sum being in reasonable agreement with the figure of 32·4 % 'H_2O' reported by Church. His figures for CuO and Al_2O_3 agree well with those for cyanotrichite.

In the 7th edition of Dana's System of Mineralogy, Professor Frondel reports cyanotrichite from the Springbok Mine, Namaqualand. Professor Frondel informs me that this specimen was presented to Harvard University by the late Dr. P. Wagner in 1927, and the identification on the original label was 'namaqualite?' It is quite possible that this is the locality from which the original specimens of namaqualite were obtained.

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Aluminium laps for polished sections.

AN outstanding difficulty in the use of diamond powders is the plucking of fractured grains of chalcopyrite, &c. Cloths are useful, but cause too much relief for general purposes. Solid nylon is slow, while solid metal laps such as copper still cause injury to fractured sulphide ores though useful with rocks.

Lead laps have been used successfully, but are expensive and liable to alteration. In the hope of combining the soft action of cloth with the diamond-holding property of the metal the writer has tried copper gauze without success. Recently a soft aluminium foil has been available in household stores. This is very thin and flexible and was found to accept the diamond powders in the same way as lead. Accordingly it was attached to glass discs to form a smooth metal surface which provided a level polishing lap, but the surface was still very rigid, like that of the solid metal laps. By chance it was found convenient to attach the foil by an intermediate sheet of thin paper, and this caused a great improvement in the action of the lap, which gave sharp cross-cutting with very little relief, yet the cushioning effect of the paper support greatly reduced the damaging effects of contact with the metal. The surface so produced is not level in the optical sense, but local differences between neighbouring grains are very small; a little relief is introduced by the usual finishing polish with alumina, &c., on selvyt cloth.

A very convenient aluminium foil lap can be made from a special thin foil, which is already attached to a paper back. This is sold by dealers in packaging materials. The paper side is smoothly mounted on a glass disc with Seccotine. A small drop of 5Cs silicone (Hallimond, Manual

of the Polarizing Microscope) with diamond powder is placed on the lap and the running time is usually about 5 minutes; speed about 100 r.p.m. for a 6-inch lap with triple holder; weight 2/3 lb.per 1-inch mount. The lap is cleaned with methylated spirit. Several runs may be needed to remove earlier cavities. The diamond should not be coarser than 3 μ, after which a final cutting stage is provided by 1 μ. Quartz is now polished, but softer minerals require a brief hand polishing with magnesia, alumina, or $\frac{1}{4}$ μ diamond on selvyt. In spite of the small thickness the laps have a satisfactory life and are very cheap.

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BOOK REVIEWS

TOLANSKY (S.). *Surface Microtopography.* London (Longmans, Green & Co. Ltd.), 1960. viii+296 pp. Price 55*s*.

This book gives an account of interferometric work, mainly multiple-beam interferometry, carried out in the author's laboratories. The principles, methods, and apparatus are described fairly briefly and the major part of the book is devoted to varied applications. The latter cover a wide field of pure and applied science. Very detailed studies have been made of the topography of faces of naturally occurring crystals of diamond and quartz, and of synthetic quartz and silicon carbide. These yield fascinating evidence of the mode of growth of such crystals. Much interesting work has been done on the cleavage of minerals, including the opposite surfaces of one cleavage plane. Etching of crystal faces and cleavages are also described. The later part of the book is devoted to studies of the vibrations of quartz oscillator plates, indentation hardness testing of metals, the directional hardness and abrasion of diamond, and other topics. The text, together with the 359 photographs that are reproduced, illustrate the power of interferometry for very refined measurement on nearly plane surfaces. It is possible, in special circumstances, to measure steps of a few Ångstroms, and in one case the steps of a growth spiral were found to have a height of only 2·3 Å.

The merits of this book are marred by a number of unnecessary inaccuracies, the text is not always lucid, and crystallographic presentation is weak. In some cases one would draw different conclusions from the evidence presented. A. F. S.