than a heavy liquid separation; with ideal conditions enough material for an x-ray analysis may be obtained in less than an hour. For rocks in which unknown minerals occur as isolated masses greater than $\frac{1}{4}$ to $\frac{1}{3}$ mm. in diameter, a pure sample (barring inclusions) may be removed, tested, and identified and can be positively referred to the mineral observed in the thin section. This is especially useful when the unknown mineral is present in minor amounts and is associated with minerals having similar properties.

A SIMPLE COLLECTOR FOR CONCENTRATING A MINERAL PHASE FOR ANALYSIS

V. D. FRECHETTE*

It is not uncommon to encounter the necessity for concentrating a mineral phase from a granular specimen for analysis by x-ray diffraction, spectroscopy, or other means. This may be done conveniently by a simple apparatus which is used in conjunction with the microscope.

The apparatus consists of an 8 mm. sample vial into which the specimen is to be collected and a two-hole stopper from one opening of which a tube extends to fit a length of rubber tubing whose free end is held in the mouth. From the other opening a glass tube drawn to a fine tip extends in an inverted L-shape. The vial may be manipulated by hand or preferably may be supported mechanically with the glass tip just above the grains at the center of the microscope object stage. Gentle suction will induct a mineral grain from beneath the tip and deposit it in the sample vial.

With care in sprinkling the sample over the object slide, not too great a suction, and the use of a tip of appropriate bore, a single grain may be collected at a time without drawing in neighboring unwanted grains. If too many other grains are collected it may occasionally be necessary to repeat the process on the collected sample. The time required for the process depends very much on the size of the particles and these should be as large as possible. In many cases it is feasible to eliminate the fines by sieving prior to the collecting process.

A small pamphlet of 45 pages with 7 maps entitled "Maine Mines and Mineral Locations" has been prepared by Philip Morrill. It can be purchased through John Dillingham, Naples, Maine. Price $1.00.

At the annual meeting of Die Deutsche Gesellschaft für Edelsteinkunde, held on May 7,

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1955, Dr. Edward H. Kraus, professor emeritus of crystallography and mineralogy at the University of Michigan, was elected to honorary membership in recognition of his numerous publications and services in the field of gemology.

The University of New Mexico Publications in Geology has issued Number Five—Regional Tectonics of the Colorado Plateau and Relationship to the Origin and Distribution of Uranium, by Vincent C. Kelley. The principal objective of this bulletin has been to determine the relationship between regional structure and regional concentration of uranium deposits. Bulletin Five can be obtained from The University of New Mexico Press, Albuquerque, New Mexico. Price $2.00. This publication contains a tectonic map of the Colorado Plateau showing uranium deposits, which is sold separately for $1.00.

The Editor, *The American Mineralogist:*

Dear Sir:

I must apologize for the omission (noted by your reviewer, *Am. Mineral.*, **39**, p. 845) of the details for the specimens of phlogopite used in preparing the conoscopic figures in Figure 1 of my book "Manual of the Polarizing Microscope." The specimens were two very similar sheets in the Wiggins Collection of Micas, which was presented to the Museum of Practical Geology, London, by Mr. Harold Wiggins. There is no detail of the locality, but one specimen is noted as "Ceylon"; this, however, may be conjectural as in very many cases the fine Wiggins material had come through trade sources with some doubt as to the original locality. The thickness was just sufficient to permit the insertion of the mica between the support and a high power objective, say about half a millimeter.

This kind of mica has been an object of interest since the houppes were described by D. Brewster in *Phil. Trans. Roy. Soc.*, **109**, 24, 1819. Sketches of the houppes were given by T. Crook (*Min. Mag.*, **16**, 1–29, 1911) with several references, and there are brief accounts in textbooks such as Rosenbusch-Wülfing, 1924, 200. In a brief search I have not found any certain description or locality for this mineral. The numbers in the Wiggins Collection are 36, 120, 211. In the British Museum (Natural History) there is a small square plate mounted in card and this is labelled as given by Mr. T. Crook; from Canada.

I have felt a great interest in these specimens since Mr. Harold Wiggins first pointed out to me a remarkable uniaxial band which traverses them. They are beautifully pleochroic with great contrast between β and γ. In each sheet the material is in twin orientation with about 60° difference of extinction on either side of the band. The band, which is about 3/16 inch in width, is intermediate in depth of colour between the β and γ waves for the neighbouring material, and is clearly uniaxial. This I have always felt to be inconsistent with the customary explanation that the uniaxial appearance was due to the overlapping of the neighbouring twin members, since that would still give a biaxial symmetry. The band seems rather to be due to the local loss of the power for biaxial orientation in the neighbourhood of the composition surface, the material being then arranged equally in any of the three directions at 120°.

The biaxial twinned material has the axial plane 010 and is probably of the usual phlogopite structure as described by Levinson and Heinrich (*Am. Mineral.*, 1954, **39**, 939).

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