

observations must be made at several different times, as the tree changes in its foliage and its organs of fructification. Let the pupils also see a tree felled. Some of them may perhaps be able to tell why it falls in a certain direction. Let them count the rings formed by the annual suspension of growth, but let their curiosity to know the cause of these rings be kept in suspense till the opportunity is afforded of shewing by a series of experiments how a tree grows. Let them visit a saw-mill and a joiner's or cabinet maker's shop, and the whole process of making lumber and working it up be traced from the log to finished table. But let special care be taken not to crowd too many things before the child's mind in one day; and let him tell frequently what he has learned before he forgets it. The same lessons should be talked about and repeated with such variations, improvements and additions as seem desirable, till the pupil has become quite familiar with the object of study, and can, unaided even by a question, go through with a full and correct account of it.

LESSON ON A BRICK.

Suppose a brick is the object taken up: tiles would naturally be suggested as belonging to the same group, then stone and earthenware, mortars, some paints, &c., which would form different groups of a family of earths. Some articles of iron may then be studied, always in the same slow, careful, detailed, thorough manner, as a nail, a bolt, a horse-shoe, a flat-iron, a fire shovel, a stove. Again, articles of brass, of tin, of lead, may be noticed and grouped, each kind of metal by itself, but all being combined into a larger group of manufactured metallic objects; and belonging, with the earths, to a still more comprehensive class, the mineral kingdom.

A plain school-room table might for some time occupy the pupil's attention. He may then be desired to observe the differences and resemblances between this and those he sees at home. Then a chair might be studied, a desk and seat, a book-case, &c. The pupil may then point out the characteristics common to all these; as their being of wood, being articles of furniture, being made by a joiner. Each pupil may be desired to tell what articles at home belong to the same group, and to describe them.

LESSON ON TEXTILE FABRICS, TOOLS, &c.

Textiles may at another time be taken up, and after studying cotton, linen and hemp fabrics in all their variety of forms, and showing their relationship and vegetable origin, the child will see that they are another group under the class of vegetable manufactured objects. Wool, in its various manufactured forms, will be seen to have some resemblance to the last group, but to differ from it in the important fact that it is of animal origin, and belongs, on that account, rather to the family of objects manufactured of leather, hair, horn, feathers, &c., and to the same class as another group comprising milk, butter, cheese, certain oils, &c.

Classification may also be made without reference to material, but with reference to the uses of objects: as tools for the different trades; articles of dress; articles of food, &c. Perhaps still other methods of classification may be devised, according to the fancy of the teacher or of the pupils. After thus synthetically building up classes of objects, they should be analytically represented on the board pictorially; and also on a table or the floor with the real objects. If not convenient to present objects for study in a scientifically systematic order, care should be taken at least in these pictorial and real arrangements, to direct attention to the qualities and circumstances most important in forming groups and classes. The pupil will, with very little aid from the teacher, see the difficulty of arranging objects with reference to unessential qualities, and thus of himself infer the necessity of distinguishing between these and essential qualities.

LESSONS IN DRAWING, MOULDING, &c.

In connection with these lessons, and forming an essential part of the plan, the pupil should be taught to draw. Instruction in this art should be given along with his earliest lessons in objects. He will not perhaps be able to draw all the objects he studies; but the teacher, so far as he can do so consistently with thoroughness, should require him to draw outlines of all the simple forms he studies. The letters, figures and geometrical forms must of course be drawn as they are learned.

An exercise in moulding forms in clay, wax, snow or other plastic substance, may be adopted to give skill to the hands and to assist in fixing more definitely in the mind a precise idea of the forms of cubes, prisms, spheres, and all mathematical solids, which, as well as other simple forms may be moulded in clay, and then drawn upon the slate or board.

LESSONS ON MECHANISM, SKILL, &c.

