forgetfulness and the neglect as the result of which home has lacked protection from the dram shop. The "praying bands," earnest, impetuous, inspired, have become the woman's Christian temperance unions,—firm, patient, and persevering. Thirty States are already organized, and three thousand local auxiliaries, dotting the continent, fulfill the Bible injunction, "Make a chain, for the cities are full of blood and the land of violence." Our methods of work are quiet, practical, and systematic. We have learned by the argument of defeat and the logic of events what not to do, as well as some things to attempt. The evolution of our activities has been from the individual to the home, thence to society, and finally to the Government itself.

The W. C. T. U. stands as the exponent, not alone of that return to physical sanity which will follow the downfall of the drink habit, but also of the reign of a religion of the body, which shall correlate with Christ's wholesome, practical, yet blessedly spiritual religion of the soul. "The kingdom of Heaven is within you" shall have a new significance to the clear-eyed, steady-limbed Christians of the future, from whose brain, blood, and brawn the taint of alcohol and nicotine has been eliminated by ages of pure habits and noble heredity. "The body is the temple of the Holy Ghost" will not then seem so mystical a statement, nor one indicative of a temple so insalubrious as now. "He that destroyeth this temple, him shall God destroy" will be seen to involve no element of vengeance, but to be, instead, the declaration of such boundless love and pity for our race as would not suffer its deterioration to reach the point of absolute failure and irremediable loss. The women of this land have never had such training as our "Topical Studies" furnish, in the laws by which childhood shall set out upon its endless journey with a priceless heritage of powers laid up in store by the tender, sacred foresight of those by whom the young immortal's being was evoked. The laws of health were never studied by so many mothers, or with such immediate results for good on their own lives and those of their children. The deformed waist and foot of the average fashionable woman never seemed so hideous and wicked, nor the cumbrous dress of the period so unendurable, as now, when, from studying one "poison habit," our minds, by the inevitable laws of thought, reach out to wider researches and more varied deductions than we had dreamed of at first. The economies of a simpler style of living never looked so feasible as to home-makers who have learned something about the priceless value of time and money for the purposes of a Christ-like benevolence. The value of a trained intellect never had such significance as since we have learned what an incalculable advantage results from a direct style; what value resides in the power to classify facts; what boundless resources for illustrating and enforcing truth come as the sequel of a well-stored memory and a cultivated imagination. The puerility of mere talk for talk's sake; the unworthiness of "idle words" and vacuous, purposeless gossip; the waste of long and aimless letter-writing, never looked so egregious as to our workers, who find each day too short for the glorious and gracious deeds waiting for them on every hand.

Frances E. Willard.

The Massachusetts Experiment in Education.

THE conventional school, with its book-lessons and recitations, is familiar to all; but the new public school, with its realistic methods, its entertaining sessions devoted apparently more to talking than recitation, more to amusement than drudgery, is unknown as yet except to the fortunate children of a few towns. We recently visited a model primary school-room in eastern Massachusetts, and, sitting down among the little children, tried to see the system pursued there from the little one's point of view.

It is a plain room, with windows on two sides. In the sunny windows are blossoming plants, and on the walls above the dado-like blackboard are pretty pictures, stuffed birds, and crayon sketches of plants and animals, shells, and curious things from fields and woods. The boys and girls enter the room together, and take their seats behind their little desks, on which are slates and pencils,—nothing more. The teacher comes, a smiling woman with flowers in her hand. She advances to the front of the two-score children, and begins to sing. They all sing: "This is the way we wash our slates, wash our slates, so early in the morning. This is the way we wipe our slates, wipe our slates, so early in the morning." Some of the older girls bring little pails of water, and each child dips a sponge in the water and washes the slate as they sing.

"Pussy Willow's class," says the teacher, "may copy the red words; Tommy Thorndike's class may take the green words; and Jenny's class may take the white words."

These words are already written in colored crayons on the blackboard. Three rows of the children take their slates and begin to copy the colored words,—a happy device for teaching to write and "to tell colors."

"Sophy May's class," resumes the teacher, "may come to the blackboard, and the babies may make a fence and a gate with the sticks."

