ting a beam of light to enter a dark room and fall upon the face of a diamond such as used in rings. The diamond is held a few inches from the hole through which the beam of light enters and upon this screen is thrown a large number of bright spots very closely resembling the X-ray patterns. By moving the diamond to and fro from the screen or by rotating it the form of the pattern can be altered. The portions of rays that enter the diamond and are reflected from the rear surfaces may show the spectral colors.

This experiment can be demonstrated to a class very easily and should be of some use in explaining crystalline structure.

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A NEW METHOD OF PREPARING SPIDERS FOR EXHIBITION IN MUSEUM GROUPS

The preservation of spiders for museum purposes has always presented serious difficulties on account of the fact that the abdomens of the Arachnids lose their shape and color on drying. The usual method of preservation in liquids is of course out of the question when spiders are to be used as part of a faunal group. By preparing an artificial abdomen of wood and fastening it to the cephalothorax of the actual specimen I have found it possible to produce an imitation which can scarcely be distinguished from the living animal.

A large number of specimens of the desired species must be collected, to allow for the selection of full-grown animals. It is advisable to keep them alive for several days and to supply them with plenty of food; as it often happens that either conditions of the weather do not allow an ample food supply or else the insect may be abnormal on account of a recent or impending molt. In such instances the abdomen may often be not quite half the size of that of a well-fed specimen or one filled with eggs.

After the insect body is fully developed, the imitation abdomen must be made before killing. For this purpose a piece of light soft wood is used, carved in the exact form and size. Then the coloration is put on in precise shade and pattern.

Next the spider is killed. The best way to kill it is by putting it in a corked bottle containing cyanide. According to the strength of the cyanide and the size of the spider this takes from one to two hours. If the length of time is not sufficient the spider may later recover. After being sure that the spider is dead an insect pin is driven through the center of the cephalothorax and the insect fastened into a cork sheet, the legs being put in position and supported with pins. After being prepared in this manner, the insect must be kept in a warm and dry place, protected from dust.

After a few days, when the insect is thoroughly dry, the shrunken abdomen may be carefully removed and replaced by the wooden model.

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SCIENTIFIC BOOKS

Igneous Rocks and Their Origin. By Reginald Aldworth Daly, Sturgis-Hooper Professor of Geology, Harvard University. New York and London, McGraw-Hill Book Company, Inc., 1914.

In a previous publication Professor Daly expressed the opinion that "to be more productive geology should be more speculative." In this sense the author has become highly productive. In the introduction to his book on "Igneous Rocks and Their Origin," which is an elaboration of his previous publications, he qualifies the estimate commonly put on the value of experimental research in physics and chemistry by remarking that, while the mathematical methods employed are precise the premises relied on are not. How much lower value then must be placed on the results of a procedure in which both the premises and the mode of reasoning are seriously at fault!

The author pays a just tribute to the effectiveness of a regulated imagination, but fails to warn the student of the havoc which may be wrought by a badly regulated one, which like a defective aeroplane may bring destruction not