SIGHT AND SCENT IN BIRDS AND ANIMALS

By GENE STRATTON-PORTER

THERE is so great a contrast between birds and animals in two of their most important senses that field workers never cease to find it a matter of wonderment. The birds have sight, animals scent. The keenest sense of a bird is sight. They seem to be utterly deficient in smell and taste. Those half-globes of

Photographs by Gene Stratton-Porter.

“Why does poor Molly never look up in time to see that lightning-like rush?”
The Eye and Disc of Our Common Owl.

eye set in each side their heads seem to combine to form a complete circle of sight, so that back of them as well as in front, above, beneath, and all about they see well and for a surprising distance.

The sight of an eagle is so keen that it has become the basis of a worldwide comparison. Among the clouds the eagle sees the snake gliding over earth, but the snake never sees the eagle until it is compelled to strike in self-defense. The vision of the falcon is even more acute than that of the eagle, and it was one of the greatest sports of knightly days to train these birds to prey on pigeons, larks, herons, and other birds of air. This custom still obtains in France, and, as game grows scarcer, it will undoubtedly be introduced among our sportsmen.

Through personal tests I find the range of the vulture to be quite as remarkable. A week after the first illustration of my vulture article in the December Outing was made, I paid my final visit to the swamp that was the home of my subject, hoping to complete the series with a last picture of the bird I had followed almost three months in the act of taking wing or in flight among the treetops. It was late in the season and I was very fearful that it had migrated. Several miles away I began searching the sky and forest, and not a vulture was in sight. I found my bird on a high limb near its old location, secured the exposure I had so fervently hoped for, and placed my customary reward of meat, for good behavior, on a stump nearby. Before I could repack my camera five black vultures had dropped from unseen heights and swept the sky so near me that with the naked eye I could see the bronze shadings on their wings and distinguish the characteristic formation of their beaks and heads, yet not a vulture, except my young subject, was in sight until food was produced.

The hawk, hanging motionless in mid-air, counts every bunny of the family Molly Cotton trails along the wheat. Why does poor Molly never look up and see that lightning-like rush in time to seek cover with her precious babies? The lark, poised out of the range of our vision, flings his ringing melody down to the tired old world, but he never loses focus on one little spot of meadow where his mate is brooding. To prove this you have only to hear his notes while he is invisible and then approach his nest, and in a flash he is to earth trying mightily to interest you in
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a spot many rods away. A bird sees everything in and beyond our vision. There is no way to compute the range to which some of the most farsighted penetrate.

The eyes of nocturnal birds are of short range, but much more remarkable in their construction than those of the day. An owl sits dull, blinking, almost blind, while other birds revel, but with their bedtime comes that miracle of vision that enables it to search out its food, woo its mate, and rear its young about forests, swamps, and old buildings, in the twilight, moonlight, and on nights that to mortals seem quite dark. Almost every bird has by contraction and dilation of the iris of the eye the power to shut out or admit light according to its necessities, but in the owl this power reaches the highest perfection and is still further assisted by irradiation at the back of the eye, by which its vision is rendered still more acute. Also the disc of feathers about the eye, exquisitely fine in texture, forms a circle especially provided to collect light rays and throw them upon the pupil. As a support to this a secondary line of feathers starts at the base of the beak, passes above the eyes, runs downward about the ears, turns forward and ends at the chin, including the tufts commonly called "horns," in reality nothing more than sounding boards for the ears. In some species there is only a half disc of these fine feathers below the eyes.

In no branch of the family with which I am immediately acquainted is the eye arrangement so exquisite and the faculty of sight so highly developed as in the British white barn owl—Strix flammea. These birds, with the entire plumage fine as down, flight noiseless as the passing of a shaft of light, and eyes with the most intense sight of their kind, find the rats and mice of country barns and old buildings on nights too dense for any other owl to venture forth. Their eyes are examples of the highest perfection among night hunters. The ball seems a great globe of sight, the iris has enormous powers of dilation, and the irradiating power is unusually strong. In this bird the eye discs include the whole face in a heart shape. They circle above the eyes to the ears, coming to a point well beneath the chin. These feathers are snow white, so fine as to resemble wool, and so crisp they seem to sparkle. The face is sharply outlined by several rows of dark brown feathers. I know of no other owl having so perfect and exquisite light reflectors about the eye as the British white owl. All owls have these reflectors, either in a whole or half disc about the eye, but the difference between the dainty perfection of this bird and the common species is so great that it will be apparent by a glance at these illustrations.

