



wings, they sweep from the higher regions of the air to their repast, and gorge themselves until scarcely able to rise from the ground.

In these birds the beak, hooked at the point, varies in strength and form. In the more typical species the head and neck are denuded of feathers, or only covered with a little down, while round the bottom of the latter is a ruff of soft or slender feathers, arising from a loose fold of skin, within which they can withdraw the neck, and even the greatest part of the head, while they remain in a semi-torpid state, motionless as statues, during the digestion of their meal.

On the breast and over the crop the skin is bare, or at most scantily covered; the limbs are of moderate strength, but the toes are feeble, and unarmed with formidable talons; and they seldom attempt to remove their carrion food, but continue with it till satisfied. The plumage generally consists of stiff large feathers overlying each other, and forming an almost shot-proof defence. The wings are ample.

It has been a matter of much discussion with naturalists as to whether it is by their extraordinary powers of vision, or by the keenness of their scent, that vultures detect their food. It has been frequently noticed, that when the sky seems clear, when not a wing can be seen in the glowing expanse above, no sooner does an animal fall—no sooner has the

hunter slain and left his quarry—than, as if suddenly called into existence, multitudes of hungry vultures are observed pouring from the sky and thronging to the feast.

"Desirous of observing how so great a number of vultures could congregate together in so short a time. I concealed myself one day in a thicket, after having killed a large gazelle, which I left upon the spot. In an instant a number of ravens made their appearance, fluttering about the animal, and loudly croaking. In less than a quarter of an hour these birds were reinforced by the arrival of kites and buzzards; and immediately afterwards I perceived, on raising my head, a flight of birds at a prodigious height, wheeling round and round in their descent. These I soon recognised to be vultures, which seemed, if I may so express myself, to escape from a cavern in the sky. They seemed almost to precipitate themselves from the clouds to share the spoil, but my presence caused them speedily to disappear. Thus then it is that the vultures are called upon to participate in their prey: the first carnivorous birds that discover a carcass rouse the others which happen to be in the environs by their cries and actions.

If the nearest vulture does not spy his prey from the lofty region of the air in which he swims by means of his wide-spread wings, he perceives at least the subaltern and more terrestrial birds of prey preparing to take possession of it; but perhaps he himself has sufficient power of vision to enable him to discover it; he descends hastily and with a wheeling flight, and his fall directs the other vultures who witness his evolutions, and who have, no doubt, their instinct sharpened with regard to everything that concerns their food,"

A naturalist, Mr. W. Sells, writes:-"It has been questioned whether the vulture discovers its food by means of the organ of smell or that of sight. I apprehend that its powers of vision are very considerable, and of most important use to the bird in that point of view; but that it is principally from highly organised olfactories that it so speedily receives intelligence of where the savoury morsel is to be found, will plainly appear by the following facts. In hot climates the burial of the dead commonly takes place about twenty-four hours after death, and that necessarily, so rapidly does decomposition take place.

On one occasion I had to make a post-mortem examination of a body within twenty hours after death, in a mill-house, completely concealed, and while so engaged the roof of the mill-house was quickly studded with these birds.

Another instance was that of an old patient and much-valued friend who died at midnight; the family had to send for necessaries for the funeral to Spanish Town, distant thirty miles, so that the interment could not take place till noon next day, or thirty-six hours after his decease, long before which time, and a most painful sight it was, the ridge of the shingled roof of his house, a large mansion of but one floor, had a number of these melancholy-looking heralds of death perched thereon, besides many more which had settled on trees in its immediate vicinity. In these cases the birds must have been directed by smell alone, as sight was totally out of the question."

In opposition to the above opinion, it has been stated by Mr. Audubon that vultures and other birds of prey possess the sense of smell in a very inferior degree to carnivorous quadrupeds; and that, so far from guiding them to their prey from a distance, it affords them no indication of its presence even when close at hand. In confirmation of this opinion,

he relates that he stuffed the skin of a deer full of hay and placed it in a field, and that in a few minutes a vulture lighted near it, and directly proceeded to attack it; but finding no eatable food, at length quitted it.

He further relates that a dead dog was concealed in a narrow ravine, twenty feet beneath the surface of the ground around it, and filled with briars and high canes; that many vultures were seen sailing in all directions over the spot, but that none discovered it.

We may remark upon the above experiments that the deer was doubtless seen by the birds, but it does not follow that they might not also have smelt the hide, though inodorous to the human nose; in the second case, the birds had undoubtedly been attracted by the smell, however embarrassed they might have been by the concealment of the object which caused it.

We have in many hundred instances seen the vulture feeding upon small objects under rocks and bushes, and in other situations, where it was utterly impossible that the bird could have discovered it but through the sense of smell; and we are to recollect that the habit of the vulture is that of soaring aloft in the air, and not that of foraging upon the ground.

The sociable vulture, a native of South Africa, is said by Le Vaillant to be gregarious in its habits, numbers associating together in building their nests in the fissures of craggy rocks, two or three nests being sometimes in the same fissure or cavern, side by side, and others in adjacent crevices: hence the title of sociable, a title which Dr. A. Smith considers to be founded on error. He never met with more than one nest actually occupied on the same tree (not fissure of a rock). The mistake has probably originated in a new nest being occasionally built adjoining to an old one which had been deserted on account of its having become unserviceable.

bird, he adds, seems but little disposed to sociability; more than two are rarely seen together, and if four occur in the neighbourhood of a carcass, the number is considered as great; while of the parts of India, as Bengal, etc. Colonel Sykes says that he met with it in the Dukhun. It is solitary, more than two being seldom if ever seen together. The top of the skull is remarkably broad and



griffon vulture it is by no means uncommon to see a hundred or even more congregated where carrion exists.

This species, which offers nothing differing from its race in habits and food, is found abundantly in various

flat; a fold of skin, arising below the ears, runs down each side of the neck, which is flesh-coloured and naked, a few scattered hairs being dispersed over it; ruff at the base of the neck composed of short rounded feathers.