

It is evident upon consideration that the object of comparison is to discover similarities and differences and comparison is pre-eminently important in botany, for upon it is based classification. Hence, botany is one of the very best subjects for a school course, introducing two of the fundamental requirements in a scientist, accuracy of observation and acuteness in comparison.

The buttercup and the strawberry belong to two different natural orders of plants and since these natural orders have been formed by a comparison of different plants, it seems to follow that, at a botanical examination, in a comparison of the two flowers, those characters which distinguish the natural orders should be prominently set forth. In a Kindergarten, it might naturally be expected that a comparison of the colors would be a prominent feature, to the botanical student color is a more subordinate characteristic.

Comparison is really setting side by side the characteristics of the things to be compared. This may be done either by giving a single characteristic of the one object and then the corresponding characteristics of the other, or a complete list of the characteristics of the one object may first be given, followed by the corresponding characteristics of the other object. These characteristics should preferably be taken up in the same order. For instance, we may say of the flower of the buttercup that all its parts are borne upon the receptacle, that it has five distinct and separate sepals, being therefore polysepalous, that it has five distinct and separate petals, and is polypetalous, that it has many separate stamens and many separate carpels; and we may proceed in the same manner with the strawberry. The parts of the straw-

berry flower are not all borne upon the receptacle. The sepals, five in number, are partially united and the flower is therefore gamosepalous. In addition it has five bracts which alternate with the teeth of the calyx forming an epicalyx. Its five separate petals are inserted upon the rim of the calyx, its many stamens are also attached to the calyx, its pistil, consisting of many separate carpels, is situated upon the receptacle. Of course, this comparison is not exhaustive, but it is a comparison, and, perhaps, quite as full as could be expected from the grade of candidates for examination.

But the lack of ability to compare shows itself not only in the schools, but also among college students. I saw a number of answers to the question, "Compare the oxides of silver, mercury, copper and lead," and in none of them did the examinee seem to have grasped the meaning of the question. All had apparently learned some facts about the individual oxides, but the facts were not of the same kind, or if the facts had been learned they had never been co-ordinated. To show what I mean by not having co-ordinated the facts known, I might mention the case of mercuric oxide and copper oxide. All of the examinees doubtless knew that mercuric oxide is decomposed by heat, since a typical way of getting oxygen is by its decomposition. They probably knew—they certainly should have known—that cupric oxide is not decomposed by heat, at least by that usually obtainable in the laboratory, else cupric oxide, because of its comparative cheapness, would be used instead of mercuric oxide as a source of oxygen. But none of them seemed to think of that and answers such as the following were the rule: "Silver has