

PUBLIC SCHOOL READING.

THE DISAPPEARANCE OF THE OLDTIME

"READER"—LEARNING WORDS

BY SIGHT.

Perhaps some one of a mathematical turn of mind will one day calculate how many centuries of ordinary evolution separate the "dame school" of the not very remote past from the pedagogic system of to-day. An observer who recalls the time when those institutions were far from uncommon would be ready to put it at any number of years that might be mentioned. The world was jogging along complacently, satisfied that to teach little children the simple requirements were ability to hold a book and to read, when on a sudden modern pedagogies sprung into being, full grown, like Athene from the head of Zeus. There were normal colleges and strange doctrines that little ones should be interested rather than rapped over the knuckles, and, last and most appalling to the conservative mind these reformers relegated a, b, ab, and b, o, bo, to the educational lumber room, declining airily to teach the alphabet any longer.

An alphabetless primary school! Strange evolution of modern iconoclasm. But it works well, and that no one can deny. If any part of the path of the pupil is to disprove the dictum that there is no royal road to learning, it is the very beginning of the ascent. No wonder the children of to-day like to go to school. The only astonishing feature of the educational system is the truant school.

Take, for example, a room full of children who have been "working" for a week. The little seats are filled with diminutive learners, each inspired with a great desire to shine in the world of learning. The teacher has talked with them, made a study of their different temperaments and won their interest by telling them stories and holding forth the wonders of this unexplored country, which produces an inexhaustible supply of stories. In the course of these stories the teacher draws roughly a barn, a fence, a tree, and writes the words for "cow," "cat," "wagon," "chickens," and so on. At the end of a week she asks, pointing to the word for "cow," if any child can tell her a story about it. Many small hands rise, and one child comes out to take the stick and say, "The cow is in the barn." Great is his triumph. He has remembered the appearance of the word and connected it with the "story" of the cow.

Others volunteer still further information regarding the landscape. The cat is in the tree, the chickens are on the fence, and the wagon is near the barn. All this interests them immensely, and after a week in school these small students make not one mistake in fitting the right story to the word pointed out to them. It may be added that "chickens" is no harder than "cat" and that "elephant" is a great favorite with them. At the end of a month the children are reading such a story as that of Goldenlocks and the three bears, of course in simplified form, like this: "Three bears lived in a wood. They were good bears. One was a big bear. One was a middle sized bear. One was a little wee bear." And so on. None of the children can spell yet, or know a letter by name, but they read this story without difficulty, and recognize the words whenever met.

Then comes spelling, the most interesting part of the word to an observer. The letters are still enshrouded in mystery, but "phonetics" are in order in two or three months. The system varies slightly in the different schools, but one class is more or less typical. On large cards the teacher writes many words rhyming, beginning with different letters, as "fear," "hear," "near" and "cat," "mat," "rat," etc. The sounds of the different letters are given them in this fashion.

"What is the sound the cat makes when she is angry?" The class sounds "f."

"What sound does the dog make when he is angry?" The sound of "r" follows.

"And the trolley?" The letter "v" is sounded.

"M" is the sound the cow makes. "N" is the sawmill sound. "H" is the sound Fannie made when she was tired. The wind makes the sound of "w." About all these sounds a story has been told, and the members of the class revel in reminiscences as they purse up their lips.

They roll patronizing eyes toward visitors who don't know why the cat f-f-ed or who Fannie was. Then the cards are held up. The word "ear," for instance, is known by sight, so when "near" is shown the boy makes the sawmill sound followed quickly by "ear," and says "near" triumphantly. Quick as a flash the words pass along the class. Practically no child hesitates, and thirty or more words are pronounced according to this method. In addition to these phonetically learned words, a goodly number are known merely by sight, so that when the teacher writes, "Fannie is under the tree," the class hails it as a familiar friend. This is varied to "near the tree," and Fannie gives place to mother, and much information is acquired regarding the kind of seat on which mother sat. All these bits of family history are designated "stories." One wonders if the children ever inwardly rebel at the eternal use of the magic word. Apparently not; teacher calls them stories, and teacher knows.

In order that the phrases shall not be merely memorized, the words are pointed out one by one. "Who is under the tree?" asks teacher. One small boy rises and responds: "Fannie is under the tree."

