and destroy it, have greatly reduced its numbers. The Bison, which was formerly its prey, having become almost extinct, its food supply has been largely cut off. These Wolves subsist on any refuse they can pick up, and are always found on the outskirts of settlements or forts, slinking here and there, eking out what subsistence they may by snatching any stray morsels of food that come in their way. In the southern portion of its range, the Coyote is a miserable cur, scarcely larger than the common Fox.

While this Wolf is an arrant coward, it sometimes exhibits a good deal of sagacity. Near the south coast of San Francisco a farmer had been much annoyed by the loss of his Chickens. His Hounds had succeeded in capturing several of the marauding Coyotes, but one fellow constantly eluded the pursuers by making for the coast or beach, where all traces of him would be lost. On one occasion the farmer divided his pack of Hounds and with two or three of the Dogs took a position near the shore. The Wolf soon approached the ocean with the other detachment of hounds in close pursuit. It was observed that as the waves receded from the shore he would follow them as closely as possible, and made no foot prints in the sand that were not quickly obliterated by the swell. When at last he had gone far enough, as he supposed, to destroy the scent, he turned inland.

Although members of the Dog tribe, Wolves are held in utter abhorrence by domesticated Dogs. The stronger pursue to destroy them, the weaker fly from them in terror. In the earlier part of English history Wolves are frequently mentioned as a common and dreaded pest. They are still found in parts of France, Russia, and the whole of western Asia. They are very wary and dislike approaching anything resembling a trap. While the Coyotes possess almost identically the same characteristics as other Wolves, man has no reason to dread them unless he meets them in hungry packs. Whoever has had the misfortune to have once been serenaded by these midnight prowlers can well understand the grudge every man in camp bears them. As soon as the camp is silent these beasts of prey prowl in small companies about the low shrubbery which surrounds the camp attracted by the appetizing smell of the campers' supper. The half jubilant long-drawn howl of the Coyote is soon followed by all the available vocal talent of his species in the vicinity, to the intense disgust of all creation except themselves.

A HOUSEHOLD PET.

He was named "Bushy" on account of his tail; no Squirrel, I am sure, ever had a finer one. He lived in a cage at first, but the door was always left open, so that Bushy did not feel he was a captive at all. He took great pleasure in running up the lace curtains of the drawing-room windows, upon the cornices of which he spent a great deal of his time, always taking his nuts up there to eat. At length he concluded to give up his cage and live up there altogether. He would build a nest, but where to find the twigs, wool, and feathers for it sorely puzzled Mr. Squirrel.

One day he scampered up to the top of the house, and in the attic found some cast-off finery of the housemaid. It was hard work for the little fellow to carry a night-cap, or an old pocket handkerchief, or an old stocking in his mouth down two sets of stairs, but it was the best material he could find, and Bushy was determined to build a nest. As well as he could, he jumped from one step to another all the way, with his mouth full, at one time a yard or more of ribbon streaming behind him. In this his feet got entangled, tumbling him over and over, so he stopped and with his fore-paws neatly packed it into his mouth before going further. Sometimes, after all his hard work, Bushy would find the dining-room door closed, so he would have to sit outside very patiently till it was opened. The moment he was admitted, up the curtain he would climb with his material, often dropping it two or three times before reaching the top. It was a very wide, old-fashioned cornice, with a great space behind, and here the nest was built. The old caps, ribbons, and odds and ends were woven into a very large, long-shaped nest, lined with bits of the dining-room door-mat on which he had been so often compelled to wait. At last all was finished, and Bushy moved up into his new house, never again sleeping in his cage. During the day he would descend for his food, which he carried up to his house to eat, then down again to frisk and play about. I am sure Bushy's master was very glad he left the cage door open, for how could the little fellow have shown such intelligence, or been happy, cooped up behind wires all day long?

[Pg 54]

From col. Chi. Acad. Sciences.

FOX SQUIRREL. 5/9 Life-size.

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THE FOX-SQUIRREL.

HALLOCK states that the migrations of Squirrels have never been satisfactorily explained. What instinct, he asks, brings together such immense droves of these animals from all parts of the country and causes them to move with solid phalanx to distant localities, overcoming all opposing obstacles? A few years since there was witnessed a wonderful sight by inhabitants of Pike County, Pa. An immense army of Squirrels arrived at the banks of the Delaware river late one night, and commenced its passage by swimming the next morning. The whole population turned out, and boys and men equipped with large grain sacks and clubs killed them by thousands. They kept coming in a continuous stream throughout the morning, and passed on to the woods beyond. Nothing could deflect them from their course, and they were evidently bound for a fixed point. A similar instance occurred some twenty-five years ago, where a vast assemblage crossed the Mississippi. While these migrations are obviously caused by a scarcity of food, it probably is not the only motive which induces them to undertake long journeys. The southern Fox Squirrel inhabits the Southern States from North Carolina to Texas. It is the largest and finest of our North American Squirrels. Its color is oftenest gray above and white below, but it is also found of all shades of fulvous, and sometimes a deep shining black; its ears and nose are always white. The Western Fox Squirrel occurs in the Mississippi valley; its color is a rusty grey, and its ears and nose are never white.

Squirrels feed in the early morning, and disappear from eight to nine o'clock, remaining in their holes during the mid-day hours. They appear again in the late afternoon to feed. During the early morning and late evening the hunter secures his prey. The little fellows are very shy, but one may seat himself in full view and if he remains without motion little notice will be taken of him by the Squirrels. The season for hunting them is in fall and winter, although a great many are taken in August when young and tender.

