

as studies of physiography, geology, botany, zoölogy, and meteorology. (2) Parts of selected areas — hill, valley, dunes, ravines, cliffs, lake, shore ; work of waves, winds, etc.; swamps — vegetation, animal life.

II. *Schoolroom work.*—On return from field excursions the landscape paintings will be repeated, of course without the presence of the objects. (1) Specimens collected on field excursions studied and painted. (2) Painting of roots showing adaptation to varying conditions of moisture. (3) Foliage, its adjustment to light, moisture, and temperature ; function of color. (4) Structure of stems : (a) stems that resist strong winds ; (b) trunks of trees ; (c) aquatic plants ; (d) underground stems ; (e) cross-sections of stems.

III. *Interrelation of plant and animal life.*—Dependence on soil, moisture, and climate. (1) Plants affected by animals. (2) Nature's devices for the protection of plants. (3) Color as a means of protection.

From the æsthetic side we may regard the landscape as a conglomeration of lines, tones, and colors from which the artist selects those which best express his subject-matter, and at the same time are in accord with each other and with his own spirit. Lines, tones, and colors affect the emotions much as do musical or unmusical phrases. It is necessary to consider these æsthetic relations, that the feeling aroused be appropriate to the subject-matter, and that the proper impression be produced with the greatest economy of means.

We must study to bring the landscape within the means at our disposal. For example, we must simplify the infinite variety of nature. The paint box will not permit us to render the intensity of tones as they appear to the eye. They must be transposed, and lines, tones, and colors must be arranged for our æsthetic purposes.

## CLAY-MODELING.

ANTOINETTE B. HOLLISTER.

THE greater part of the course in clay-modeling will be illustrative of the work done in science, geography, history, and literature. Through the manufacture of pottery the student will enter more fully into the industrial side of primitive and modern life. The modeling, decorating, and glazing of pottery will all be done in the school. This work will involve a study of design and will offer a large field for original work.

Historical scenes will be represented in the "round" and in low relief. These modelings will be cast in plaster or baked in the kiln. The casts may or may not be colored. Literature will be illustrated in the same way. Animals and insects will be modeled, and studies will be made of their homes and habits.

Some modeling of the flora of the region selected for investigation will be done, showing the adaptations of the plant to its changing environment, and recording its growth under different conditions.

Should they be required, relief maps will be made in connection with the geography.

### CHALK-MODELING.<sup>1</sup>

IDA CASSA HEFFRON.

It will be the purpose in these lessons to lead the teachers to form vivid, definite images of typical features of the earth's surface, and to acquire the power to sketch easily and rapidly such features on the board and on paper. The materials used will be : blackboard and chalk, pencil and paper, and charcoal.

Clay- and sand-modeling will be used as a preparation for the chalk-modeling ; the different landscape forms and surface features will be studied from descriptions, photographs, pictures, stereopticon views, maps, and from models. Many of the features—for instance, river valleys, bluffs, beaches, ravines, and sand dunes—can be studied and sketched on the field excursions planned by the geographic department. Hints also will be given on the use of putty, and the making of plaster casts of maps in relief.

The first topic for consideration will be typical surface features and landscapes characteristic of the continents, such as plains, mountains, rivers, glaciers.

The next topic for attention will be pictorial or panoramic representation of larger sections of surface, as, for instance, river basins, mountain chains, plateaux, bird's-eye views of the

<sup>1</sup> This outline has been adapted largely from Mr. Thorne-Thomsen's syllabus of last summer.