the fresh fish sold on the Winnipeg market comes from this lake.

A full report of my investigations will be published shortly.

THOMAS B. MAGATH

MAYO CLINIC,
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SCIENTIFIC BOOKS

Crystallographic Tables for the Determination of Minerals. By VICTOR GOLDSCHMIDT (Heidelberg) and SAMUEL G. GORDON (Philadelphia). Philadelphia, Pa., Special Publication No. 2, The Academy of Natural Sciences of Philadelphia, 77 pp., 4 figs., 16 tables, 1928.

THIS is a complete presentation of the most modern methods of dealing with crystal identification by means of two-circle goniometric measurements. In earlier days Professor Federov, of Petrograd, Russia, wrote a "Dictionary of the Mineral Kingdom," which has been published by the Petrograd Academy of Science. This work is a sort of crystallo-chemical analysis of over ten thousand compounds, both organic and inorganic, which had been previously investigated as to crystallographic details; but unfortunately it is much involved with Ferderdov's theories of crystal structure.

The present work is intended for treatment of the unknown crystal which has been measured on the two-circle goniometer. It is very concise. First, it is necessary to identify the crystal system to which the unknown crystal belongs; then its complete identification is accomplished by means of the angles and polar elements as given in the tables. These tables are especially useful because any normal orientation of the crystal will give sufficient data for identification.

Since isometric crystals can not be distinguished from one another by crystal measurement, they are arranged according to luster, then by chemical composition, and lastly according to increasing specific gravity. The tetragonal minerals are arranged according to tangent relations, orientation with reference to either first or second order prism position being allowed for. For the orthorhombic crystals we may use either the linear or polar elements, the tangent or the cotangent. In this connection a supplementary table (Table 7) is used to make the work more complete for every possible orientation. Monoclinic minerals are classified according to prism angles and tangents of these, since the prism zone usually can readily be identified. Triclinic crystals are listed according to projection elements, polar elements and linear elements, and a special table is also provided to aid in correct orientation.

In every table there are cross references to other tables. The index at the end of the book refers directly to the minerals, of which a total of 1,710 species are listed. The book should be very useful to crystallographers in general.

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SCIENTIFIC APPARATUS AND LABORATORY METHODS

AN EFFICIENT DEHYDRATING APPARATUS FOR GENERAL USE[1]

SOME animal tissues are very difficult to dehydrate without disastrous shrinkage, which is due to sudden changes in alcoholic concentration. Many devices have been prepared to overcome this problem, with various degrees of success. While searching for a method which was easy to procure, simple to operate and sure of positive results, the apparatus here figured has proved very efficient. While designed especially for the dehydration of plant nematodes, excellent results were also obtained with other animal and plant tissues preparatory to embedding and sectioning. As its application seems quite general, it is hoped that its use may prove as beneficial to workers in other fields as it has here the past months.

The apparatus is made by using a separatory funnel (1) to which is welded a lead tube which in turn is bent up and welded into the end of a small test-tube (5), thus formed into the magazine tube. Near the top of the test-tube is inserted the overflow tube (2), which is bent down and drawn out at its end. It will be noted that the insertion of this tube is on a level, or a bit above, with the stop-cock of the separatory funnel, so the apparatus can not run dry. The unattached end of the magazine tube is left open for ease of loading and unloading of material to be dehydrated. Evaporation is minimized by placing a cork in this open end. At the bottom of the bend in the lead tube, a drain tube (9) is welded in, which is fitted at its open end with a glass stop-cock. This allows for quick and complete drainage when an entire change of fluids is desired. All rubber connections are avoided, so there would be no difficulty when such fluids as xylol are to be used. The glass used is Pyrex, due to the fact that soft glass is hard to manipulate, especially in burning the necessary holes through the magazine.[1]

As used by the author, the entire apparatus is mounted on a ring stand by using suitable clamps

[1] The author is indebted to Mr. George Pettengill, of the Oregon State Agricultural College, department of chemistry, who made many valuable suggestions and did the glass work for the apparatus.