

perimental work using Mo  $K\alpha$  radiation to reduce the large absorption corrections involved in our work with Cu  $K\alpha$  radiation.

One of us (F.W.H.) wishes to acknowledge the receipt of a maintenance grant from the Department of Scientific and Industrial Research, during the tenure of which this work has been carried out.

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**Diffuse scattering of sericite.** By MITSUOKI NAKAHIRA, *Scientific Research Institute, Kamifuji-Mae, Bunkyo-ku, Tokyo, Japan* and SHINICHI IWAI, *Tokyo Institute of Technology, Japan*

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Sericite is a mineral of the mica group, the structure of which is said to be of the muscovite type. As it always occurs in a powder state in nature, only the X-ray powder method has been used for the study of its crystal structure. Recently, however, we have obtained X-ray fibre diagrams of various Japanese sericites by passing the X-rays parallel to thin films formed by drying water suspensions of these minerals. These diagrams correspond to rotation photographs obtained by rotating a single crystal about the normal to the  $ab$  plane.

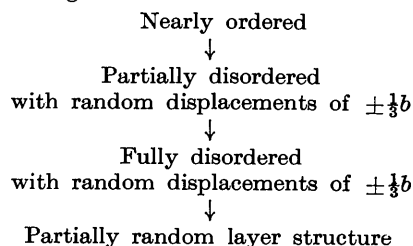
With many sericites it was observed that considerable diffuse scattering took place along the innermost row lines (with indices  $(11l)$ ,  $(02l)$ ) and other similar row lines with  $k \neq 3n$  (where  $n$  is integer), while those with  $k = 3n$  were relatively sharp. These effects indicate that in sericite, as in many other clay minerals, there is

## References

- BRAGG, W. L. (1937). *Atomic Structure of Minerals*. London: Oxford University Press.  
 DAVIES, M. (1946). *Rep. Progr. Chem.* **43**, 5.  
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 MILNE, I. H. (1949). *Amer. Min.* **34**, 442.

considerable random displacement of layers by multiples of  $\frac{1}{3}b$  parallel to the  $b$  axis.

Using many Japanese sericites, we have found a wide range of variation in the degree of disorder, as shown in the following scheme:



Details will be reported in the near future.

## Notes and News

*Announcements and other items of crystallographic interest will be published under this heading at the discretion of the Editorial Board. Copy should be sent direct to the British Co-editor (R. C. Evans, Crystallographic Laboratory, Cavendish Laboratory, Cambridge, England).*

### **International Tables for X-ray Crystallography**

Volume 1 (Symmetry Groups) of the above *Tables*, published for the International Union of Crystallography, is now ready. The text and tables (in English) have been planned to be of the maximum practical usefulness in the determination of crystal structures and in allied problems, but their value for teaching purposes has also been kept in mind. The price is 105 shillings inclusive of postage and packing; cloth binding, 558+x pages, 237 figs. with dictionary in English, French, German, Russian and Spanish. A detailed prospectus may be had from the Kynoch Press, Witton, Birmingham 6, England.

Bona fide crystallographers who are members of the X-ray Analysis Group or of the American Crystallographic Association, or of certain other societies, may obtain one copy for their personal use only at the subscription price of 60 shillings, post free, by using a special order form also available from the Kynoch Press.

Off-prints from Volume 1 are available, in sets of 100 only, for teaching purposes. Each complete set costs £16 sterling, post free, and contains 100 copies of each of the following off-prints (together with 100 copies of the prospectus):

1. Unit-cell transformations (7 pp.).
2. Equivalent positions, symmetry and possible reflexions for the 17 two-dimensional space groups (16 pp.).
3. Equivalent positions, symmetry and possible reflexions for selected monoclinic space groups (15 pp.).
4. As (3) for selected orthorhombic space groups (16 pp.).
5. Introduction to structure-factor tables, with full examples (14 pp.).
6. Patterson and Patterson-Harker functions, and transformation of co-ordinates (14 pp.).
7. Notes on special topics (sub- and super-groups, statistical methods, inequalities) and index of symbols (18 pp.).

Orders, with remittance, should be sent direct to the Kynoch Press. Sets cannot in any circumstances be

split, as the low price has been made possible only by a block order from the Union for complete sets.

Volumes 2 and 3, which are in preparation and which will be sold separately, will cover Mathematical, Physical and Chemical Tables used in X-ray Crystallography.

