A CROW ROOST NEAR RICHMOND, INDIANA.

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What is said in this paper about crows and their roosting is based upon observations taken by Professor Dennis and myself of one particular roost found about three miles south of Richmond, Indiana.

Through the latter part of January, 1903, crows were noticed flying in a direction about south by east in the evening and returning from the same direction in the morning. The evening flight was from 3 to 5:30; the crows were in flocks of from two or three or in a constant stream. The principal line of flight was about one-half mile west of Richmond. By actual count crows passed at the rate of one hundred or more in a minute for more than two hours. They were often so numerous it was impossible to count them. Judging from this there must have been at least 15,000 crows which roosted at this place. By 7 o'clock in the morning nearly every crow had returned from the roost on its way to cornfields, etc., in search of food.

Not far west of Richmond, in a small woodland, they stopped to rest or for some other reason. I have seen crows here by the thousand. It was here at this resting station that very evident exemplification was noted of their fear of man and their signaling to others following. I entered the woods and clinbed a tree in order to watch better their maneuverings; however, they were not so kind and not one flew over the tree in which I was stationed. Repeatedly they flew at top speed in a line directly overhead but always, on discovering my presence, made a quick turn, uttered a peculiar call and passed around. This call evidently was a signal for those following to fly in like manner, because for the next few minutes the line passed to one side. Then some crow, not noting the signal, would appear coming directly towards me; but he never failed to make the sudden turn, utter the call and fly around.

This is more clearly brought out by "Driving the line." It was only necessary to walk in a railroad cut under a line of flying crows and it would bend around at a greater distance, the crows at the bend all the while signaling to those behind. In this manner on one occasion Professor Dennis drove them one-half mile to the west after which they passed on the east. On his return he in like manner drove them an equal distance to the east.

For some reason the crows never went directly to the roost. Whether it was done purposely to conceal the real roost can not be stated. However, they deceived us in this manner and caused us much trouble to find the roost. Three visits were made to the vicinity, two at night and one in the day time. The first visit, February 21st, they were found in a wood and an adjoining cornfield along a small stream of water. As we approached they preceded us. Approaching as quietly as possible, we stopped by a large tree and remained quiet, thinking we might be in the midst of the roost. Gradually all left; meanwhile scouts had been sent to watch us. They would fly directly overhead and then return to give information to the others. The roost was yet to be found. We went to the top of a neighboring hill and saw in the darkness several hundred feet beyond thousands of crows on the snow-covered ground. We could not appreach without disturbing them. We did not remain till they went to the trees.

The next time was February 23d, from 6 to 6:30 p. m. We now found all the crows in the trees, most of them across the river from the place where we first saw them, in a large wood, the others in the sycamores along the river quite a distance from the main roost. They must have been doing picket duty, because they uttered no cries, while the others were constantly cawing; also when we purposely disturbed them some of them left silently to join the others.

The last visit, March 2d, was in the day time; the ground was carefully gone over; the boundaries were easily determined by the droppings, examination of which gave good evidence that they were eating a great deal of corn.

The main roost was located on the north side of a hill, 120 feet high, thickly wooded with beech, elm, and ash, and near the foot of this hill. Reference to the map will show that the roost was located in a gorge shut in by hills 90 feet high on the east, 50 feet high on the north and west, and, as before mentioned, 120 feet high on the south. A public road runs north and south to the east of the roost, and, as would be expected, the ground gave evidence of more crows roosting some distance from the road.

This particular hill was only used during the coldest weather; at other times the crows moved about from place to place for their roost. The hill

MAP OF VALLEY OF CROW ROOST.

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and the elevation of the surrounding land (as shown in the map) certainly furnished protection against the cold.

The crows began to arrive about 4 p. m., alighting in the neighboring trees and along the river bank, drinking water and picking pebbles. The

main line seemed to arrive from the northeast and from no other direction. But, to our surprise, on our way home after leaving the valley, it was discovered that the crows from the northwest were flying southeast on a tangent with the valley and alighting in the trees and fields to the east; then turning at almost right angles they flew over the hill down into the valley where the roost was. Was this purposely done for protection?

In conclusion the main things to be noted are the bending of the line when men are seen: the signaling of danger to the oncoming line; that the crows never approached the roost directly and that they only roosted on the hillside during the coldest weather.