

(b) Relations to the plants in the neighborhood, growing alone or with other plants; shade; parasites.

3. *The plant in relation to man.*

(a) Use; harmful effects of.

In a similar manner animals are studied.

Although these various plans differ in respect to the chief end to be attained, there is no difference of opinion as to the necessity of presenting the objects themselves for study. All insist upon that and where the objects cannot be conveniently presented, representations of them in various forms are used instead.

The following topical outlines, copied from a special plan of study, indicate the kind of work which is attempted in many schools of Southern Germany, beginning with the fourth year. It should be understood that these topics are placed before the pupils one at a time, as the observations are made or as the information is given: 1. The four fundamental forms of organs (stem, root, leaves and hairs). 2. Function of these organs. 3. Growth of stems, outer and inner. 4. Underground stems. 5. Above ground stems. 6. Length of life of stem. 7. Buds, growth, kinds, covering, position, unfolding development, service to the plant. 8. Malformations and diseases of stems. 9. Influence upon the stem of location, soil, light and warmth, height, direction of wind, etc. 10. Growth of root. 11. Kinds of roots. 12. Effects of changing food. 13. Influence of location and soil. 14. Duration of root. 15. Leaves, kinds, etc. 16. Development of leaves. 17. Forms of leaves. 18. Situation of leaves. 19. Cause of malformation and diseases of leaves. 20. Influence of food, light, etc., upon leaves. 21. Blossoms. 22. Corolla. 23. Characteristic forms of blossoms. 24. Essential and inessential parts of flower. 25. Use of flower coverings. 26. Influence of light, moisture, etc., upon the formation of the flower. 27. Structure and use of stamens. 28. Structure and use of pistils. 29. Fertilization. 30. The fruit. 31. Seeds, structure and germination. 32. Dissemination of fruits and seeds. 33. Influence of location upon quantity of fruit and seeds."

The object of this study appears to be (1) cultivation of the observing faculties; (2) assistance to a better understanding of