An important factor in the pursuit of this animal is the small Cur-dog trained for the purpose. He will run ahead through bush and wood, tree a Squirrel, and after barking sharply, wait for the master to put in an appearance. A Squirrel thus treed will run up the trunk a short distance, and curling himself down on a limb, will watch his canine pursuer, unmindful of the approach of the two-legged animal bearing a gun. When quite young and inexperienced, a good bag can sometimes be made without a Dog. They are very skillful in secreting themselves from view, when treed by the hunter, but the presence of the Dog seems to utterly upset all calculations of concealment, for knowing the inability of the Cur to do them harm they will sit on a limb and not attempt to hide. The cruel method of smoking out, as practiced by the farmers' sons in winter, when the Squirrels are snugly curled up in their nests will not be described in this article.

Squirrels vary in size and color according to the country in which they live. In Asia there is a Squirrel no larger than a Mouse, and in Africa there is one larger than a Cat. [Pg 56]

I am a North American Squirrel, one of the "common" family, as they say. I eat all sorts of vegetables and fruits, as well as Mice, small Birds and eggs. I choose my mate in February or April, go to housekeeping like the birds, and raise a family of from three to nine little baby Squirrels.

Some of my little readers have seen me, perhaps, or one of my family, frisking among the branches, or running up and down the trunks of trees. My enemy the Hawk gets after me sometimes, and then I run up the tree "like a Squirrel," and hide behind one of the large branches, going from one to another till I tire him out.

Squirrels have to be "cunning as a Fox," as they say. When pursued—and oh, how often we are, by men and boys, as well as Hawks—we leap from branch to branch, or from tree to tree, altering our direction while in the air, our tails acting as rudders. At last we are driven into a solitary tree, so that we cannot leap into the branches of another. Then a boy or man climbs up, tries to shake us from the limb, and at length succeeds in knocking us to the ground. Off we run again, give them a long chase, perhaps, but at last are caught, and probably carried home to be kept in a cage like a little prisoner, or maybe in a stuffy wooden box. How can we be happy or playful under such circumstances? I think it is a great shame to put any animal, bird or otherwise, in a *little* cage; don't you?

There are men who make a business of selling Squirrels for household pets. If you want a young Squirrel—and nobody wants to buy an *old* one—look at its teeth; if young, they will be almost white; if old, a light yellow.

"Oh, mama," cried Dorothy one day, "do look at this dear little tame Squirrel the good man wants to sell. See how tame it is. It will let me stroke it, and never tries to bite."

Mama, who desired her children to have four-footed, as well as two-footed friends, bought the tame squirrel for her little girl. Alas! the *good* man had dosed the poor little animal with laudunum to keep it quiet. It died the next day.

[Pg 58]

From col. Chi. Acad. Sciences.

LOON.
2/9 Life-size.

THE LOON.

IN ALL the lakes of the fur countries, says Nuttall, these birds abound, where, as well as in the interior of the most northern of the states, and probably in the inland seas of the St. Lawrence, along the whole Canadian line, they pass the period of reproduction. This species is the most common of its tribe in the United States and is a general inhabitant of cold and temperate climates throughout the whole northern hemisphere. They have been known to breed as far south as the Farne Isles, along with the Eider Ducks, with which they also associate on the shores of Labrador. In the United States from the severity of the winters, the young and even occasionally the old, are seen to migrate nearly, if not quite, to the estuary of the Mississippi.

Cautious, vigilant, and fond of the security attending upon solitude, the Loon generally selects, with his mate, some lonely islet, on the borders of a retired lake far from the haunts of men, where, on the ground, near the water, they build a rude and grassy nest. The Loons are, from the nature of their food, which consists almost wholly of fish, utterly rank and unedible, though in New England the following receipt is given for cooking one of the birds: Having dressed your Loon, stuff it with an iron wedge, then bake or boil. When you can stick a fork into the wedge the bird is ready for the table.

It is chiefly remarkable for the quickness with which it can dive, many observers maintaining that it can dodge a bullet or shot by diving at the flash of the gun. Mr. W. H. Porteous states that he once watched a man for more than an hour fire repeatedly at a Loon on a pond in Maine, the bird being frozen in by thin ice, a small circular space being kept open by its movements. The ice was not strong enough to sustain the man and the open space not large enough to enable the bird to swim and rise, as a Loon cannot rise in flight from a stationary position in the water. The Loon dodged every shot, by diving, although within easy gunshot range from the shore. It was not killed until the next morning, when the ice had become strong enough to permit the man to go close up to the open space and shoot when the Loon came to the surface. "Under the circumstances," adds Mr. Porteous, "I think the man ought to have been shot instead of the Loon."

"In the fall," says Thoreau, "the Loon came, as usual, to moult and bathe in the pond, making the woods ring with his wild laughter before I had risen. At rumor of his arrival all the mill-dam sportsmen are on the alert, in gigs and on foot, two by two and three by three, with patent rifles and conical balls and spy glasses. They come rustling through the woods like autumn leaves, at least ten men to one loon. Some station themselves on this side of the pond, some on that for the poor bird cannot be omnipresent; if he dive here he must come up there. But now the kind October wind raises, rustling the surface of the water, so that no loon can be heard or seen. The waves generously rise and dash angrily, taking sides with all water-fowl, and our sportsman must beat a retreat to town and shop and unfinished jobs. But they were too often successful.

