

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  $3\ \mu$ , after which a final cutting stage is provided by  $1\ \mu$ . Quartz is now polished, but softer minerals require a brief hand polishing with magnesia, alumina, or  $\frac{1}{4}\ \mu$  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 55s.

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 Ångströms, and in one case the steps of a growth spiral were found to have a height of only  $2.3\ \text{Å}$ .

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.

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