One of the girls places a handful of large shoe-pegs on the desk of each of the youngest children, and several of the children come to the teacher's desk and stand before the blackboard. They are invited to tell what the teacher holds in her hand. Every hand is raised with almost frantic eagerness. They know what that is. "What is it, Johnny?" "A cat." "Can you tell me a story about it?" Every hand is up. "Well, Katy?" "I see a cat." "Good, now look at this on the board." She writes in script "cat." "What is that?" Not a hand is raised, though every eye is intently studying the unfamiliar letters. "What is this?" says the teacher, rapidly making a sketch of the cat. They all see that. "Now [pointing to the word] what does this stand for?" Two hands are up. "Freddy?" "A cat." "Oh, no. Mary?" "Cat." "Right! Now I will add our old friend," and with this the article is prefixed to the word. "Now Freddy is right—'a cat.' Who can find another?" With this, the word "cat" is written a number of times on different parts of the board, and the children eagerly hunt it up.

The sentence, "I see a cat," is written on the board. That puzzles the children. One has it; another, and another. "Mary?" "I have a cat." "No. Sophy?" "I see a cat." The word "see" is wholly new to the

class, and they get at it from the context, and have its appearance fixed in the mind by association. "Now you may copy this on your slates. Good-bye." This dismisses the class, and they return to their seats to write and rewrite the two new words whose sound, meaning, and aspect they have just learned. The pronoun and the article they learned before; so that now they join them to new words, and study spelling, language, and writing at the same time.

At first sight, there appears no special novelty in this lesson. Other teachers have used objects as a basis of instruction. The thing to be observed is this: These children do not know their letters. They do not study the alphabet at all. The aim is far wider than mere learning to read. First, the child's interest must be won by the sight of some familiar object. Secondly, the word is a substitute for the picture. The child is not told anything. He must arrive at things through his own thinking. There is no reward or punishment, no head or foot of the class. Each one must tell a story; that is, he must say something, make a complete sentence, and not use detached words. Lastly, and perhaps the most important of all, the young scholar must be happy in his pursuit of knowledge, because that which is happily learned is remembered.

The youngest class in numbers is now called up to a large table, on which are scattered a number of wooden blocks, such as are used for toys. The six little men and women have learned already five numerals. They can count five, but no more. To-day they are to learn five more numbers. Again the same merry session, the same stories told, language, expression, grammar, and numbers, all taught at once. Each child has ten blocks, and the game begins. The teacher leads the sport.

"I have five blocks, two and two and one. Now I hold one more. How many are there now?" Half the hands are up. "Well, Teddy?" "Seven," says Ted, with enthusiasm. "How many think Teddy is right? None. Well, Kitty, tell us about it." "I have five blocks, and I add one and have six." "Six what?" "Six blocks." "How many noses have we around the table? Well, Tommy?" "Eight." "No; we will not count company. Tell me something about it." "I see seven noses." "Now we'll all go to sleep." Every head is bent down while the teacher quickly removes two of the six blocks. "We wake up and find something." Every eye is intently studying the blocks. "Tell us about it, Jenny." "There were six blocks, and two have been taken away." "How many are left, Teddy?" "There are four blocks left."

With exhaustless patience, good humor, and ingenuity, the lesson proceeds, every problem being performed with the blocks, and every fact fixed in the mind by a statement made by the child. If bad grammar is used, it is quietly corrected without a word of explanation. The habit of right speaking is the only aim.

By this time the school is becoming weary. They have all worked hard for fifteen minutes. It is time for a change. The class is dismissed, and the teacher begins to sing. It is a merry song about the rain and the snow, and all join with the greatest interest, because at the end, when the snow falls and covers the ground, there are mock snow-balls to be picked up from the floor and tossed all over the room in a jolly riot of fun. Everybody feels better and ready for work again.