### Fortieth Anniversary of the Discovery of X-ray Diffraction

1. The fortieth anniversary of the discovery of X-ray diffraction by M. von Laue was celebrated in Belgium by a very successful open meeting held at the Palais des Académies in Brussels on 28 June 1952. The meeting, organized by the Belgium National Committee for Crystallography, was attended by over fifty scientists representing academic and industrial interests. The following papers were read:

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| M. DE NAEYER. | Des cristalloclastes aux cristallo-graphes.   |
| H. BRASSEUR.  | La découverte de la diffraction des rayons X.   |
| G. HOMÈS.     | La portée de la découverte de Laue dans les sciences pures et dans les sciences appliquées. |

2. To celebrate the anniversary in the United Kingdom the X-ray Analysis Group of the Institute of Physics will hold a Conference at the Royal Institution, London, on 24 and 25 October 1952. In the evening of 24 October there will be a dinner at which the guest of honour will be Prof. M. von Laue, Honorary President of the International Union of Crystallography; it is hoped that the President, Prof. J. M. Bijvoet, will also be present.

The scientific meeting will be opened by Prof. Sir Lawrence Bragg with a historical survey of the subject; and survey papers will be given by him and by Prof. J. D. Bernal, Dr D. Hodgkin and Prof. G. V. Raynor. Further details may be obtained from the Honorary Conference Secretary, Dr J. Thewlis, A.E.R.E., Harwell, Berks., England.

### Sphere Grinder

The Lovins Engineering Company, 8203 Cedar Street, Silver Spring, Maryland, U.S.A., announce the manufacture of the Bond Sphere Grinder, a simple device for the rapid production of spheres from fragments of almost any solid material. The instrument is based on a design suggested by W. L. Bond (*Rev. Sci. Instrum.* (1951), **22**, 344) and requires only a source of compressed air for its operation. Only one model is at present in production but others can be developed to meet special requirements.

### *Acta Crystallographica*

Readers are reminded that current subscriptions expire on the appearance of Part 6 to be published on 10 November 1952. To ensure continuity of supply orders for Volume 6, with remittance, should be placed through the usual channels as soon as possible, and in any case in time to reach the publishers in Copenhagen not later than 31 December 1952.

### Structure Reports for 1949

The above volume of *Structure Reports*, the second to be prepared under the auspices of the International Union of Crystallography, is now ready. It is the aim of these *Reports* to give a critical account of crystal-structure investigations so complete that only those in need of minute detail will find it necessary to consult the original papers.

The volume now published has been prepared under the general editorship of A. J. C. Wilson with C. S. Barrett (Metals), J. M. Bijvoet (Inorganic Compounds) and J. M. Robertson (Organic Compounds) as section editors. It gives data published in the year 1949 for some 700 substances and contains extensive name, formula and author indexes.

Orders should be placed direct with the publisher:

N. V. A. Oosthoek's Uitgevers Mij.  
Domstraat 1-3, Utrecht,  
Holland

or with any bookseller. The price is 45 Dutch guilders, post free. A remittance should accompany all orders.

Further volumes covering the years 1940-1946 and 1950 onwards are in course of preparation. The next two volumes to appear will be for the years 1945-1946 and 1950.

### International Union of Crystallography

The Union has received the following most generous donations as contributions towards the expenses of its publications:

From American sources through the U.S.A. National Committee for Crystallography the sum of \$17,000.

From the Staatsmijnen, Geleen, The Netherlands, the sum of f.2,500 (approximately £250) for each of the years 1952 and 1953.

From N.V. De Bataafsche Petroleum Maatschappij, The Netherlands, the sum of f.5,000 (approximately £500) for each of the years 1952 and 1953.

### American Crystallographic Association

A meeting of the Michigan Chapter of the American Crystallographic Association will be held on 3 October 1952 in the Physics Lecture Room of the University of Detroit. For registration and presentation of papers contact the Secretary-Treasurer, Karl E. Beu, Research Laboratories Division, General Motors Corporation, Detroit 2, Michigan, U.S.A.

### Transparent Scales

Transparent scales for reading  $d$  values or  $\sin^2 \theta$  values directly from powder photographs are now available from N. P. Nies, 1945 Coolidge Avenue, Pasadena 7, California, U.S.A., at \$15.00 per set. Each set of five or six scales is printed on one sheet of transparent Vinylite, and is for one particular radiation and camera diameter. The scales of each set are slightly different in length and cover a total range of 1% in film shrinkage. The scales are graduated in both directions from the low- and high-angle centres, to permit easy positioning of the film on the scale which fits it best. The scales are available for a variety of camera diameters and radiations.