confined to that which is visible. But by simple and progressive steps the mind is led away from the actual and toward the ideal. By the judicious instruction of the teacher and the stimulus of example, the imagination is at last aroused. The possibility of creating new figures and designs becomes a living reality. The newly-acquired consciousness of the power to do, stimulates the mind to greater activity, and leads it to higher achievement.

The imagination, however, which concerns itself with rearrangements without regard to order, must be directed so that the new combinations may produce definite results. The designs produced should be orderly, harmonious, and symmetrical. The faculty which perceives the relations upon which these qualities are founded, and which directs and controls the imagination, is reason. Every drawing-lesson, then, may be made to fulfill the highest function of school-recitations, that of bringing into active use all the powers and faculties of the mind, in their natural order.

To produce these results by drawing exercises, the inventive and applied courses are both indispensable. If the inventive work is omitted, little or no exercise is given to the imagination ; and merely copying pictures which others have drawn, fails to bring into active use the higher powers of the mind. If the applied course is omitted, the imagination is not brought under the wholesome control of reason. and made to conform to the actual, but runs riot and wastes itself in objectless pursuits.

Conception.—In its full development, the mind must have the power to form mental images of things unseen. It must vividly recall the actual, and as vividly construct mental pictures of the ideal formed by re-arranging the elements of the actual. This process, combining vivid perception and recollection with imagination, is known as conception, and the picture so formed is called a concept. By drawing, we obtain more vivid concepts of form than by any other means. The effort to represent corrects errors of perception, errors of recollection, and errors of imagination ; and, when the drawing is perfected, the concept stands out clear and sharply defined. The mental act of thus defining concepts in the concrete becomes a confirmed habit of the mind which extends to every possible department of thought.

Taste.—In the construction of a design or a picture, and in the arrangement of its parts, certain laws in regard to proportion, harmony, and symmetry, must be observed to produce a pleasing effect. By exercise, and without a knowledge of the laws upon which the true order rests, the eye may learn to distinguish with great accuracy the correct from the incorrect, the true from the false. This perception of the true order of things by an intuitive or empiric process we call taste. Taste arrives at results without resort to reasoning, and when cultivated and emancipated from the control of custom or prejudice, its decisions will generally be found to correspond with law. It is an elevating and refining influence, tending to beautify and enrich life, and to soften the asperities of social intercourse.

Taste is directly cultivated by drawing. The eye, trained to definite and accurate observation, becomes conscious of the natural and true order ; and the hand, trained to execute, reproduces this order in all its exactness. Taste cultivated in regard to form, leads to the observance of good taste in the arrangements of things, in the use of language, and in social manners.

DRAWING AS AN AID TO SCIENCE.

As drawing is an expression of thought, its practice leads directly to the acquisition of the material of thought An investigation of things themselves gives us real knowledge ; a talk about things yields only apparent knowledge. Drawing as a school-exercise should be largely pursued in connection with other branches of learning, and in the pursuit of real knowledge. The study furnishes the thought, the drawing expresses it. But, in the expression, the mind is led to more accurate observation, and the interest that results leads it directly to deeper investigations and larger acquisitions.

For example, by drawing the leaves, the flowers, the fruit, the stems, and the roots of plants, the mind first observes the individual forms, then the relations which exist between the forms of each class, and finally the larger relations which exist between the different classes From this observation of form it is but a step to the consideration of the relations of parts to each other, to functions, and to methods of growth. In this manner systematic botany and vegetable physiology grow directly out of the knowledge which is forced upon the mind by drawing.

The same is true in regard to animal life. The pupil begins to draw the outline of some of the more simple and familiar specimens, as butterflies. He soon discovers that, while there is a general resemblance in form in all, there are differences more or less marked in the different specimens which he examines. This comparison, finding resemblances in generals, and differences in special details, is the real basis of philosophic classification, and the pupil reaches this result by the true inductive process and as an incident of work apparently in another direction.

All the branches of natural history and nearly every science afford similar illustrations of the importance of drawing in the acquisition of materials of thought. Indeed, without an attempt at drawing, it is scarcely possible for students to observe all the nice distinctions and infinite graduations of form which characterize and individualize objects.

The artist, to be successful, must have a knowledge of actual forms in Nature as a basis for his work. Accurate observation furnishes him with food for his imagination, and out of the elements so obtained he fashions his wonderful creations. Conforming to natural forms and plans, his productions are beautiful and ennobling ; violating these conditions, either through ignorance or design, they are disorted and grotesque. Excellence in art is attainable only by a loyal adherence to laws discovered by an examination of Nature's work's.

The negative importance of drawing in this connection is shown by the fact that, while it stimulates the mind to genuine investigation, and to the acquisition of real knowledge,it implants in it a dislike for mere memorizing processes, and for apparent knowledge.

The student who studies Nature, " that elder scripture writ by God's own hand," with ready pencil, recording his observations by its aid, each day finds his search is keener, his comprehension larger, and his insight deeper ; because, to represent, he must know ; and, to know he must examine minutely and reason accurately.

DRAWING IN ITS PRACTICAL VALUE.

Besides its importance as an educational process, drawing is of great practical value in most of the vocations in life. It is indispensable to the highest success in most of the mechanical pursuits. The man who can illustrate his ideas with his pencil, rises from the lower to the higher walks of his calling. He plans as well as executes, and he falls naturally into his place as leader and director. The carpenter who draws well, becomes foreman, and not unfrequently architect. The machinist who draws, in many instances, becomes a successful inventor.

Ability to draw is of great value to the farmer. By its