The teacher writes a series of simple sums in addition on the board, and the whole school watch her with the keenest interest. Now for a grand competition in language, grammar, arithmetic, and imagination. As soon as the figures are set forth a dozen hands are up. "Well, Lizzy?" Lizzy rises and says: "I was walking in the fields, and I met two butterflies, and then I saw two more, and that made four butterflies." "Good." The answer is put under the sum, and another child is called. "I had seven red roses, and a man gave me three white roses, and then I had ten roses." By this time the school has caught the spirit of the game. Forty hands are up, trying in almost frantic eagerness for a chance to bowl over one of the sums and tell a story. Whispering is plenty. One by one the sums are answered and the quaint stories told. Then all the upper figures of the sums are removed, and the lesson is changed to subtraction. Again the stories. "I had four red apples, and I gave two away, and then I had two apples," etc. Nearly every one mentioned the color of the object described. The children plainly observed color in everything. They took their subjects from out-of-doors, as if all their thoughts were of the woods, the fields, and the street. The most striking feature of the lesson is the intense eagerness to tell something, the alertness, the free play to the imagination of the pupils, and the absence of formality and anything like a task or recitation. It is practically an exercise in imagination, grammar, language, expression, and arithmetic.

Then follows another song. The slates of those who have been writing are examined, and even the babies who were playing with the shoe-pegs are commended for their work. They are not strictly learners. They are like little fellows put in a boy's choir, not to sing, but to sit among singers in an atmosphere of study.

A class in reading is then called up. Each child has a book, and reads a sentence in turn. The manner of reading is peculiar. The pupil first reads the entire sentence over to herself in silence, and then, looking up from the book, speaks it in a natural manner, as if talking to the teacher. The lesson is a story, aptly illustrated by a good picture, and the children not only understand what they read, but enjoy it. This done, they turn back to a story they had read before. Now the exercise is to read the story, a paragraph at a time, in their own words, to practice expression, and to prove that they understand what they read. Next, a new story is taken, and the class gives its attention not to the text, but to the picture. "Can any one tell me something about this picture?" There is an intense study over the book for a moment, and then the hands go up. "I see a dog." "I see a crane." "The crane is standing on one foot." "The dog is a pug." "Tell us something about the dog." "The dog has four legs." "He has two ears." "The crane has wings." "The crane is a bird." "The dog is an animal." "The pug looks very cross. Perhaps he is going to bark at the crane." All these statements are given in breathless eagerness, as if each child were anxious to add something to the sum of human knowledge, and not one of them is over seven years of age.

Another class is called. They form a line before

the blackboard, and the teacher says: "Who can tell me something? Well, Susie?" "I have a red apple in my pocket." The teacher writes this on the board, and before it is half written the hands are up and there is a ripple of laughter through the class. Teacher has made a mistake. "Where is it, Tommy?" "You made a small i at the beginning." "Right. Another story." "It is a cloudy day." This is written: "It's a cloudy Day." The hands go up again. "Where is it, Jane?" "The capital D is wrong." The hands are still up, eagerly thrust right in the teacher's face, in a sort of passionate anxiety to get the chance to explain the error. "She said it *is*, and not *it's*." "Right." Still the hands are up. "The dot has been left out." "Good. Any more mistakes?" Not a hand is raised, though the eyes scan the letters again to see if there be nothing more. They crowd close up to the blackboard, and watch every word as it is written with unflagging interest.

To vary the lesson, a sentence is written on the board containing two words the children have never seen. They swarm, like bees around a plate of honey, standing close up to the strange words, even touching each letter with tiny fingers, and silently trying to spell them out by the sound of the letters. One child tries and fails, plainly showing that nearly all the sentence is understood, but the new words are not wholly mastered. Another tries and gets it right, and is rewarded by dismissal to her seat. Other sentences and new words are tried, and there is a lively competition to read them. No one speaks the new words alone, but each reads the whole sentence in an intelligent manner, as if it were grasped as a whole. As fast as the right answer is given, the pupils return to their seats till all have answered.

The first class in simple fractions then comes up. It is studying the deep science of wholes and halves, quarters and eighths. The first step is really to see a whole divided into eight parts, and then to study a diagram on the board. The class gather around a low table, and each is given a lump of clay. Each one pats his lump down to a square pancake on the table. The object now is to enable each child to see visible quantities by size and weight and the effect of division. The cake of clay is divided into two equal parts, and these again divided, and the portions compared by size and weight. Each experiment with the clay is made the basis of an example of fractions, and must be explained in words. The addition of fractions is studied in the same way. One child's cake is divided into eight parts, and four are taken away and half a cake added from another cake. The children see the one half and the four eighths put together to form one whole, and they speak of it as a real fact, and not as an unmeaning formula read in a book. On the blackboard they draw in white chalk four bands of equal size. Then each is divided by a red line and subdivided by green lines. The pupil sees, by tracing the colors through each band, the exact relation of whole, halves, and quarters.

