

tion was attracted by the sight of a few birds, about the size of robins, flying high and scattered over the sky. This was so unusual at this time of day that I remarked upon the phenomenon to my companions.

As the sun cleared the horizon and the light increased we realized the fact that the sky was dotted in every direction with birds flying singly, and at quite an elevation, mostly toward the south. As the light grew stronger individuals here and there dropped to a lower altitude and allowed us to discern the fact that they were Varied Thrushes (*Ixoreus naevius*). For some time their numbers increased until there were hundreds in sight at once in any direction one might look, and as we were by this time pretty well up on the range we had quite an extended view. Soon we noticed single birds dropping out of the flight and settling in the bushes. These must have been our regular winter residents. Apparently not over one in a hundred dropped out in this way. After nine A. M. the numbers decreased and by ten o'clock the flight was over, with no birds in sight except a few flying from one canyon to another and settling down locally, apparently. I have seen many flights of birds, and migratory flights at that, but only on a limited scale, during many years of observation in California, and yet have never witnessed such a genuine wave of migration, on so vast a scale, as occurred between the hours of six and ten A. M. on the above date. Nor have I seen any mention of this wave having been observed by others. We are not supposed to have such things in California, as the birds generally move more leisurely on this coast when migrating. It would be interesting to know if any other members of the C. O. C. encountered this wave.

San Francisco, California.

NOTES ON THE WALTZING INSTINCT IN OSTRICHES

By F. W. D'EVELYN

ONE evening just as the lengthened shadows in the West proclaimed the advent of early darkness, for there is no twilight in Africa, while driving along the high veldt leading to Pretoria, then but a village nestling among beautiful hedges of rose trees, my Kaffir suddenly startled me by exclaiming "Nance Inje": there is an ostrich! The shrill tone of the interesting announcement for the moment threw me off my guard; quickly recovering myself I raised my carbine to my shoulder and sent a 45-caliber bullet after the great grey bird which by that time was making rapid strides in a two-step gait several rods away, that baffled accurate shooting.

The motion of the bird was peculiar but characteristic of the species in the first stages of its flight, and was one of the gaits in the strange combination of movements so well known to those who are familiar with the birds in their wild or domestic state. It was suggestive of a form of dance, indeed in many of its parts not at all dissimilar to the steps in some of the native dances in Kaffir-land. The dance is a rapid whirl suggestive of the turn of the dervish priest; the ostrich however turns first in one direction and then while turning, without slackening speed, suddenly reverses and turns the other direction; the wings are held extended and conform with the alternate raising and lowering of the sides; the head is sometimes held extended forward with the neck outstretched and again held backward with the head erect. Even when going at full speed the bird will suddenly pivot and go directly opposite to its former course.

The young chicks exhibit this movement, but are not at first anywhere near as perfect as the adult birds, showing that an education is necessary to perfect that which without doubt is an instinctive character.

The manager of the Cawston Ostrich Farm informs me that their chicks, the many generations removed from the wild birds, exhibit the dance movement, but very imperfectly, scarcely running any distance before squatting down, as if there were dawning within them an instinct, a reflex of the narrowed horizon permitted by the inclosure in which their parents have been reared. Single birds or a few birds rarely make as good a performance as when there are several together, thus giving proof that there is a factor of suggestion or imitation requisite to make the best actors.

That these movements are the outcome of excessive vitality or playfulness is scarcely to be accepted; there must be utility if not necessity in the action. In this connection I will say that I am strongly attracted to the suggestion of an esteemed colleague, J. E. Duerden, of the Transvaal. Mr. Duerden states that he is of the opinion that the waltz is simply a protective movement calculated to render the bird less liable to be seized by any of its natural enemies that are so common in the habitat of the bird. The ostrich inhabits open or bush-covered lands that are also the home of the lion, the brush cat and the leopard. These animals capture their prey by springing upon it. The ostrich, as was demonstrated by the case cited in my opening remarks, when surprised jerks itself so quickly from side to side that its pursuer finds it almost impossible to arrange its spring, or in case of a human hunter, for him to aim accurately. This is the character of the defence when the bird is first aroused; but let attack press more persistently and the bird darts off with great rapidity for a long distance and then suddenly changes its direction of flight so quickly that no sort of hunter could be prepared for it.

Much less successful is the defence or combat of the captive, or the ostrich at bay. Then the bird depends on kicking forward, hoping that with its powerful foot it will down its enemy and at the same time tear open the body with the claw-like nail on the one great toe. Kicking would be of little avail with the lion or leopard. So the ostrich trusts to nimbleness of legs to dodge the spring, and then by fleetness of foot to get away from the neighborhood.

Alameda, California.

THREE NESTS OF NOTE FROM NORTHERN CALIFORNIA

By HARRY H. SHELDON

WE were camped, the two of us, on the Lagunitas Creek, close to the mouth of the Little Carson, on the first Saturday night in May, 1907, the opening of the trout season. It seemed but a short time after bacon and coffee that our pipes went out and darkness had turned to the gray of early morning. An occasional thrush would give a short whistle as tho just awakening, and, to further tell us the time had come to crawl from our warm blankets, a horned owl gave a series of hoots as a farewell to his night of depredations.

Moving briskly to keep warm we were soon thru with breakfast and wended our way up the Little Carson which by noon had afforded us a nice mess of trout. We then lay ourselves at the base of a hoary pine to have lunch. Up to this instant fishing had been the main feature of the trip, but upon hearing the pleasant