As I was paddling along the north shore one very calm October afternoon, for such days especially they settle on the lakes, like the milkweed down, a Loon, suddenly sailing out from the shore toward the middle a few rods in front of me, set up his wild laugh and betrayed himself. I pursued with a paddle and he dived, but when he came up I was nearer than before. He dived [Pg 60] again, but I miscalculated the direction he would take, and we were fifty rods apart when he came to surface this time, for I had helped to widen the interval; and again he laughed long and loud, and with more reason than before. He maneuvered so cunningly that I could not get within half a dozen rods of him. Each time, when he came to the surface, turning his head this way and that, he coolly surveyed the water and the land, and apparently chose his course so that he might come up where there was the widest expanse of water and at the greatest distance from the boat. It was surprising how quickly he made up his mind and put his resolve into execution. He led me at once to the widest part of the pond, and could not be driven from it. While he was thinking one thing, I was endeavoring to divine his thought. It was a pretty game, played on the smooth surface of the pond, man against a Loon. Some times he would come up unexpectedly on the other side of me, having apparently passed directly under the boat. So long-winded was he and so unweariable, that when he had swum farthest he would immediately plunge again, nevertheless; and then no wit could divine where in the deep pond he might be speeding his way like a fish, for he had time and ability to visit the bottom of the pond in its deepest part. It is said Loons have been caught in the New York lakes eighty feet beneath the surface, with hooks set for trout. I found that it was as well for me to rest on my oars and wait his reappearing; for again and again, when I was straining my eyes over the surface one way, I would be startled by his unearthly laugh behind me. He was indeed a silly Loon, I thought, for why, after displaying so much cunning did he betray himself the moment he came up by that loud laugh? Did not his white breast enough betray him? It was surprising to see how serenely he sailed off with unruffled breast when he came to the surface, doing all the work with his webbed feet beneath. His usual note was this demoniac laughter, yet somewhat like that of a water-fowl; but occasionally when he had balked me most successfully and he came up a long way off, he uttered a long-drawn, unearthly howl, probably more like that of a Wolf than any bird. This was his looning, perhaps the wildest sound that is ever heard here, making the woods ring far and wide. At length, having come up fifty rods off, he uttered one of those prolonged howls, as if calling on the Gods of Loons to aid him, and immediately there came a wind from the east, rippled the surface, and filled the whole air with misty rain. And so I left him disappearing far away on the tumultuous surface."

THE MOCKINGBIRD.

WISHING to verify a statement which we had seen in a contemporary, we wrote to Mr. R. F. Bettis, of Tampa, Florida, requesting, if it were true, that he would confirm it, although, from our acquaintance with the bird, we had no doubt of its substantial correctness. In response Mr. Bettis writes us as follows:

"Yours of June 24 received. Will say in regard to the Mockingbird, I live one and one fourth miles north of the courthouse in Tampa. I have a lot containing two acres of land, and it is grown up in live and water oak bushes which are very dense in foliage. It is a fine place for birds to nest and raise young. I do not allow any one to shoot or destroy the birds on my place, and it doesn't take the birds long to find out a place where they are protected. I think there are about twenty-five or thirty Mocking birds on my place, and they become very tame.

About two years ago one of the birds took to coming into the house, and sitting on the chairs and warbling in a low tone, and my wife and children began to talk to it and put bread crumbs on the window sill for it, and it soon began to come for something to eat. It would sit on the trellis in front of the window and sing for hours at a time, and on moonlight nights would sit on the chimney and sing for half the night. * * *

It would recognize the family, and when my wife and daughter would go from home, it would fly along and alight on the fence and give a chirping noise as though it did not want them to go, and on their return would meet them the same way, but the chirping would be in a different tone, as though glad to see them. When they were in the house it would sing some of the sweetest notes that ever came from a bird's throat. Every morning at about 5 o'clock it would peck on the window pane until we got up and opened up the house. About six months ago while all the family were away some Cuban and negro boys came by my place and shot it, and it seems as if something were missing from the place ever since. But I have three more that will come in on the back porch and eat crumbs. Two are on the back porch now about fifteen feet from me while I write, but they are not as gentle as the other one. There has been so much shooting about my place since the soldiers came that it frightens the birds some. The soldiers have a sham battle every day, around my house and sometimes in my yard.

Hoping you can cull out of this what you want for your magazine, I am

Yours truly,

R. F. BETTIS."

THE BOBOLINK'S SONG.

Suddenly from the dead weed stalks in the draw, where the Blackbirds had sung yesterday, there broke forth the most rollicking, tinkling, broken-up, crushed-glass kind of bird melody that he had ever heard—something in perfect accord with his mood again; and looking up he saw a flock of black and white birds all mingled in, some plain, streaked, sparrow-like kinds—the former given to the utmost abandon of music. He had seen these birds before occasionally, but he never knew their names, and now he found there was more he had not known, for he had heard the Bobolink sing for the first time.—*From Baskett's "At You All's House."*

HOW BUTTERFLIES ARE PROTECTED.

IN the July number of BIRDS AND ALL NATURE we quoted from an interesting article in the *Boston Transcript* some information concerning the commercial aspect of Butterflies. From this study of the remarkable collection of the Denton Brothers of Wellesley, we print another extract, which will indicate to our readers something of what they may expect to see in future numbers of BIRDS, as it is our purpose to present all of the remarkable specimens of these insects. Some of our Subscribers tell us that they would rather have the pictures than the specimens themselves. In an early number we shall present a picture of the wonderful Butterfly Crœsus. It is an inhabitant of India, and even there is rarely seen and difficult to secure. It is of deep dead black, with broad splotches on the wings, which are exactly the color of new, untarnished gold, its name being given it for this characteristic. But, as the *Transcript* says, "perhaps the most interesting thing in looking over the Dentons' collection is to have them explain the wonderful ways in which they are protected from their natural enemies, the birds. Perhaps the most remarkable instance of the way in which this is done is the leaf butterfly, a native of India. The upper side of this insect's wings has the characteristically brilliant coloring of its country, but the under side is of a dull brown, the significance of which is not seen until the insect alights and closes its wings. When it is in this position it has exactly the appearance, in shape and color, of a dead leaf, and this is so exact that even the little dark spots caused by decaying fungi on the leaves are reproduced.

"What is most wonderful of all is that these spots vary, and in different specimens have the appearance of different kinds of fungi, the imitation being invariably a perfect one.