With all the lessons that have been described there is at frequent intervals a story or some exercise to change the current of the thoughts. Not all these lessons can be seen in one day or in one school. They are only typical lessons as seen by the writer in different primary schools in Boston, Dedham, and Quincy.

If there is any one thing over which the children of the United States have shed floods of useless tears, it is the "Tables of Weights and Measures" in the ancient arithmetics. Here is a new set of miserables just come to the edge of these horrid tables. Shall they go on in the old unhappy way, trying to say "two pints make one quart," or shall they see the things, and, half in sport, learn the easy lesson? After the lesson they can glibly recite the table, because they have seen what it means.

Here are the tin and wooden measures, with a pail of water and a bushel of bran, ranged on the table before the class. The teacher holds up the smallest tin measure and asks what it is. Some say it is a quart, others a pint. After some delay it is decided to be a gill. "Can any one spell it or write it on the board?" This is done, and the next step is to experiment with the measure. One of the girls fills it with water and makes a statement about it: "I have one gill of water." Having obtained a unit of measure, the next is taken, and the pint is considered by filling it with water by means of the gill measure, and counting the number of gills required to fill it. For dry measure, the bran is used instead of water.

This class are from nine to twelve years old. They are in the upper primary classes, and have spent two or three years already at school. It might be thought that they would not care for such a method of instruction. It does not so appear. There is the same alertness of attention, the same eagerness to tell a story or to express themselves, as in the youngest children, with perhaps a little less playfulness and more gravity.

A class in geography is studying the shape, surface, and general features of the continent of Australia. One of the class is appointed to act as its scribe, and write out the facts as learned. The pupils are supposed to have read their books, and are now up for examination. On a table before the class is a pile of brown molding sand. The first step is to spell the name Australia. This, it may be remarked, is the constant practice—to spell all the important words of the lesson as it proceeds, the correct spelling being at the same time written on the board by the scribe. The study of the shape of Australia, its surface, mountain ranges, and plains, is performed entirely with the molding sand. Each pupil volunteers a fact concerning the matter, and illustrates it in the heap of sand. First, the general outline, then the capes, bays, etc., then the mountain ranges, plains, etc. If any one makes a mistake, either in describing the thing or in arranging the sand, there is a vote taken to see if the majority of the class can correct the error. By the end of the lesson, a complete relief map has been constructed in sand on the table. Every subject in geography, the divisions of land and water, etc., that can be shown by a plan or map, is illustrated on the table, in the sand or with modeling clay. The child is not told to read in a book that "an island is a portion of land entirely surrounded by water." These children are given a lump of clay, and instructed to make an island of clay on the table, and then to cover the top of the table (it is really a shallow tank) with water, to show that the island is really surrounded by water. In some schools the table is painted blue to represent the water, and the brown sand aptly indicates the land.