"She is under the what, Charles?" queries the teacher. Charles wriggles out of his seat and replies, his whole little body nodding in em-

phasis, "Fannie is under the tree!" and points to the tree. They like it beyond measure. Only six or seven years old, they sit as still as mice and as wide-eyed as owls. The teacher scatters praise and blame to right and left with free discrimination.

"Jimmie, you may come to the board. (One little boy is holding his pencil. I don't know why.) Now, Jimmie, you may point to the word 'ball' wherever you see it. (Bernard, you were the first to finish your writing and you are the last to put your things away.)" Total collapse of Bernard, who had been previously puffed up with vanity. "Yes, that's right, Jimmie. You are a wideawake boy." Jimmie beams with pride and, going back to his seat, contorts his face in an agony of studiousness and is a most profitable sight to behold.

Every now and then the class goes through simple calisthenics, standing beside the desks. This is letting off steam and is highly entertaining. Indeed, the interest of the children in the lowest grades makes unnecessary any great

Washington and his hatchet, which defy lovers of historical accuracy and presumably will always do so. The nature work is designed to familiarize children with a few facts of science in such a way as to make them more observant. Geology, botany, zoology and astronomy all come in for a share. Sometimes Greek myths are used in connection with this work. A description of the kingfisher, for instance, closes with the tale of Halcyone and Ceyx. All this the children find very fascinating, as the Greeks did before them.

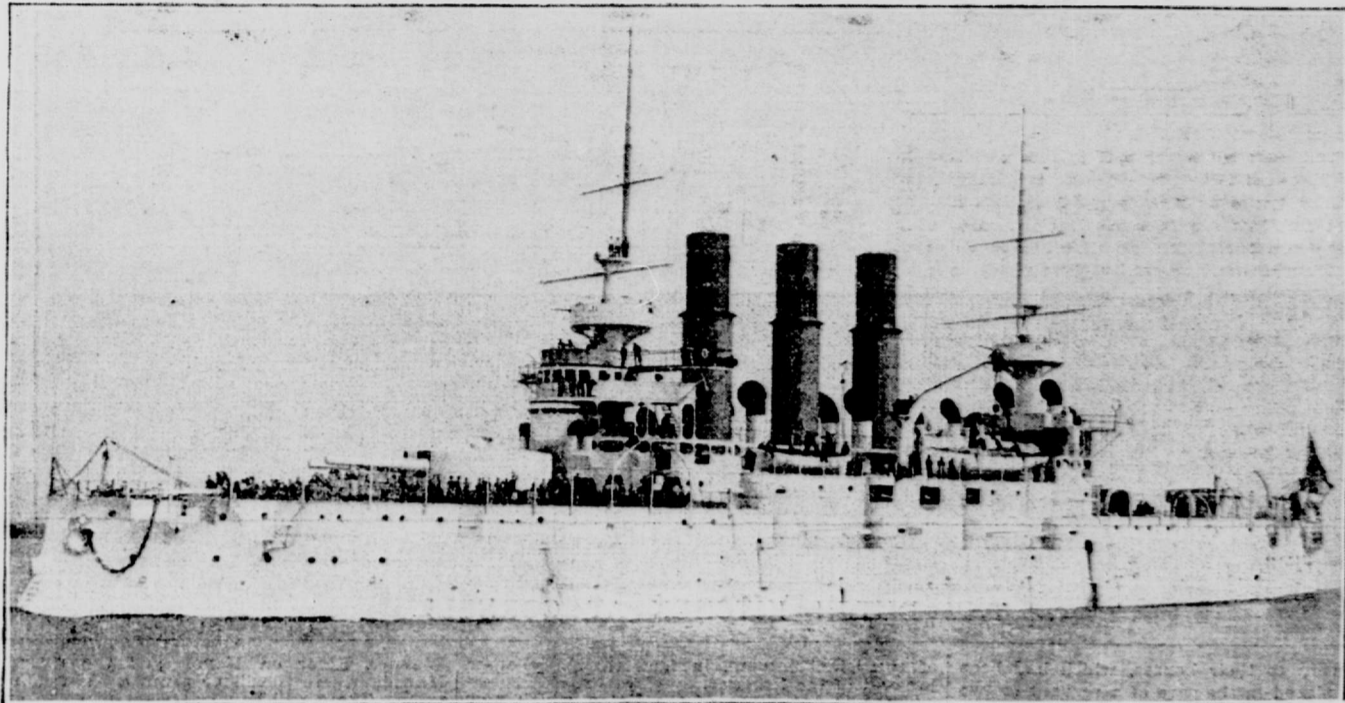
This completes the extent of primary school work. The critical teachings of literature is, of course, confined to grades much higher than those which still have reading lessons, but Hawthorne's wonder tales, "Robinson Crusoe" and numerous poems are chosen for the little ones. Children who have been three or four years at school read selections from Charles Kingsley, such as "Be good, sweet maid, and let who will be clever" poem; Longfellow's "Children's Hour" and selections from "Hiawatha," portions of Stevenson's "Child's Gar-