"This characteristic is to be seen in nearly all kinds of butterflies, the under side of the wings of the most brilliantly colored species being of a dull color which does not readily attract attention. Almost the only variation to this is in certain species which ordinarily carry their wings erect, and droop them when they alight. In these the brilliant coloring is on the under side of the wing, and the dull color on the upper side. Perhaps the most remarkable single case known is that of a certain Indian moth, which is a heavy flyer, and found in the woods. When this moth alights, it leaves only the tip of its wings sticking out of the leaves, and this tip, in marking, color, and attitude, has exactly the appearance of the head of a cobra. The same general scheme may be observed in our native moths, and also in most other heavy flyers, in the sharply defined round markings, one on each wing. These have the appearance of an eye of some good-sized animal, and keep many birds from making any closer investigation.

"Another interesting instance of of the self-protecting instinct is found here in the habits of some kinds of our native butterflies. Some of these are naturally protected by having so strong and unpleasant taste that the birds will not eat them. The habits of these kinds are imitated by other kinds that have a strong resemblance to them, but which are not naturally protected, and this is so successfully done that the birds let them alone and prey upon other varieties that have just as strong a resemblance to, but do not imitate the actions of the protected ones."

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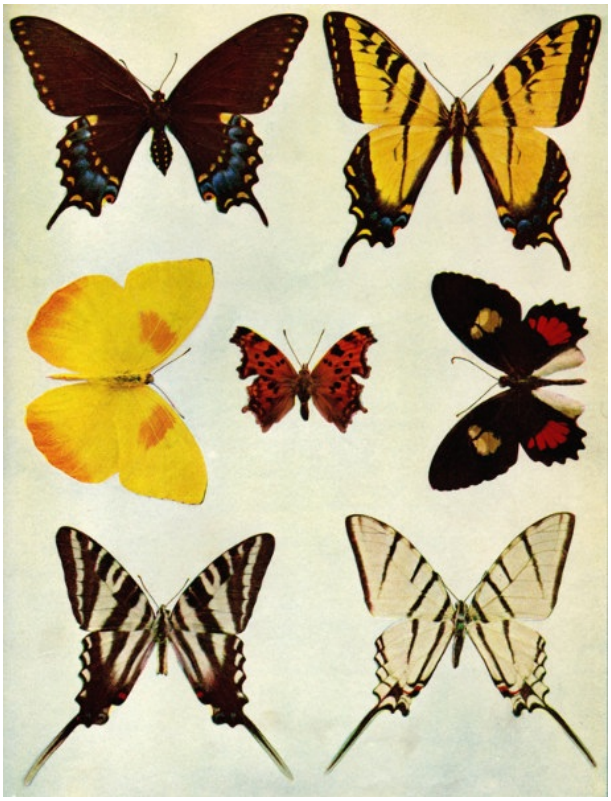

Papilio asterias. Grapta coma. Papilio rutulus.
Catopsilia argante. BUTTERFLIES. Papilio lycimenus.
Papilio ajax. ⅝ Life-size. Papilio macrosilaus.

MID-SUMMER.

The hills are sweet with the brier-rose.— Whittier.

Sweet is the rose, but grows upon a brier.— Edmund Spencer.

As though a rose should shut, and be a bud again.— Keats.

What mortal knows Whence comes the tint and odor of the rose.— Thomas Bailey Aldrich.

The rose saith in the dewy morn,
I am most fair;
Yet all my loveliness is born
Upon a thorn.— Christina G. Rossetti.

The roses grew so thickly, I never saw the thorn,
Nor deemed the stem was prickly until my hand was torn.— Peter Spencer.

Gather ye rosebuds while you may,
Old Time is still a-flying;
And this same flower that smiles to-day
To-morrow will be dying.— Herrick.

If this fair rose offend thy sight,
Placed in thy bosom bare,
'Twill blush to find itself less white,
And turn Lancastrian there.— Unknown.

I know a bank where the wild thyme blows,
Where ox-lips and the nodding violet grows,
Quite over-canopied with luscious woodbine,
With sweet musk-roses and with eglantine.— Shakespeare.

The rose is fairest when 'tis budding new,
And hope is brightest when it dawns from fears;
The rose is sweetest washed with morning dew,
And love is loveliest when embalmed in tears.— Scott.

My life is like the summer rose
That opens to the morning sky,
But ere the shades of evening close,
Is scattered on the ground—to die!
Yet on the rose's humble bed
The sweetest dews of night are shed.— Richard Henry Wilde.

THE RED FOX.

EXCEPT in South America and Australia, Foxes are distributed over all the great continents. There are known to be between twenty-five and thirty species. They differ from the dog family in the greater sharpness of the nose and the greater length and bushiness of the tail.

The Red Fox of eastern North America is closely allied to the common Fox of Europe, and is regarded by many naturalists as only a variety of the common species, an opinion which is somewhat confirmed by the fact that no remains of the Red Fox have been found in the cave deposits, although remains of the Grey Fox have been. It is larger than the common Fox of Europe, the fur longer and softer, and the color more brilliant. It is said that it does not possess the wind of the English Fox. It runs for about a hundred yards with great swiftness, but its strength is exhausted in the first burst, and it is soon overtaken by a Wolf or a mounted horseman. In Canada and the United States it is largely hunted for its valuable fur, many thousands of skins being annually exported. The Fox is exceedingly shy and difficult of approach, owing probably to the persistency with which it is hunted by the fur traders. Only the Red and Grey Foxes are hunted. There are several permanent colors of this species similar to those found in our Squirrels, the young presenting a variety of colors in the same litter. In Ohio and others of the middle states, Foxes are said to be hunted as follows: On an appointed day, the whole of the population of the neighborhood turn out and inclose as large a tract of country as possible, all hands leisurely advancing toward some point near the center of the circle; as they advance a great noise is made that the game may be driven before them. When the circle is quite small, and the Foxes are seen running about looking for an opening by which to escape, small boys are sent in with directions to catch the animals, a task which is not accomplished without much exertion and perhaps a few bites. When a Fox is caught, it is sold to pay the expenses of the hunt.