As with the weights and measures, so the measures of length are studied by means of a tape stretched along the wall. Upon this tape the pupils measure off the foot, the yard, the rod. Each child is provided with a foot-rule as part of his school apparatus, and it is frequently used in the various lessons. The study of the rod and yard grows out of this, and they get what no one who merely learns by rote that "twelve inches make one foot, three feet make one yard," etc., ever can get,—an exact and real idea of the yard and rod. From this tape the teacher readily brings out a lesson in numbers. For instance, she writes on the board: "If I paid $9.00 for eighteen feet of land, how much did three yards cost?" The pupils see the foot and yard plainly marked off on the tape. They have a realizing sense of the comparative lengths, and this assists the mental process required to solve the question. In fact, all arithmetical problems can be taught by the blocks, the wet and dry measures, the rules and tapes, without once referring to a book. In point of fact, it does not appear advisable to use books at all, but to study numbers from objects, or by means of the board or stories of imaginary transactions from real life. The study of numbers is confined to the first four rules, simple fractions, and perhaps interest. This carries the pupil about half way through the grammar school, and it covers all that is required in ordinary business transactions. The tables, addition, multiplication, weights, etc., are in time all learned, but they are placed last and not first. I heard a teacher recite rapidly a series of sums in this way: "I had six apples, I took one away, added five, divided by two, squared them, gave away five, lost one, sold two, bought ten and ten and five and four and three, and lost seven, and divided them all with Kate and Jenny and Tommy and Jack and Ned. How many did they have, and how many were left?" For about thirty seconds there was a pause, and then one called out that he had it, and then another and another, till all said they had solved the problem. Perhaps a whole minute elapsed, and then, on calling on one scholar for the answer, it was put to the vote of the school whether or not the answer was right. While there may be nothing specially novel in this method of teaching, this point must be observed: These children had been wholly instructed by the new methods. They were probably weak on the "tables," or in the mere parrot-like recitation of formulas, yet they displayed a degree of quickness, a readiness of memory, comprehension, and reasoning, that was remarkable. With shorter questions involving, say, two sums in one rapidly spoken sentence, the answers came in a volley from the class the instant the sentence was finished, showing that the mental processes had been just as rapid as the spoken words.

It is said that the majority of public school children leave school when about half way through the grammar school. The question is, Does this objective teaching fit or unfit the boy for his probable position in life? Is this the best schooling for the poor man's child? Without venturing our final opinion, it may be observed that the aims of the system are in the right direction, and that all the aims are more or less thoroughly accomplished. First of all, the child must be happy. He must be at ease and pleased with his work, or little will be learned, and the training will be slight. The child has senses through which he receives all he can know, and makes known the thought that is in him. His senses must be trained by use; hence the games, the blocks, the colors, the music, pictures, and real objects. Imagination is perhaps the most valuable mental quality given to human beings: it must be cultivated continually, that the mind may work quickly and surely. This is the aim of the continual story-telling, the imaginary sums, and the use of pictures. The studies are very limited, because reading, writing, and arithmetic are the tools with which the work of the world is performed. These are enough for the boy or girl who must leave school before the grammar term is over. If he has these, the world of work and learning is all before him. It has been said that the boy taken from these schools and made an entry clerk will be a failure, because, while he is quick of observation, lively of imagination, and learned in a thousand things of the fields, the woods, and the sea, his business is to take the numbers from bales and boxes correctly. This is all that is required, and all the rest is useless. This may be true in a certain sense. Let us wait twenty years and see where the boy will be. Will he be still an entry clerk, or a merchant? In mechanical trades there is a fear that such teaching will unfit the boy for tending a nail machine or a shoe-pegging machine. This might be well founded if such trades were to cling to the old minute subdivision of labor, and the Old World notion that a workman must stick to one trade all his life. A celebrated builder of machine tools once said of one of his lathes: "It will take a man of science to run that lathe." The tendency of all tools is toward complexity, and mechanical trades continually demand more "all-round men," more workmen ready to change from tool to tool, and task to task. The American boy from the new schools will be a master at many trades, because he has been taught to use his imagination, to observe, to use his senses and his mind in a workman-like manner.

Charles Barnard.

A Romantic Career.

DR. FRANCIS LIEBER was one of the remarkable characters of our generation. A statesman without station in politics, he was an enthusiastic, versatile, learned, suggestive, vigorous thinker on public affairs, whose works have influenced the ablest men of this country, and whose fame is international. He was not popular in the sense of being one who elicited the applause of multitudes. As a writer, he was too profound for the general reader; as a teacher and lecturer, he was adapted to superior and not to inferior intellects; and so he seemed to have less influence than he really possessed. But he had the power of attracting, informing, and inspiring strong minds. Wherever he lived, he was surrounded by the best of friends, and engaged with them in the discussion of the loftiest themes. In Berlin, Rome, Paris, London, New York, Boston, and Philadelphia, he made himself felt by his acquisitions, his good sense, his political wisdom, his love of duty and of right, his adhesion to the truth. He is foremost among many noble emigrants from Germany to America.