To scientists and natural history workers the hand of Infinity never seems more clearly apparent than in the conformation of the eye of the owl. There are other birds that make short journeys on wing at dusk and in the twilight but the owl is the only bird that secures its provender, produces its young, and takes its pleasure in the moonlight. Whether the hunter is the short-ranged bird of night, or the cloud-piercing eagle of the day, it secures its food with its eyes.

An animal uses its nose, and detects a scent carried on the wind at a greater distance than is safe to attempt to compute. Ask any old woodsman how many long miles he has traveled in his day, getting on the "down wind" side of a moose, deer, elk, or any big game that he has stalked. Make yourself fit into the landscape and a bird will light on you. An animal running against the wind will circle a half mile to avoid you; with the wind it may pass within a few feet of you if not across your feet or lap. Foxes have a wide reputation for wisdom and cunning, and I have seen them do this very thing.

You can set up an artificial tree trunk within a few feet of the nest of a pair of birds, go inside and picture them at your leisure, but it would take a confiding individual to try the same scheme at the den of a wolf or bear. Just in proportion as the sight of a bird is keen and far-reaching, the sight of an animal is dull and of short range. To be sure there is always the exception. In the case of the lynx, aside from acute scent, its eye has passed into proverb for keenness, but if this same eye could be exchanged for that of a falcon, the combination would be so compelling that the animal's prey, like Davy Crockett's coon, would come down without waiting to parley.

There is a long list of night hunters among animal tribes but I recall only one that combines, with a fairly keen scent,
eyes that are almost owl-like in their formation and acute vision. Old hunters throw the light of a torch upon a treed raccoon and shoot it by the reflected rays streaming from its great glassy eyes. As a rule, the eyes of animals are small and deep-set. The largest, fullest eye in proportion to the size of its possessor is found among small animals. The eye of an elephant or bear is little larger than that of a raccoon or opossum.

Animals follow their noses with unerring instinct. A dog identifies his master by smelling him. A goat picks her kid from an enclosure of hundreds with her nose. After a separation a cow is never satisfied with her calf until she has thoroughly smelled it. It is hardly necessary to instance the wonderful powers of the bloodhound in this direction. All carnivorous animals follow their prey for miles with their noses glued to the trail. Of course, there are some degenerates as to the sense of smell and taste among animals, but as a rule they prefer fresh, self-slaughtered meat, and if they are too hungry to pass a carcass, they almost invariably know if it has been tampered with or detect poison if it is a trap. In the same proportion as an animal is keen in this sense the bird, with hardly an exception, seems utterly lacking.

The feathered family are so deficient as to smell and taste that they go anywhere and eat anything. I have seen birds contentedly brooding about slaughter houses and sewer discharges where the air was so contaminated that my horse would turn up its nose, draw its lips back from its tooth and groan, and I could only secure my material by working with a cloth dipped in disinfectant bound over my lips and nostrils. The birds eat unspeakable things. It is nothing to find them raking the river bank for worms at the very mouth of a sewer discharge. Buzzards, vultures, and ravens gorge themselves with such vile food that their whole being becomes a stench in the nostrils of all creation save their own.

Some of our golden noted, gaily plumaged birds, that have been sung by poets and painted by artists, may be found in the fields complacently picking the undigested corn from the droppings of the herds they follow.

Beyond all question the birds have sight and the animals scent, but where each is defective in one of these senses, it seems compensated for by the greater degree in which it possesses the other.

ONE-DESIGN CLASSES IN YACHTING

By W. P. STEPHENS

By one of those odd, erratic, and most unexpected changes to which yachting, of all sports, seems peculiarly liable, the season which is now beginning promises to follow a totally different course from that of last year. Then the 90-footer and international racing were the rage; the interest of the yachting world centred on five yachts, the most costly racing machines ever produced, and American yachtmen concerned themselves with the performances of Columbia, Constitution, and Independence and the work of Captain Barr, Captain Rhodes, and Captain Haff, to the neglect of their own craft. This year the 90-footer is dead for an indefinite time at least and the fad of the season promises to be the one-design classes, many small craft, each sailed by her owner.

To all appearances the one-design fever is epidemic, appearing, like la gripepe, in various places at the same time. The idea is no fashionable novelty; very little has been said or written of late in favor of it, and there has been no concerted action on the part of clubs and associations; but the fact remains that one-design classes are springing up in every direction. The American Yacht Club, at Milton Point,