Fox hunting as practised in England was transported to this country as early as the middle of the eighteenth century. In the mother country it is one of the greatest pleasures accorded to the titled gentry; the Horses are bred for the purpose, and a first-class hunter commands a large price. Many Virginia planters of leisure and means were accustomed before the Civil War to keep a number of Hounds, and with the best riders of the neighboring county, frequently held their "meets," when, with horn and whipper-in, and all other accompaniments, according to true English Fox-hunting rules, they would start Reynard and follow him to the death. The wealthy and leisure class of New York pursue the sport in true English style in many places on Long Island.

When pursued, the Fox gives out a strong, disagreeable scent, which lies so long on the ground that it may be perceived for nearly an hour after he has passed. Of its cunning when pursued, many tales are related, such as driving another Fox out of its lair and forcing it to substitute itself as the chase; diving into a heap of manure, to throw the dogs off the scent; fording streams, doubling on its track, and so forth.

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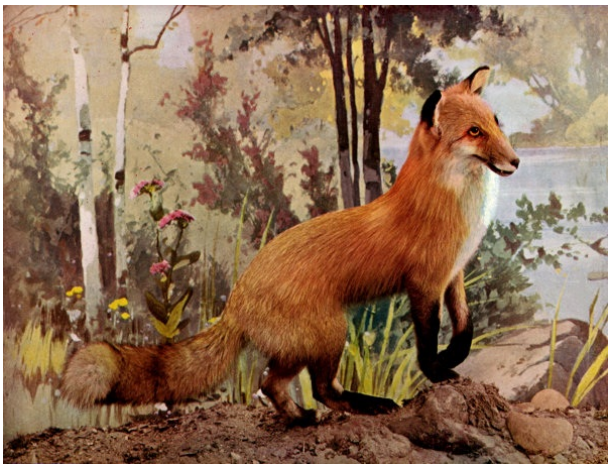

From col. Mr. F. Kaempfer. AMERICAN RED FOX. ⅕ Life-size.

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Like the Squirrels, Foxes vary in size and color according to the countries in which they live. Their habits are mostly nocturnal, that is to say, they prowl around after dark.

By day the Fox lies concealed in his burrow—if he owns a house of that sort—or else in the depths of some thicket. Toward evening he goes out in search of something to eat—Hare, Rabbit, Pheasant, Mouse, or Bird.

Reynard, as the Fox is often called, does not attempt to chase the Hare, for it would be too swift for him, nor the Rabbit, for it would quickly dive into its hole, nor the Pheasant, for it would fly away. No, indeed! Mr. Fox is too cunning for that. He just quietly creeps to some place where Hares or Rabbits or Pheasants are likely to pass, and then as they run by him, out he pounces and secures his evening meal.

When the Rabbit has a nest full of little "Bunnies," she takes good care to keep them at the end of

the burrow. It is too small for the Fox to creep into, so she thinks they are safe. But Mr. Fox finds a way, a much better way, he thinks, to get at the little, soft, furry things, which will hardly make him a meal anyway. He sniffs around, locates the spot right above the the burrow, digs downward, and soon—well, when he gets through there are no "Bunnies" in the nest. Mr. Fox smiles, winks one eye, and trots off.

Sometimes he steals into a hen-roost, and woe to nearly every chicken in the roost. He eats all he can, carries some of them home, and the remainder he buries for future use.

"Cunning as a Fox." That is an old saying, you know, and we apply it to persons who take advantage of their fellow beings.

However, no matter how great a rascal the Fox is, we must pity him when pursued for "sport" by a pack of hounds, as well as men and women. When irritated or alarmed, the Fox gives off a strong, disagreeable scent, which lies so long on the ground that it may be perceived for nearly an hour after he has passed. He has been known to dive into a heap of manure to throw the dogs off the scent; jumping over a wall, run a little way, come back again, lie under the wall until all the dogs had passed, then leap a second time over the same place where he had passed before, and make off on his old track.

THE LEAST SANDPIPER.

THIS lively, social little Sandpiper is common throughout America, nesting in the Arctic regions. It is migratory, arriving the last of March to the first of May, a few occasionally remaining till November. It has been found breeding as far south as Sable Island, Nova Scotia, but its usual breeding grounds are north from Labrador and Alaska to Greenland, wintering from California and the Gulf states southward. It is more restless and active than the larger Sandpipers, but in habits it differs little, if any, from them. It runs nimbly about, often with the large waders, feeding around and beneath them, apparently heedless of danger. While watching the birds, they will often pass close to the feet, but at the least motion the whole flock will spring into the air "like a flash, with a startled *Peep, peep*, and in a compact form swiftly sweep about in an uncertain manner, canting from side to side, showing rapidly the white beneath and the dark above, a wavy, pretty sight, the white at times fairly glistening in the sunlight." When migrating or going any distance their flight is steady and direct. Audubon, who observed the breeding habits of the birds in Labrador, says that at all periods, excepting those at which they have nests containing eggs, or young so small and feeble as to require all the care of their parents, the flight of this species resembles that of the Common Snipe (see BIRDS, Vol. IV., page 7); but when started from the nest, or from any place in the immediate vicinity, it rises and moves off low over the ground, with deeply incurved wings, and with a whirling motion thereof, which, if as rapid as those of a Partridge, would appear quite similar, but on such occasions the Lesser Sandpiper moves slowly, and instead of uttering the note of independence, as it were, which it emits at other times, while freely and fearlessly traveling, it gives out sounds weakened by grief or anxiety, for the purpose of inducing the observers to follow it. If on the ground, it acts in a similar manner, moves off slowly, and limping as if crippled, and this at times quite as much as if one had come upon it while on its nest, or surprised it with its young.