plies. It is believed that wireless telegraphy has now reached a point where, at least, it promises such development that future exploring parties will be able to carry along apparatus and keep constantly in touch with their base camps. If this proves to be the case, much of the terror of the arctic will be removed, and exploration will be made both easier and safer, with the possibility that this added instrumentality will enable the discovery of the pole at no far distant date.

A NEW RUSSIAN BATTLESHIP.

THE RETVIZAN, A POWERFUL FIGHTING MACHINE BUILT BY THE CRAMPS.

The latest addition to a foreign navy from an American shipyard is the Russian battleship Retvizan, which was built by the Cramps of Philadelphia. She made her builders' trial trip off the Delaware Capes last week and developed a speed of eighteen knots under adverse conditions. This was highly satisfactory to her builders, who think that she will be capable of mak-



THE RUSSIAN BATTLESHIP RETVIZAN.

amount of discipline. A class genuinely bent on learning needs little reprimanding and is incapable of real disorder as well as of disobedience. Thus the new system helps the teacher as much as it does the pupil.

These observations hold good in the main for all city schools, but each school will vary in matters of detail. The primary school at One-hundred-and-seventeenth-st. and St. Nicholas-ave. has the system of naming sounds after animals and things, but this detail is not necessarily found elsewhere. Miss Roberts, the principal, found it in another city and brought it to her pupils, as the school rules permit her to do. The city allows the principal wide liberty, more, probably, than any other city of importance. This particular school is situated in a neighborhood of English speaking people. Downtown things are a bit different.

In lower New-York and wherever the foreign population is dense teachers of low primary grades are often confronted with children who do not know enough English to stand or sit when told, and who cannot understand that the rollcall must be answered. In one such class the teacher found ninety children instead of the sixty that belonged to her, and spent weary hours in separating the sheep from the goats. Poor little disappointed goats, who weren't registered or belonged in another section, and hadn't the least idea as to the wherefore of anything that happened, but who were one and all determined to learn to read and become good Americans!

Sometimes in such a class an older boy rears his lanky length and fixes helpless eyes on "cat," not knowing even a word of the language that is the key to success. Such lads are pathetic figures, but it is gratifying to be told of their rapid progress. The teachers, of course, push these newcomers along as fast as possible, and make every allowance for them. But in a lowest grade class of children from a poor district, all foreign born, or at least hearing no English at home, only three-quarters stand a chance of regular promotion. A boy of nine, asked why he had never been to school before, said he had "lost the ticket," and seemed to consider that conclusive. But the unambitious are few.

The wide freedom allowed in the choice of methods is equally conspicuous in the choice of books. A list which reaches the size of a goodly volume is prepared for the schools, and from this any book or set of books may be chosen. In higher grades the textbooks most popular among teachers show the tendency of the day to cry down the old-fashioned reader, with its namby-pamby tales of nothing in particular. The stories chosen for primary school children fall under three heads—myths and legends, which are continually referred to in literature, nature stories and selections from well known writers. Under the first head come certain of the Greek myths, Oriental legends and stories of William Tell, Pocahontas, Franklin and his whistle and

den" and such verses as H. C. Bunner's touching tale of the "dear, dear, dear old lady and the boy with the twisted knee" and their game of hide and seek.

By this time words pronounced as they are spelled give no trouble, and a large proportion of unphonetic ones are instantly recognized. The teacher can explain about dropping the "t" in "often" and sounding "again" as "agen." This is the period when reading takes on a few trimmings, as it were. The class reads a story, say, of Pocahontas, in turn. Principles of position, enunciation, expression and punctuation are gone over before the lesson, so that each pupil knows what is the ideal before him. In connection with the lesson Indians are talked about, and the treatment of them by the early settlers is discussed, so far as the class can follow it. They close their books at the end of the reading and repeat the story, explaining it as they go. All this will be recalled at Thanksgiving, and the children will be made to realize the conditions under which the festival was first inaugurated. The reading lesson is thus made to supplement the teaching of history and give "atmosphere" to a period. The children, by the way, like the Indian stories, and are extremely fond of "Hiawatha."

