A NOVEL AND ECONOMIC METHOD OF MAKING CHARTS FOR SCIENCE INSTRUCTION

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Are charts of any value?

Many of you who are engaged in teaching the sciences, but especially those in connection with botany, zoology or psychology, have, no doubt, realized the importance of charts in the class room. If a particular phase or stage is visualized, it is impressed more forcibly upon the mind of the student; hence it is more readily retained in his memory.

The market is indeed flooded with charts, but seldom is a person able to procure just what he would want. Hence you are confronted with this problem: Are you to adopt a course of instruction to fit the charts available; are you to omit the use of charts altogether, or are you to make your own charts?

It was the last named course that was adopted at our college at Lisle, for the faculty refused to be satisfied with what the market had to offer. At first Dr. Jurica set a few students to work at making charts free-hand, but soon realized that this was tedious and quite expensive. After negotiating with a number of optical companies, he finally induced the Spencer Lens to modify their Model 3 Delineoscope so that it could be used for projecting opaque illustrations at any distance. Ordinarily the delineoscope is equipped with but a short plunger which does not permit a short working distance. This means that one would have a limit to the size of any particular illustration on the chart. But an 18 inch plunger allows one to come as near the cloth as is desired and correspondingly reduces the size of the picture.

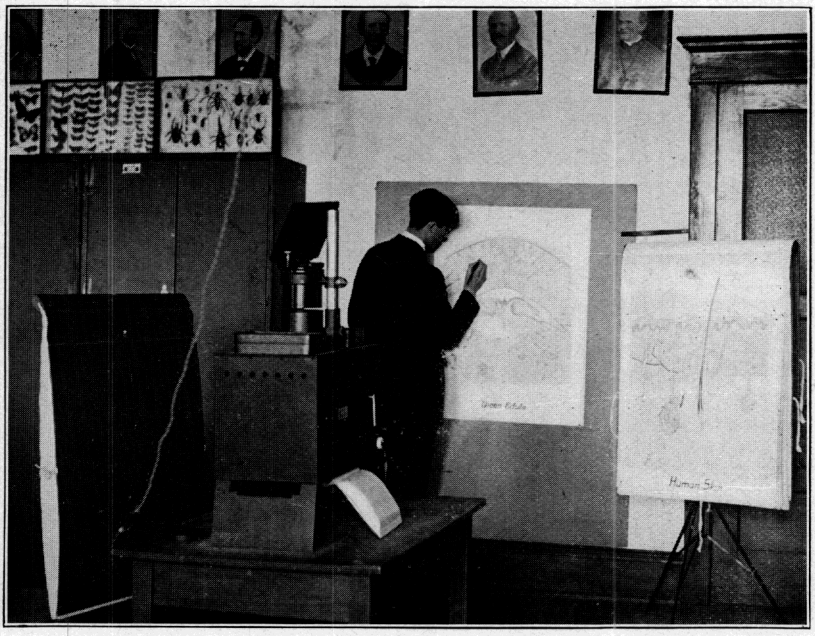
The procedure is quite simple. Having made the proper connection, and having set the delineoscope in place, all one needs to do is to tack the cloth intended for the chart to a wall or beaver board. Then project the selected illustration, from a book, a reprint or a drawing, regulating the size by moving the table backward or forward as is necessary and focusing by means of the elongated plunger. With this all set, one

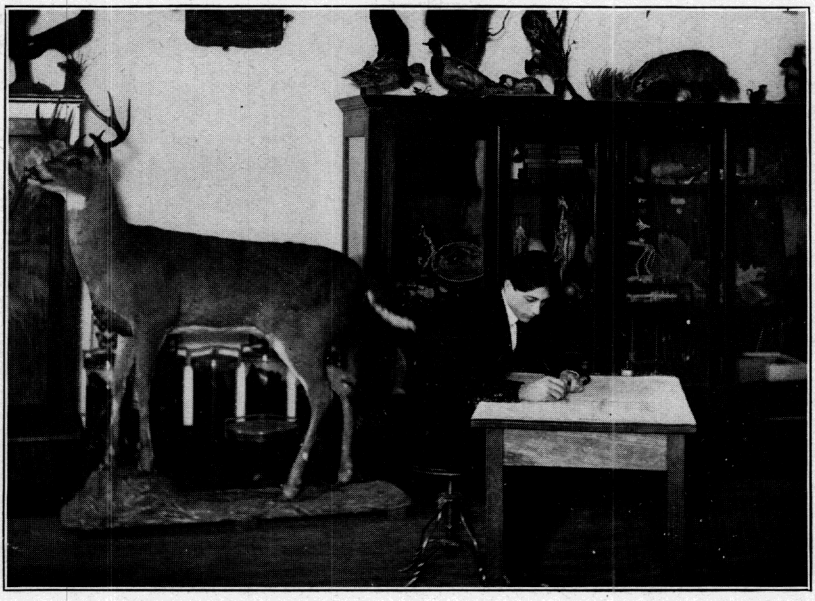
is free to trace the chart in outline with pencil, and later it can be finished with indelible inks or paints. The advantage afforded by this procedure is that one can easily and at a very small cost make whatever charts he desires; that is, a person can include in a series just exactly what he thinks will illustrate the subject best.

The practice at our institution at Lisle is as follows: Dr. Jurica makes the selection, and he, himself, traces it in outline with pencil and leaves the rest to be finished by the students with colored waterproof ink, directing, of course, the choice of colors and all detail work. The cloth used, which has been found to be very satisfactory, is known as "binders", Velum de Lux, and can be purchased in rolls of 40 yards, ranging in price from 17 to 35 cents per yard, depending upon market conditions. It is cut easily into sheets of any size with a knife or razor blade. Our practice is to tack the roll to a kitchen table and to cut along the edge, cutting up the whole roll at one time into sheets of uniform size. After finishing the chart in detail, it is then lettered and bound in loose-leaf form in strong covers made of beaver board and mounted on a tripod. If one desires, the chart could also be put on rollers, but as a rule this does not keep so well. Moreover, where a quantity is made, the book form on a tripod has a decided advantage, for the lecturer can turn readily from chart to chart as necessity demands.

A probable objection may be that it is difficult to find students capable and willing to finish charts. This, however, presents no difficulty; for if the teacher is able, there is no class, not even on the high school level, in which a number of students could not be trained, and who would not be willing to earn some pocket-money. Besides, the students as a rule take pride in their finished products, especially if the proper credit for whatever they do is given them.

The delineoscope in itself is not very expensive, if one considers the time it saves in outlining or merely measuring off the illustrations according to the rules of proportions. With this machine charts have been outlined, ranging in time from 17 minutes to an hour and a half,





depending upon their complexity. It is both a time and a money saver. Moreover, a simple turn of the globe enables one to use the delineoscope for lantern slide projections.

The accompanying illustrations show some of the students at work making charts.

Turning the globe back again and inserting a sliding feeder, postal cards may be projected.