The Sandpiper's nest is placed on the ground in a slight depression, scantily lined with leaves and grasses. The eggs are three or four, of ground color cream buff to light drab, spotted and blotched irregularly with varying shades of brown, thickest about the larger end.

The Least Sandpiper is always found associated with the Semi-palmated Sandpiper, which in the later summer throng our shores and form staple sport to the youthful and city tyros. Flocks of birds are often composed of both species. When this is the case, the latter, even if largely in the minority, take the lead, as they are of somewhat larger size, stronger in flight, and have a louder note. When not in company with other species, none of our shore birds are more confiding and unsuspecting than these, says Davie, large flocks continuing their search for food almost under the feet of the observer.

The black and white outlines which are often seen of this bird make it possible, perhaps, to recognize it, but the perfect likeness which we present will enable the observer to distinguish it at a glance from all others of the family, of which there are about a dozen well-known species.

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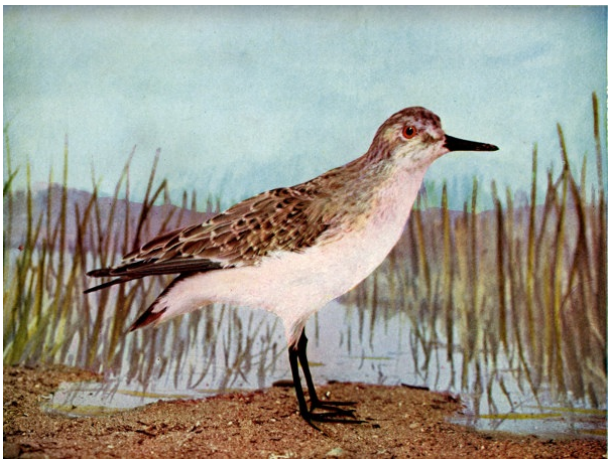

From col. Chi. Acad. Sciences.

LEAST SANDPIPER. Life-size.

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INSTINCT AND REASON.

IN a recent issue of the New York *Evening Post*, Caroline H. Dall writes interestingly on this subject as follows:

"I wish to draw the attention of such of your readers as are interested in the discussion of the nature of instinct, to a curious example of it, as distinct from reason, which I have lately witnessed.

"Entering the parlor of a friend the other day, my attention was instantly attracted to a Florida Mockingbird. He was flying about in an eager manner, with something like a long black straw in his bill. My friend entering, I asked: 'What is your bird doing?' 'Building a nest,' she answered. 'Has he a mate?' 'No, he has never had one,' she replied, 'nor has he ever seen a nest. That black straw is a shaving of whalebone which lasts him better than anything else.' At this moment the bird flew into a corner of the cage, and, stooping, dropped the whalebone, waited a moment as if for some response, and then flew away to repeat the manœvre.

"'Does he not want something soft?' I asked. 'I sometimes give him yarn or wool; he tears it all up, works it all over, and then carries it to that corner. He evidently thinks it his duty to provide material, but he does not undertake to use it.' 'And what will he do next?' I asked. 'He will, after a day or two, brood over that corner, sitting close and spreading his wings out as broadly as possible. He does this two or three times a day.' 'And after that?' 'Later the paternal instinct seems to be aroused in a different way. He goes to his food cup, takes some food in his mouth, and drops it into his corner. He repeats this several times, as if he were feeding his young. I do not know how many young birds he ought to expect, but I should like to know, to see if he counts right!'

"I have sometimes known a male canary to build a nest in the spring, carrying the process nearer to completion, but I have never heard of an instance like this, and think it may interest others than myself."

In spite of all the efforts that have been made in the interests of common sense and common humanity, there appears to be no doubt that the savage and indiscriminate slaughter of all birds of bright plumage is still going on for the gratification of feminine vanity. Indeed, the position of the unfortunate birds possessing the fatal gift of beauty seems to be worse than ever. There was sold the other day in London a consignment of nearly half a million birds, or parts of birds, as follows: Osprey plumes, 11,352 ounces; Vulture plumes, 186 pounds; Peacock feathers, 215,051 bundles; Birds of Paradise, 2,362 bundles; Indian Parrots, 228,289 bundles; Bronze Pigeons, including the Goura, 1,677 bundles; Tanagers and sundry birds, 38,198 bundles; Humming birds, 116,490 bundles; Jays and Kingfishers, 48,759 bundles; Impeyan and other jungle fowl, 4,952 bundles; Owls and Hawks, 7,163 bundles. In one of the most widely circulated English papers the fashionable news from Paris begins: "Birds are worn more than ever, and blouses made entirely of feathers are coming into fashion." "Rare tropical feathers," ordered by specialists from abroad, are specified as those most likely to be in demand, but no bird of any kind is safe that has a feather capable of being used for feminine decoration.

THE MOUNTAIN SHEEP.

BIGHHORN is the name by which this interesting animal is chiefly known to western people, it being found in greater or less abundance from the Missouri River to the Pacific Ocean. It also occurs in New Mexico, Arizona, and Southern California, but it has not been discovered in any numbers south of the United States. It is more numerous in the Rocky Mountains, the Sierra Nevada Mountains, and the Coast Range, but it is by no means confined to the mountains, being also numerous along the *Mauvaises Terres* or the "Bad Lands" of the White River, the Little Missouri, Yellowstone, and Upper Missouri, in whose desolate and arid wastes it apparently delights. The Bighorn, in fact, finds in every rough country sufficient for its requirements, and it demands only that there shall be steep and difficult heights to which it may retreat when pursued. Every species of sheep would prefer a hilly habitat, but the Bighorn could scarcely exist on a level plain.

