

—and that it would be better that a boy should never know a bird than that the poor creature should die at his hand or be robbed of its precious eggs.

Then ask them to find, by observation, what birds remain in their neighborhood during the winter. Besides the domestic fowls, they will see but few. English sparrows will be found in nearly every town and village. Chickadees are not uncommon in the woods, and often visit the parks and shade-trees in towns. The black-and-white downy woodpecker sometimes comes to town, too. The active little nut-hatch may, perchance, be seen, often with head downward, searching the trunks of trees. Groups or flocks of snow buntings—in white and dusky; red-polls—little sparrow-like birds, with red caps and breasts sometimes stained with red; pine grosbeaks—nearly as large as robins—the males quite red; cross-bills—with curved ends of mandibles crossed—may be occasionally seen in the country, and even about the outskirts of towns and villages. Tree sparrows—with brown caps such as the chipping sparrow wears in spring—may be seen beside the winter roads. We have some other winter residents; but there is a great scarcity of bird life here in winter.

In the south-eastern part of New Brunswick the following common migratory birds may be looked for in April nearly in the order given: Song sparrow, slate-colored junco, American robin, purple finch (males quite red), crow blackbird (purple grackle), rusty blackbird (males black in spring, but smaller than the preceding), the tree swallow (white underneath), swamp robin (hermit thrush), vesper sparrow (grass finch), white-throated sparrow (old Tom Peabody). In the south of Nova Scotia and southwestern New Brunswick the earliest of these birds may be expected in the latter part of March—in the north of these provinces not till the middle of April. Some other song-birds return in April, as well as ducks, geese, and various other aquatic birds.

Encourage the children to watch for the coming of the different species, and to observe carefully and describe the birds they see. Help them to identify new arrivals with the aid of the descriptions in the *Manual of Nature Lessons*, or some larger book (as *Chapman's Bird-Life*). The colored pictures of birds, sold by the Perry Pictures Company (Malden, Mass.,) at two cents each, will be found very useful in determining birds.

Point out to the pupils that when they have learned to distinguish and name a bird at sight, their study is only well begun. They have yet to learn its song, its calls, its food, when and where it builds its nest, where

it gets the material, what it feeds its young—all they can find out about its ways.

Once a week during the season call upon the pupils, individually, to re-count before the class their observations through the week.

The writer will be glad to answer through the *REVIEW*, as far as possible, any questions as to the identity of doubtful birds.

Astronomical Notes.

While Mercury was on show last month there were only two clear evenings here, and one of them was none so very clear either. The other was the evening of Sunday, the 17th, and it was perfect. Mercury was bright enough to show up easily to the naked eye only twenty minutes after sunset, and his brilliant white disc flickered in the western sky for over an hour after that. There was nothing more conspicuous in sight except Mars and the Dog-star. As Mars came up over the tree-tops in the east that evening, he was flickering too; a much rarer thing for him to be caught doing (so far as my experience goes) than it is in the case of Venus or Mercury when they are near the horizon. I wonder if any of our poets ever noticed that the planets flicker when low in the sky. I can't recall any instance anywhere, nor in any of our novelists either, except by Maurice Hewlett in *Richard Yea and Nay*.

The opposition of Mars this year is the very worst that could occur. It comes just at the time when he is at his greatest distance from the sun, and therefore also at his greatest opposition distance from the earth. In August, 1877, when his moons were discovered by Hall, he was nearly at his nearest to us. What a grand sight it was on those autumn evenings to see his big red disc come sliding up above the eastern horizon while the west was still glorious with the hues of sunset. He was nearly as good in the autumn of 1892, just at the time when the Summer School was in session at St. John. But at each opposition since then the gap between him and us has been getting wider and wider, and his brilliancy has in consequence been getting less and lesser. If we take the number 100 to represent his brilliancy at opposition in 1877, we shall have 98 for what it was in 1892. The next opposition came in 1894, and the brilliancy had sunk to 72. In 1896, it went down to 36, in 1899, to 24, and this year it is only 21. That is the low-water mark. When the next opposition comes round in 1903, Mars will be a little bigger and brighter than he is now; a good deal more so in 1905; and so on, until he reaches high-water mark again in the autumn of 1909.

Perhaps then Tesla may make some discoveries about