implication is thrown on the subject. Examination of several hundred thin sections in the teaching collections both at The Pennsylvania State College and The University of Texas has revealed the following tendencies: (1) feldspars of acid plutonic rocks and pegmatites are usually richly clouded with vacuoles which occur throughout most of the feldspar grain in a dense, pervading swarm; (2) feldspars of basic plutonic rocks and of both acid and basic extrusive rocks tend to have few vacuoles and the vacuoles that are present do not form dense pervading clouds but instead tend to be strung out along cleavages, fractures or certain crystallographic directions; (3) feldspars in weathered igneous rocks and in sediments, which are dull, whitish and soft in hand specimen, may either have legitimate clay-mineral alteration (shreds of clay with higher index than host feldspar) or else may be pervaded by the same dense swarms of vacuoles. That these turbidity-producing vacuoles do form in part by weathering is shown by specimens of the Upper Cambrian Gatesburg Formation of Pennsylvania; fresh specimens contain detrital and authigenic feldspars that are perfectly clear and free of bubbles, but in weathered float specimens both detrital and authigenic feldspars are thickly crowded with brownish-appearing bubbles.

Thus the following conclusions may be in order: (1) Some of the vacuoles may be primary to deuteric, trapped during crystallization from a magma or by attendant hydrothermal activity. Crystallization in a more hydrous environment (as in granites and pegmatites) favors entrapment of considerable water in the feldspars, therefore the feldspars in these rocks are usually "turbid" because they are richly clouded with vacuoles; feldspars crystallizing from a less hydrous magma (as in extrusive rocks) trap less water and are generally clearer. (2) Some of the vacuoles form on weathering, by a yet unknown mechanism (see Frederickson, 1953).

References

Frederickson, A. F. (1951), Mechanism of weathering: *Bull. Geol. Soc. Am.*, **62**, 221–232.

Folk, Robert L., and Weaver Charles Edward (1952), A study of the texture and composition of chert: *Am. Jour. Sci.*, **250**, 498–510.

SPOT GRINDING, A TECHNIQUE FOR FINISHING ROCK THIN SECTIONS

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While preparing thin sections for petrographic study in the Mineralogy Department of the University of Utah, the authors encountered some difficulty in the preparation of sections in which the hardnesses of the component minerals varied widely. In an attempt to overcome the problem, the technique of "spot grinding" was evolved.

The conventional procedure for grinding a thin section at the University of Utah involves cutting a thin slice from the specimen with a diamond saw and grinding it on two cast iron laps using dry −240 mesh silicon carbide for coarse grinding and suspensions of −600 and −900 mesh silicon carbide in water for final grinding. Sections with a tendency to grind away on the fine lap were formerly finished on a heavy glass plate using a water suspension of −2400 mesh aluminum oxide. Finishing the troublesome sections on glass plates worked satisfactorily in most cases but required considerable time and care to avoid losing the edges of the section. The technique described below was developed to supplant the use of a glass plate for final grinding.

The original apparatus consisted of an ordinary electric erasing machine fitted with disks of carborundum polishing paper. The disks were cut from Norton abrasive paper, grades 1 and 0, and cemented to solid head steel thumb tacks pressed in the ends of wooden dowels that could be inserted in the eraser holder of the machine. Disks of various sizes were tested and it was found that those about the same size as the thumb tacks gave the best results. Larger disks were useful on some sections, but they buckled and tore if much pressure was applied to the edge of the disk.

The thin sections were finished by grinding the "high spots" with the apparatus described above, thus the name "spot grinding." Two sheets of polaroid were used to check the thickness of the sections during grinding. One sheet was mounted on the underside of a glass plate, which served as the working surface and was illuminated from below, and the other was suspended over the grinding apparatus.

The technique was first used to finish a section of chlorite schist cut by several quartz veinlets. Grinding this type of rock by the conventional procedure resulted in most of the chloritic material being lost before the quartz veinlets reached the required thickness. By spot grinding it was possible to grind the quartz veinlets to 0.02 mm. without losing the chloritic material.

Spot grinding worked very well on most of the sections, but occasionally the generation of excess heat by the grinding disks resulted in partial melting of the canada balsam used as a cementing material. When melting occurred the portion of the slide where the balsam melted was lost. This difficulty was overcome by using a thermoplastic cementing material with a higher melting point than canada balsam, and by using a wet grinding compound on the thumb tacks instead of the paper polishing disks. The compound, a thick suspension of −600 mesh silicon carbide in water, was applied to the section and grinding action was supplied by the thumbtack in the erasing machine. The wet grinding compound smeared the section and the thickness could no longer be checked with the polaroid sheets as grinding progressed, but this was not a serious objection as an experienced thin section technician can check the thickness of a section by its appearance.

Spot grinding has several advantages over conventional methods of finishing thin sections. About two-thirds less time is needed to finish sections with this technique than by grinding on a glass plate. Spot grinding may be applied to any sections in which the hardness varies greatly, such as sections cut across the contact between altered and unaltered rocks. With this technique large sections of rocks, virtually impossible to finish otherwise, may be prepared. Spot grinding has been used to finish large thin sections for use as lantern slides, which are very difficult to grind to uniform standard thickness unless the grinding laps are absolutely flat, but with this technique high spots may be readily removed.

By action of the Council of The Mineralogical Society of America, Dr. Edward H. Kraus, Professor Emeritus of Crystallography and Mineralogy, and Dean Emeritus of the College of Literature, Science and the Arts of the University of Michigan, was chosen Honorary President of The Mineralogical Society of America, succeeding the late Professor Charles Palache. Dr. Kraus served as the first President of the Society (1920) and was the recipient of the Roebling Medal in February 1945.

Dr. Robert Charles Wallace, former Principal of Queen's University, died January 29-1955, at his home in Kingston, Ontario. He was 73 years old. Dr. Wallace had been Executive Director of the Arctic Institute in Montreal since his resignation as Principal of Queen's in 1951. Prior to accepting the call to Queen's University in 1936 he was Lecturer in geology and mineralogy at the University of Manitoba and President of the University of Alberta.

The Society for Experimental Stress Analysis will hold its 1955 Spring Meeting April 27, 28, and 29 at the Hotel Statler, Los Angeles, California. For further information regarding this meeting write Dr. W. M. Murray, Secretary-Treasurer, P.O. Box 168, Central Square Station, Cambridge 39, Mass.

The Society of Exploration Geophysicists will hold its tenth annual Gulf Coast Meeting at the Plaza Hotel, May 19 and 20, 1955, in San Antonio, Texas.

Graduate Fellowship in Mineralogy

The Ohio State University announces a graduate fellowship for 1955–1956 to encourage research on phase-equilibrium relationships of silicate minerals. The stipend is $1500 for 9 months, with no teaching duties required. Further information can be obtained from Professor W. R. Foster, Department of Mineralogy, The Ohio State University, Columbus 10, Ohio.

Correction

This is to record the misspelling of the mineralogical name "rabbittite" three times on page 1037 of the November-December 1954 issue of *The American Mineralogist.*