Somebody has said that Mountain Sheep would be aptly described as having the head of a sheep with the body of a deer. In size, however, it exceeds the largest deer, and a full-grown specimen will weigh from 300 to 350 pounds. Sir John Richardson gives the following measurements of an old male: Length to end of tail, 6 feet; height at shoulder, 3 feet 5 inches; length of tail, 2 inches; length of horn along the curve, 2 feet 10 inches; circumference of horn at the base, 1 foot 1 inch; distance from top of one horn to top of its fellow, 2 feet 3 inches. The coat is soft to the touch, the hair resembling that of the Caribou Deer, and, in some degree, that of the Antelope. It is short, fine, and flexible in its first growth in the autumn, but becomes longer as the season advances, until in winter the hair is so thick and close set that it stands erect. As the winter advances the dark tips of the hair are rubbed off so that by spring the old males are quite white. Under the hair a fine wool covers the skin.

The movements of the Bighorn are quite graceful, and the agility and lightness with which it scales steep bluffs, runs along the narrowest edge on the face of a precipice, or leaps from rock to rock in its descent from some mountain-top, are excelled by no other animal. These Sheep feed early in the morning, and retire during the middle of the day to points high up on the bluffs or mountains where they rest until sundown, when they return to their feeding grounds. Except during the month of December the old rams are found in small bands by themselves, the females and young associating together in companies of from five to twenty. In a country where they have not been disturbed by man they are occasionally seen in much larger herds.

No animal is more shy and wary than the Bighorn, and it therefore requires in its successful pursuit the greatest patience and deliberation, as, if it receives the slightest hint of the enemy's presence, it immediately disappears. Many a hunter of experience has never killed a Mountain Sheep, as these vigilant mountain climbers are usually able to elude their enemies.

From col. Mr. F. Kaempfer. MOUNTAIN SHEEP. 1/10 Life-size.

The instinct of self-preservation is remarkably developed in the Mountain Sheep, and only animals of equal agility and superior cunning can secure them. In their mountain fastnesses they are comparatively free from the pursuit of man; the things they have most to fear are the avalanche and glaciers. The elements of danger, however, only serve to render its pursuit more attractive to the ardent sportsman, and when in a country where it abounds, deer, antelope, and even elk are likely to be neglected for the Mountain Sheep. The flesh, too, is most delicious, and is regarded as much superior to any wild meat which the west affords. Hallock says that he knows of no more delicate dish than is afforded by a yearling ewe in good order seasoned with that wonderful sauce furnished by the free, open-air life of the plains and mountains. "The glory of fat cow pales, and even elk and black-tailed deer meat hide their diminished heads before the rare toothsomeness of a juicy saddle or the dripping ribs of a young and tender Bighorn." [Pg 77]

"To hunt the Mountain Sheep successfully the candidate for honors should have some experience with large game, should have the patience and endurance possessed only by the most enthusiastic sportsman, and should be a fair shot with the rifle. In the gray of the morning, before attempting to look for his game, he should seek the highest ground in his vicinity whence

a wide view of the surrounding country may be obtained, and from this point, with the good glass that is an indispensable part of a hunter's outfit, he should search the little ravines and grassy meadows running down from the hills. The sheep are always on the watch for enemies upon the lower ground, but rarely turn their glances to the heights, which, if disturbed, they will seek for safety."

It is indeed marvelous that these animals should be able to descend with facility the most abrupt precipices and cross canons, the sides of which are almost vertical, and this has given rise to the idea that they can throw themselves from great heights, and striking on their horns, can rebound uninjured and alight on their feet. Indeed, this is somewhat imaginative as it is apparently unreasonable. It is on account of the vast size of the horns, and the fact that these are often battered and splintered that this statement has been accepted as worthy of belief. It has been suggested, however, that even if the animal's head could stand so great a shock, it's neck would not. If it were true, how could females and young males, whose horns are little larger than those of the goat descend the cliffs, which they do as actively and successfully as the old males? The fact is that the splintered condition of the horns of the bucks is due to their battles and their play at all times of the year. The feet of Mountain Sheep are precisely adapted for their life among the crags, and they seem to be able to cling to any surface which presents the slightest inequality. Only the Wild Goat could pass over the same dangerous places. May or June are given in some of the best works on natural history as the time when the young are brought forth.

A SEMINARY FOR TEACHING BIRDS HOW TO SING.

BUYING and importing song birds, says the *Scientific American*, occupies the time and attention of several scores of people in New York, and as the distributing center of this peculiar trade, the city is often the home of considerable numbers of song birds gathered from all quarters of the globe. On the East side, in Fourth street, there are several remarkable aviaries where, without doubt, a study of one branch of ornithology can be pursued under conditions more favorable than elsewhere on this continent, and a visit to one of these bird conservatories of music is better than a trip to the fields or woods to listen to the songs of the wild warblers. The owner of the aviary is a German—more than probable from some little village in the Hartz Mountains, where bird-raising is the chief industry,—and he not only feeds and tends his little birds with loving care, but teaches them to whistle and sing in tune to the accompaniment of an old reed organ or flute.

There are several large importing houses of song birds in New York, and in the busy season they employ from twenty to forty travelers who go back and forth from Europe to purchase the pick of the Canaries, Bullfinches and other European songsters. The consignments come chiefly from Germany and England. Nearly all the Canaries raised in the world for cage purposes come from these two countries, and most of the German exporting houses have distributing branches in New York. The birds are sent over by steamer in large consignments under the charge of an expert care-tender, who does nothing else but feed and doctor the little pets placed under his charge. One experienced man can take charge of five large crates, each one containing two hundred and ten cages of birds, or a little over a thousand in all. Sometimes during the rush season the care-tender has five hurricane deckers to watch, or fourteen hundred cages and birds to look after during the long hours of the days and nights.