In the grammar grades the reading is extensive, and works upward through Andersen's "Fairy Tales" to Shakespeare. "The Cricket on the Hearth," "A Christmas Carol," selections from Scott, Enoch Arden, Ruskin's "King of the Golden River," "Snow Bound," Hawthorne's "Great Stone Face," "Rip Van Winkle" and other classics are read. The children in the upper classes memorize selections such as Portia's speech at the trial, the advice of Polonius to Laertes, "To be or not to be," lines of "Paradise Lost" and Milton's sonnet on his blindness. Lower down in the grammar school Wordsworth's "I wandered lonely as a child," Lowell's "Longing," Bryant's "Ode to a Water-fowl," short nature poems from the works of Lucy Larcom and Sarah Orne Jewett and other poems are read. Since these rules came in force the work has had once or twice to be readjusted, for the children of lower grades have shown a desire for literature supposed to be over their heads. This list takes the pupils up to the high schools, and is the teaching with which most poorer boys and girls begin the serious business of earning their livings.

In the classrooms visited everything ran so smoothly that the one criticism sounds ungracious. Every teacher but one said "woid" for "word," and pronounced "bird" and "girl" to rhyme with that New-York monstrosity. There was no balm in Gilead, nor, apparently, correct pronunciation in the Normal College.

WIRELESS TELEGRAPHY IN THE ARCTICS.

From The Electrical Review.

The conditions surrounding arctic travel are such that the principal difficulty is found in maintaining communication with a base of sup-

ing still better time when superior coal is used and her hull is in better condition.

The Retvizan is one of the most powerful ships ever built by the Cramps. She carries a battery of four 12-inch, twelve 6-inch and twenty 2-inch guns, all of Russian make from the Obrukoff works, and has also a secondary battery of twenty 47-millimetre Hotchkiss rapid fire guns. The armorplate which protects the great fighting machine is nine inches thick at the vulnerable part of the vessel and tapers off to five inches. The nine inch armorplate covers the vessel amidships, and the waterline is further reinforced by the protective deck which is brought down to the edge of the belt plating. The constructors say that, except at close range, the ship's armor cannot be pierced.

The vessel is named after Retvizan, a valiant knight who fought with Rurik, the founder of the Russian Empire.

MOVING MOUNTAINS.

From Mines and Minerals.

"The mountains are constantly moving," was the remark of an officer of the Denver and Rio Grande road recently in speaking of the great landslides in the canyon above Glenwood Springs, Col. "We find from actual experience in maintaining tunnels, bridges and tracks in the mountains that the mountains are moving. It costs a railway passing through the mountains a great deal of money in the course of ten years to keep the tracks in line, and maintenance of tunnels is even more expensive. Drive a stake on the side of a mountain, take the location with the greatest care and return after a few months. The stake is not in the same location. The whole side of the mountain has moved. This experiment has often been tried, and in all cases the result proves that the mountains are moving. The mountains are gradually seeking the level of the sea."

While we do not quite agree with the last assertion that "the mountains are seeking sea level" there appears no question that local movements are in progress in the Rockies, and the observations of the railroad surveyor are confirmed by those experienced in some of the mines. In quite a number of mines located on fissure veins or between highly tilted strata, or in the vicinity of great faults, movements have been for a long time observed, and sometimes of so pronounced a nature that timbers after a few years are found so out of place as to require a complete new timbering of portions of a mine, and these movements do not seem to be the result, as in coal mines, of a creeping from excavation of material, but actual slipping or faulting movements of the mountain itself along certain lines, especially old fault planes and veins, the latter generally occupying fissures along fault lines.

A notable instance is in the mines of Smuggler Mountain, at Aspen, Col., where in some of the deep workings timbers two feet thick and eight to ten feet long placed across the slopes are snapped in two like reeds, and their ends broomed up by the overwhelming pressure and slipping movements of the walls. The ore bodies lie between strata almost vertically uptilted against a granite mountain or wall, and abound in faults and slipping planes. These movements are not the result of excavation of the ore, but appear to come from a general movement of the hills slipping or faulting off from the granite wall.