

cesses of teaching, and in the preparation of all its instruments, viz., that though much may be done by others to aid, yet the effective labour must be performed by the learner himself."—*Horace Mann*.

"Alas! how many examples are now present to our memory, of young men the most anxiously and expensively be-schooled, tutored, be-lectured, any thing but *educated*, who have received arts and ammunition, instead of skill, strength, and courage, varnished rather than polished, perilous! over-civilized, and most pitifully uncultivated! And all from inattention to the method dictated by nature herself, to the simple truth, that as the forms in all organized existence, so must all true and living knowledge proceed from within; that it may be trained, supported, fed, excited, but can never be infused or impressed."—*Coleridge*.

"A man can no more learn by the sweat of another man's brains than he can take exercise by getting another man to walk for him. All mental improvement resolves itself ultimately into self-improvement."—*Dr. Booth, of Wandsworth, England*.

"The first error in education is teaching men to *imitate*, or *repeat*, rather than to *think*. We need to take but a very cursory glance at the great theatre of human life, to know how deep a root this radical error has struck into the foundations of education."—*Mansfield's American Education*.—FROM WELLS' "GRADED SCHOOLS."

### LITTLE WHITE LILY.

**L**ITTLE white Lily  
Sat by a stone,  
Drooping and waiting  
Till the sun shone.  
Little white Lily  
Sunshine has fed;  
Little white Lily  
Is lifting her head.

Little white Lily  
Said, 'It is good;  
Little white Lily's  
Clothing and food.'  
Little white Lily,  
Dressed like a bride!  
Shining with whiteness,  
And crowned beside!

Little white Lily  
Droopeth with pain,  
Waiting and waiting  
For the cool rain.

Little white Lily  
Holdeth her cup;  
Rain is fast falling  
And filling it up.

Little white Lily  
Said, 'Good again,  
When I am thirsty  
To have nice rain;  
Now I am stronger,  
Now I am cool  
Heat cannot burn me,  
My veins are so full.'

Little white Lily  
Smells very sweet;  
On her head sunshine,  
Rain at her feet.  
'Thanks to the sunshine,  
'Thanks to the rain!  
Little white Lily  
Is happy again!'

### NUMBER.

#### A COURSE OF LESSONS PREPARATORY TO THE USE OF A TEXT-BOOK ON ARITHMETIC.

##### I.

**L**ESSONS on number introduce the pupil to subjects which afford a higher exercise of mental power than those on color and form.

In the study of the properties of number, Pestalozzi did not aim at the mere acquisition of the science, and of mechanical dexterity in calculation; he considered the subject to be a valuable means of awakening intelligence, of forming the judgment, and of developing the reasoning faculty. His method of presenting the first principles of the science also differs greatly from that ordinarily pursued; he trained the mind to grasp the full perception of the value of numbers, by observation upon them as illustrated in surrounding familiar objects; and when by this process the abstract idea was acquired, he then, but not till then, communicated the symbol by which it is conventionally represented. It was found that pupils trained on these principles were themselves enabled to deduce the practical rules of arithmetical calculation from the very examples on which their minds had been previously exercised.

This may be a slow process; but it has been well observed, that "when the true end of intellectual education shall be admitted to be, first, the attainment of mental power, and then the application of it to practical and scientific purposes, that plan of early instruction which dwells long on first principles, and does not haste to make learned, will be acknowledged as the most economical, because the most effectual."

To some persons, the detail, the analysis, the repetition recommended in the following lessons, may seem wearisome; and it is true, a careless or unobservant teacher may make a weariness of such instruction, and, indeed, of any other plan of education. But if those who have long understood the meaning of one, two, and three, were able to remember the mental process by which they themselves acquired their understanding of these numbers, they

would find it was by some process not very dissimilar from that here recommended. It may be they were never taught on such a plan—truth was never thus clearly presented to the mind in its own natural simplicity, rising step by step into greater complexity; it may be, that instead of learning such truth easily and surely, as those will do who are led through these lessons, they had to gather it here and there, under disadvantages of every kind, so that even still, perhaps, the beautiful properties of numbers, constantly as experience presents them, are but seen through a mist; but it is indisputable, that any amount of clear perception such persons may have attained to, they have attained it by the fact of the mind, itself an observant faculty, having done for itself that which the teacher omitted to do for it, and having done it, also, by some such process as this, with the visible world for its book, and with God's gifts of observation and reflection for its ever willing guides. Remembering these things, the judicious teacher will guard against dwelling too long on these analytical lessons, using them just so long as there may be work to be done by them, while avoiding also the opposite extreme of rapid but unsound progression.

#### FIRST STEP.

##### *The Numbers One to Ten.*

**Object.**—I. To lead the children to the perception of number, by presenting it as it is exemplified in surrounding objects; and to teach the word by which each number or which an idea has been gained, may be expressed. II. To teach the power and name of each number, when used as an ordinal. III. To exercise the mind on the numbers of which the knowledge has been attained, by exhibiting their gradual increase by ones, and by comparing their general magnitudes.

**Plan.**—I. Successively develop the distinct perception of the value of numbers, beginning with one, and taking each number separately in its order as far as ten, by the exhibition of the corresponding number of objects. Any convenient appliances,\* such as books, balls, pebbles, slate-pencils, or marbles, may serve as illustrations. It is well that these should be diversified, that the child may the more clearly perceive that number is a property of all separate objects—of objects of all qualities, shapes, sizes, and colors alike.

As clear perception is thus successively gained of each of the several numbers, the teacher should tell the *name* of the number. The class must then be practised in associating the number with its name. In carrying out this—

1. The teacher gives the name, the children bring forward the corresponding number of objects.

2. The teacher shows the children a definite number of objects, requiring them to apply the name of the number to them.

3. Lastly, the children enumerate or count from one to the number last attained, ascending; and inversely from it to one, descending, again and again, till perfect in the exercise.

II. The plan of teaching the powers and names of the numbers when used as expressing *order of time* or of *position*, will appear as we advance with this Step.

##### *I.—Examples of Lessons on this Plan.*

To develop the perception of the number expressed by the word **ONE**, and to communicate the name of the number.

This first lesson is most important, as it involves that which is the foundation of all number—the grand idea of *One*, or *UNITY*. The teacher must not think the idea so simple as to need no illustration.

The child should be led to appreciate the notion of this number by the means already recommended. One object may be taken from many of its kind, and held before the class, or it may be placed in some unusual place, the teacher telling the children, even though they may already know the fact, that such a number of anything whatsoever is said to be *one* of it. The word should be applied to diverse objects, the children being allowed to describe them. How many do I hold? One. One of what? One marble. And this? One pencil. And this? One book. A child may be told to bring one slate, or one ball, or to give one shout, one clap, &c.; and the attention of each child may be guided to observation on itself as one separate individual, or to those objects in nature which exist in oneness, as one sun, one moon.

*A Lesson to Develop the Perception of the Number expressed by the Word "Three," and to Communicate the Name of the Number.*

The following sketch of a lesson will show the plan to be pursued with all the numbers as far as ten.

Before commencing a lesson on a number which is new to the children, the teacher should ascertain that they have clear ideas of those on which they have already received instruction. In this instance it is supposed that the number *two* has been the subject of a lesson, and is thoroughly understood, and that the teacher tests

\* Were the common ball-frame alone depended on for illustration, the children might be led to associate their ideas of number with one species of exclusive objects, and their attainment of the abstract idea of number, as a universal property of all objects, might be retarded. The true province of the ball-frame is rather to assist in working out some of the simple processes of calculation, when a notion of number in the abstract has been gained.