

THE TURKEY VULTURE'S EYES.

BY ALEXANDER H. LEIGHTON.

To the best of my knowledge no experiments, since the days of Audubon, have been made on the American Turkey Vulture to determine whether he sees or smells his food. Dr. Witmer Stone suggested to me that a number of experiments comparing the response of these birds to a bait that could only be detected by sight as against their response to a bait that could only be detected by smell might lead to something of interest, so I set about the task.

Across the Schuylkill river from Conshohocken in Montgomery County, Pennsylvania, the ground rises suddenly, almost cliff-like, and rolls back to the south in a plateau. Its sides are mostly wooded and there are a few residences. A broad field lying on the top and near the edge of this table-land was chosen for the test, both because from time to time we had seen a number of Vultures there and because of the convenience with which we could watch their movements. To the south the country is composed of farm land and large estates. Woods flank the east. On the north stands an empty house so girdled with trees and bushes that the field is only visible from an upper window. It was from this house that we carried on our observations. Beyond the house lie more woods dropping down the slopes to the lowlands. A road with a high hedge on either side extends along the west end, on the other side of it, Gulph Valley.

At five-thirty on the morning of March 12, 1927, a friend and I arrived at the field for our first test. Dawn was reddening behind dark woods. The sky was clear with a few scattered clouds. We placed a small, stuffed deer, a rejected museum specimen, on a rock and arranged it in the most lifeless attitude. The gray background was selected because it exposed most clearly the tawny hide. As this was a sight test, our problem was to make sure that there was no real carrion in the neighborhood. How to do this, puzzled us at first; but at length we found a way. We brought with us a large dog who was by natural ability and subsequent culture a

collector of smells. His capacity for finding anything putrid amounted to absolute genius. While we worked, he ranged free. Eleven feet from the deer, a camera was set up and covered with sticks. At six-ten, our task being completed and our scavenger having found nothing, we retired to the house and began to watch.

A few minutes before sun-rise, at six-thirty, a Vulture sailed over the deer at a height of about twenty-five feet. He circled around for several seconds, apparently inspecting the situation. While watching him, we suddenly noticed another on a tree about four hundred yards from the bait. After a moment or two of investigation, the first disappeared over a rise in the ground to the south and the other followed immediately. This was the only response we got to this test, although we kept watch and watch all day until nearly sun-set. We saw no more Vultures and got no pictures.

Clearly, the two that came had found the deer by means of their eyes; unless they were able to smell, and had a taste for, the embalming fluid with which the deer had been treated some twenty odd years ago. But, had the Vultures when near seen that the animal was only a dried skin? Had they gone off because they had failed to detect an odor at close range? Had the heap of sticks around the camera frightened them? This last did not seem likely, but it was a possibility.

On the morning of March twenty-seventh at five-thirty we set out the deer again, this time without the camera and in the long grass where it was difficult to see. The sky as before was clear except for a few clouds. At six-twenty, four Vultures swooped over the hill from the south-east. They glided down much closer to the deer than the one had done on the former occasion, but went past without stopping, crossed the road, floated out over the valley to the north-east, rising higher and higher and finally disappeared behind a house on a neighboring hill.

I had fully expected that Vultures would come circling out of the sky in slow majestic turns, dropping lower and lower until they settled at last on the false banquet I had prepared. This idea never seemed to strike the Vultures, for each time they rushed up from somewhere or other without the slightest warning.

It began to rain at half past eleven, so we removed the deer and concluded our work for the day.

One of the questions was apparently solved. The camera had had nothing to do with the bird's refusal to alight.

Our next experiment was on the sense of smell. Dawn on April sixteenth was calm with a few clouds. A hole was dug about four hundred yards from the house, that is to say, farther than the deer had been. We placed in it about eleven pounds of fairly fresh, very fatty meat and covered it with grass. All was in order at a quarter to five. As the light increased, a slight wind sprang up which may have blown away some of the grass and exposed the carrion. At five o'clock a Crow came down and seized upon the meat like Jockser Daly upon the whiskey. He tore and gobbled so fast that he had to stop shortly and rest, but his breath once regained, he was at it again harder than ever. When another Crow, whom we shall call Jackie Boyle in order to distinguish him, came drifting up from the east, a little tragedy was enacted which proved that some crows are black and others shady. Jockser, on observing Boyle, made some rapid calculations and just before Boyle got where he could see the meat, Jockser flew cawing loudly toward the wood. Boyle turned and flew screaming after him. In a few minutes one lone Crow came winging back and went for the steak.

At half past one a Vulture came and picked at the meat for a little while, then took flight again. The bait had undoubtedly been uncovered by the Crows before this, if not by the wind.

We saw nothing more although we remained on watch until sun-down, so we buried the meat.

My friend repeated this experiment again on June nineteenth. The meat which was used this time was two weeks old and very rank. It was placed in the same spot as before and covered with sackcloth, held down by wooden pegs and the edges covered with soil. There was a fine Scotch mist at dawn which kept up most of the day. No Vultures came.

On June twenty-first, we made the last experiment, using the same piece of meat. If it had been strong before, it was Herculean now. We fixed it as before and put the deer beside it to see how the combination would work. It was a bright sunny day and we were at our post at nine in the morning. We watched all day, but saw no Vultures. The deer, we removed that night, but left the

meat, covered as it was, for three more days. It was not, during that time, disturbed by bird or mammal.

I am far from thinking that these experiments form a positive proof one way or the other, but I do believe that they back the theory that the Turkey Vulture sees and does not smell his food.

Humble as these experiments were, they contributed one martyr who suffered durance vile for the cause of science. We had a colored factotum whose duty was to get us up in the morning, transport us to the scene of operations and act as cook while we kept watch. He failed to show up for one experiment and this was the explanation he gave the following day.

"Well, sah, Ah set out fo' you' place all right. But when Ah got along down to Fifty-foef street, de cops was raidin' de Syndicate, and Ah stopped to watch 'um. 'Cose, Ah wasn't doin' nothin'. When dey stahted loadin' de fellahs into de wagon, one of de cops grabbed me too. Ah says, 'Mistah, yo's mistaken. Ah ain't in wid dis bunch.' He says, 'What yo' doin' heah den?' Ah tells 'im Ah'm goin' to mah work out at Rosemont. He says, 'What work yo' goin' to do at two thirty in de mawnin'?' Ah says, 'Huntin' buzzahds.' and just about den he slammed me in de wagon."

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