York. Appendix 2, Table of 'Conversion of d to Q'. Interval in $d = 0{\cdot}001$ Å. Q given to four decimal places for $d = 1$–4, to six decimal places for $d = 4$–10.

Donnay, G. & Donnay, J. D. H. (1951). Tables for the interpretation of X-ray diffraction data, giving the square of the reciprocal lattice vector to 5 decimals in terms of the deviation angle 2θ for every hundredth of a degree from 10·00° to 49·99° for Cu $K\alpha$ and from 25·00° to 69·00° for Cu $K\alpha_1$. Publication of the Crystallographic Laboratory, The Johns Hopkins University, Baltimore 18, Maryland (1951). Limited edition. (Reprinting, 1955). Price $5·00.

Donnay, J. D. H. & Donnay, G. (1959). Sine table for indexing powder patterns. Amer. Min. (In press).

de Wolff, P. M. (1959). Tables of 10^4Q $(10^4/d^2)$ as a function of diffraction angle. Technisch Physische Dienst. T.N.O. & T.H., Delft, Netherlands. Hfl. 5 or 10 sh. (U.K.) or $1·00 per volume.

National Bureau of Standards (1949). Table of sines and cosines to fifteen decimal places at hundredths of a degree. U.S. Department of Commerce, National Bureau of Standards, Applied Mathematics Series 5. U.S. Govt. Printing Office, Washington, D.C. Price 45 cents.

$CaTaO_3$: Un nouveau composé de type pérovskite

La formule du composé $CaTaO_3$ décrit dans l'article de M. Gasperin (*Acta Cryst.* (1958), **11**, 739) est erronée: l'auteur a pu, depuis cette publication, fabriquer assez de produit pour faire deux analyses chimiques, et toutes deux ont montré, sans ambiguité, que le composé étudié répond à la formule $CaTa_2O_6$.

La densité calculée à partir de la formule exacte est 7,07 g.cm.$^{-3}$ et correspond mieux à la densité mesurée: 7,0 g.cm.$^{-3}$. Il n'est plus nécessaire de supposer une réduction de la valence du tantale pour expliquer cette pérovskite; elle est d'un type nouveau: AB_2O_6, et sa structure s'interprète en supposant que les atomes y occupent les mêmes positions que dans les pérovskites classiques ABO_3, mais qu'un atome A sur deux est manquant. Les positions A laissées libres peuvent être ordonnées, ce qui expliquerait les raies de surstructure observées sur le cliché.

La méthode statistique dans le cas d'une structure partiellement connue

Dans le mémoire par E. F. Bertaut (*Acta Cryst.* (1957), **10**, 670), une erreur de transcription s'est produite. Au lieu de α (5) il faut lire

$$\alpha = 1+\tfrac{1}{2}\Sigma\overline{(\mathscr{R}_k^2-1)\mathscr{R}_l}(\mathscr{A}_k^2-1)\mathscr{A}_l + \Sigma\overline{\mathscr{R}_k\mathscr{R}_l\mathscr{R}_m}\mathscr{A}_k\mathscr{A}_l\mathscr{A}_m+\ldots . \qquad (5')$$

Par conséquent, on doit remplacer $(1+\alpha)$ (4), $[1+\alpha^+]$ (6), $[1+\alpha^-]$ (7), respectivement par α, α^+, α^-.

Toutes les autres relations restent inchangées.

An improved method for determining the relative positions of molecules

Errors occur in the above article by C. A. Taylor & K. A. Morley (*Acta Cryst.* (1959), **12**, 101). In the expressions for $G(h, k)$ when $h+k$ is even (equation (2)) and for $P(h, k)$ and $Q(h, k)$ when $h+k$ is even (equation (3)) for $+B$ substitute $-C$ and for $+C$ substitute $-B$.

Book Reviews

Works intended for notice in this column should be sent direct to the Editor (P. P. Ewald, Polytechnic Institute of Brooklyn, 333, Jay Street, Brooklyn 1, N.Y., U.S.A.). As far as practicable books will be reviewed in a country different from that of publication.

Zone Melting. By W. G. Pfann. Pp. 236 with 127 figs. New York: Wiley; London: Chapman & Hall. 1958. Price 60*s*.

It is fitting that the first book on zone-melting should come from the author of the first paper on the subject; and the resulting volume goes far to meet the claim on the dust-jacket—'complete coverage of the theory and practice of this new way of using the freezing process for high purity and control of crystal composition'. After outlining the relationship between zone-melting and fractional crystallisation, and emphasising the significance of the distribution coefficient in both these processes, the author gives a clear account of the theory of zone-refining. It is unfortunate that the rigorous theoretical treatment by Braun and Marshall appeared too late for inclusion in this chapter, and perhaps surprising to find here experimental details of a 'do-it-yourself' analogue computer. In later chapters the techniques and applications of zone-refining are enumerated in great detail, and these must prove invaluable to anyone faced with the problem of preparing material of very high purity, or with controlled distribution of specific impurities.

One of the greatest difficulties in practical zone-refining is to determine the success of the operation. In most applications, the remaining impurity concentrations are so small as to lie beyond the limit of detection by conventional means. New techniques, often of great intricacy, have to be devised, and these are dismissed in this book in less than one page. In view of the importance of this aspect of the subject, one chapter would seem more appropriate.

The book upholds in every way the high standard of production associated with the Wiley Series on the Science and Technology of Materials.

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