That this work is not easy, any one who has had the privilege of looking after a single canary for a week can well understand. Feeding and watering over a thousand birds, and cleaning out their cages every day, makes up a routine of work on shipboard that begins at four o'clock in the morning and does not end until late in the afternoon. When seasickness makes life miserable for the passengers, the canaries are apt to be uncomfortable in their crowded quarters. Sometimes a disease known as "schnappen" breaks out among the Canaries at such times, and as this is fearfully contagious, it sweeps through the crowded bird quarters on shipboard and decimates the ranks at a terrible rate. Cases are known where only ten birds have survived out of an importation of eight hundred to a thousand, the disease performing its terrible work in a week's time. This is supposed to be caused as much by the over crowded and poorly ventilated condition of the birds' quarters as by the rolling of the ship. If you ask Fritz if his birds get seasick, he will answer emphatically "No;" but he will add softly to himself "schnappen." And in that word is conveyed much of meaning that the lay mind cannot appreciate.

When the imported birds arrive in port, they are hurried immediately to the importing houses, or to the different quiet aviaries in the German quarters, where experienced bird raisers take them in charge. It is at this latter place that one may make an inspection of the singers which are [Pg 79] destined to carry song and delight into so many homes. Most of them are trained birds and they whistle and sing to perfection, and all that their German attendant has to do is to feed and water them properly. If disease breaks out among them, he is supposed to know just what to do, and in most instances he does prove an expert bird doctor.

In the mating and breeding season, however, young birds appear in the great aviary which must be taught to sing and whistle accurately. Most people imagine that all the perfection of song cage-birds is inherited, and they would be surprised to learn the amount of labor bestowed upon them in order to make their tunes accurate. The young birds that have the proper voices for great artists are trained in the most careful manner. In the Hartz Mountains, where Canary training reaches its highest development, the throat and voice of each young Canary are tested, and those selected for the highest training are set apart by themselves. They are sent to a school of instruction that is unique in its methods. At the head of this school is probably a Canary of the St. Andreasberg type, which strikes the right note for all the youngsters to imitate. The young birds are taken into the room in their cages, with cloth draped over them to shut out the light until the proper time has come for singing. Then the light is admitted and the teacher begins her warbling. The young birds, which have probably never yet attempted to pipe, leave off their feeding and listen to the marvelous outburst of pure song. They become uneasy and enraptured, and in a short time they try to imitate the song; but they make miserable failures for many days. Eventually some of them strike the right note, and at the end of the week the most promising ones are separated from the rest and placed in rooms with the best singers. In this way their voices are gradually cultivated, and new songs are taught them.

There are several such schools for canaries in New York, but they are devoted entirely to the comparatively few Canaries raised for the trade in this country. Most of those imported have already been trained to sing accurately, although after their long sea voyage they need a little extra training to bring their voices to perfection. The best trained Canaries are the St. Andreasberg Canaries, whose notes are considered the finest of any in existence. Originally these notes were obtained by placing a Nightingale in the breeding room of the young Canaries, and the natural, clear-toned voices quickly blended the song in with their natural notes. In time, by careful breeding and selection, the present type of the St. Andreasberg Canary was produced, but the pure, bracing air of the Hartz Mountains is considered necessary for the proper development of one of these superb singers. A true St. Andreasberg singer cannot, it is believed

by bird trainers, be reared outside of the Hartz Mountains, and it is claimed that only about ten per cent of those raised in their native place ever pass the critical examination of the judges. They are sold according to the perfection of their song power, the best imported bringing as much as $25 to $50 apiece, and ordinary ones as little as $4 to $5. As a rule they are very small and insignificant looking birds, and not until they have opened their little throats to sing, does one comprehend their mission in life.

SUMMARY.

Page 46.

COMMON TERN.—*Sterna hirundo.* Other names: "Sea Swallow," "Wilson's Tern," "Red Shank," "Mackerel Gull," and "Summer Gull."

RANGE—The greater part of the northern hemisphere and Africa. In North America chiefly confined to the eastern province, breeding variously throughout its range.

NEST—Above high water line on the beach and on the sides of the bluffs; made of grass and sea weeds.

EGGS—Three, greenish to deep brown in color.

Page 50.

PRAIRIE WOLF.—*Canis latrans.* Other name: "Coyote."

Found in the western part of North America.

Page 54.

FOX SQUIRREL.—*Sciurus cinereus.* Other name: "Cat Squirrel."

A common North American species.

Page 58.

LOON.—*Urinator imber.*

RANGE—Northern part of northern hemisphere. In North America breeds from the northern tier of states northward; in winter south to the Gulf of Mexico and lower California.

NEST—At or near the edge of the water on marshy or boggy grounds; they are quite bulky and made of water grasses with a mixture of moss and mud.

EGGS—Two, olive brown, more or less spotted and blotched with blackish brown.

Page 67.

AMERICAN RED FOX.—*Vulpes fulvus.* Common in the United States.

Page 71.

LEAST SANDPIPER.—*Tringa minutilla.* Other name: "Peep."

RANGE—The whole of North and South America, breeding north of the United States.

NEST—On the ground.

EGGS—Three or four.

Page 74.

MOUNTAIN SHEEP.—*Ovis Montana.* Other name: "Bighorn."

Inhabitant of the mountains of western America. Its northern range extends as far as Alaska.

Transcriber's Note:

- Minor typographical errors have been corrected without note.
- Punctuation and spelling were made consistent when a predominant form was found in this book; otherwise they were not changed.
- Ambiguous hyphens at the ends of lines were retained.
- The Mountain Sheep illustration has been moved from page 75 to page 74.
- Duplicated chapter headings have been omitted.
- The Contents table was added by the transcriber.

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