Some discipline too may be given to mechanical and constructive skill, by a proper direction of their choice of plays and games, and by furnishing the pupils with small wooden blocks shaped like bricks or like the courses of an arch; also small beams, boards,

window and door frames of corresponding dimensions, that they may exercise themselves in building walls and arches for miniature houses, bridges and other structures. Every one has observed how fond little children are of building playhouses, even of such rude materials as brickbats, bits of boards and earthenware, brush and leaves. A little attention on the part of the skillful teacher will develop in these plays a much neglected, though most useful faculty.

LESSONS ON NATURAL HISTORY.

Along with common object lessons and natural history, and accessory in part to them, but still previous to the introduction of letters, there may be taught something of arithmetic and geography, some few of the more obvious facts of natural philosophy, chemistry and astronomy. But an *observed* knowledge of facts in abundance, should precede any attempts at theorizing.

An important element in this course of primary education, is a cabinet of natural history, and of various objects of art. This cabinet need not be an expensive one, for the teacher, aided by the pupils, who will be found to engage in making collections with a success and enthusiasm quite astonishing to one who has never observed it,—may gradually gather together a valuable cabinet of specimens illustrating each of the three kingdoms of nature. These collections may embrace an herbarium of dried plants, specimens of different kinds of wood and bark, nuts and other imperishable fruits and seeds, from the vegetable kingdom; stuffed birds and quadrupeds, insects, shells, horns, skeletons, feathers, &c., from the animal kingdom; the ores, fossils and specimens of different rocks of the neighbourhood, from the mineral kingdom; models of colors and of mathematical forms, and of such objects of manufacture as time, space and the means and wants of the school from time to time seem to demand. The variety of natural objects in the cabinet may be increased to an indefinite extent by collecting duplicates and exchanging with other districts whose natural productions are different. The arranging of this cabinet or parts of it, after the manner before suggested, will be from time to time not only a discipline of the perceptions, but a most useful lesson in classification.

LESSONS ON GEOGRAPHY.

The study of geography, instead of beginning as is usual, with the whole world—which even mature scholars cannot fully comprehend—should begin, just after a shower, with the rills and miniature lakes, bays, capes, islands, &c., found in the nearest field. The rills should be traced to the nearest stream, and the whole valley of the latter studied, from its source in some spring to its junction with a larger stream, and as far as the range of the child's observation extends. The child should be made to observe, in its incipiency, the washing of earth, which, so insignificant within the range of a limited observation, produces in the aggregate such mighty effects in the structure of the earth's surface. The study of geography should proceed no faster than the pupil can draw the maps illustrating the subject. These may begin with the school-room, a plan of which, showing the arrangements of the furniture, may be the first lesson. They may then extend to the whole house and school grounds, the street and adjacent lots, and so on embracing by a gradual extension, the whole neighbourhood, which should be walked over many times, the distances measured by counting the steps, and notes taken of the fields or lots, streets or roads, hills, hollows, springs, streams and their rainy-day branches, mines, cliffs, houses, and whatever of interest may exist in the district. This thoroughly understood, the geography of books may be studied with much greater success.

LESSONS ON PHYSIOLOGY.

I need not speak of physical education generally. Its wants are pretty well understood, though I regret to say, very little attended to. But I would call attention to one branch of the subject. The cultivation of the vocal powers. How many persons suffer through life for want of power to speak to be heard across a street. How many are deficient in the physical ability to produce those musical sounds that go so far towards making our enjoyment of life. How many indeed go down to an early grave, the victims of pulmonary complaints, brought on by neglecting to give early and efficient training to the lungs and vocal organs. The child should be taught to keep his lungs expanded; to exercise his voice by gradual but not too great exertion in producing sounds soft or strong, grave or acute, harsh or mellow, from the depths of his chest or from the top of his throat; and to exercise that firm and nice control of it so indispensable to good singing. Words alone are insufficient to describe the process necessary. The teacher must instruct by example. I fear very few teachers are qualified to instruct in this art as it should be taught; but they should make it their study as much as they would mathematics. It would be well perhaps for every large town to employ a special teacher for elocution and music, including of course the proper physical training of the vocal powers, and a clear articulation of the elementary sounds. But every primary school teacher should do what she can; and there is no