

"I don't know, dear. But we'll have to find out just where the branches do start from."

As the others came out of the house, Mildred pointed to a board in the verandah. "It looks as if that tree had made a good deal of preparation for that knot. Look at the pretty, wavy grain of the wood all around it."

"Well, see here, Mill, if you know so much, why is that knot hard and smooth, and that one all spongy?" Not getting an immediate answer, Walter went on, "I guessed *that*, and I'm going to see if it's right. Those branches were cut off and got all dried out before the tree was cut down. 'That right, dad?' And off they went, talking about painting the cut ends of our apple tree branches.

The pedagogue's baby sister was spending the Easter holidays with us. She is the zealous little school-mother of fifty pupils in an unequipped country school.

At tea time I asked the children about their puzzles, and we were deluged with finds, facts, surmises, questions, contradictions, and what not. They had been to the oak grove, to the pine wood, to Jackson's. They had seen knots in long section, in hard wood, in soft wood; Don had cut off a branch and "made a knot" himself. He had a sweet-smelling shingle full of dark knots, which he insisted upon taking to bed with him. They had spruce gum and pussy-willows and half a dozen kinds of buds—only one twig of each kind, to keep in water, for we never destroy a bit of living tissue wantonly. The little school-mother listened and smiled and glowed. As soon as we three were alone, she began:

"Constance, you are a wonder, the way you draw those children out!"

"E—duco," began the pedagogue, but she paid no attention to him.

"Oh, I don't really *know* a thing," I explained; "I just get their curiosity aroused and set them looking for things so they can teach me."

"Well, I don't care. Your's is the best way—the right way. It's the way we need to get hold of in the schools," she persisted.

Here the pedagogue produced some rough sketches of tree-branching which Milly and Walter had been putting in his blank-book, and casually remarked that he had just seen the first Grackle, and Walter the first Swamp Sparrow they had observed this spring.

"Do you know, I've been worried to death," said the little school-mother, "about what I'd have for an Arbor Day lesson. I want them to really learn something, to get some real acquaintance with trees instead of just singing and reciting about them and telling what they're good for, in the old hackneyed way; and now I have a whole cranium-load of ideas, if only I can get them into order and carry them out."

"Arbor Day in a knothole!" the pedagogue managed to wedge in.

Next morning the lesson was roughly sketched out, something like this:

*Materials*—Cross sections of hard and soft wood showing knots; pieces of board and plank; shingles; polished wood.

I. *The Knothole*: (1) Shape; (2) size; (3) inside surface; (4) compare in different trees; (5) conclusions from 1, 2, 3.

II. *The Knots*: (1) Color; (2) grain, closeness and direction; (3) any 'rings'? (4) compare 'grain' in cross section with grain of wood in same; (5) occurrence; (6) angle; (7) depth they reach in trunk; (8) notice presence of sap, balsam, etc.; (9) what keeps them firmly in? (10) What causes them to come out; (11) conclusions from 5, 6, 7, 8, 9, 10.

III. *Practical Generalizations*: Comparative desirability for building of knots and clear wood—effects of painting, staining, etc.

IV. *Other Lessons*: Branching habit of different trees (drawing). Stories about nests, etc., in knot holes.

A week or so later I had a letter from the little school-mother in which she said:

"The knothole topic and its many outgrowths not only enlivened our Arbor Day programme, but has kept us alive and busy ever since. One boy wanted to know if root branches made knots in the roots, and I offered to go with three of the boys to find out. Eight turned up (on Saturday) and we had a great bird-and-tree-trip. One afternoon last week, I took twenty, sending the rest home. Next week I am going to take twenty girls. They have unbent wonderfully since finding that I, too, am only a searcher. Our trips have been the greatest pleasure and have been truly profitable. And I have had only one note from an irate parent about the wasted time. My little visit to you has been an inspiration."

March 28th, 1911.

J. W. M.

Why is an oak struck by lightning more frequently than any other tree? Because it is said that the grain of the oak, being closer than any other tree of the same bulk, renders it a better conductor; and also that the sap of the oak contains a large quantity of iron in solution, which impregnates the wood and bark, thus increasing its conducting power.