CRYSTALLOGRAPHIC DATA

Structure Reports for 1947-1948

Vol. 11. A. J. C. Wilson (general editor). (Published for the International Union of Crystallography.) Pp. x+779. (Utrecht: N. V. A. Oosthoek's Uitgevers Mij., 1951.) n.p.

SCIENTIFIC workers in every sphere will benefit enormously from the recent appearance of the new volume of "Structure Reports", for in physics, chemistry, mineralogy, metallurgy and biology alike, there is already an impressive range of problems to which crystallographic techniques have been applied with advantage.

The International Union of Crystallography has wisely decided to continue the abstracting of structural data undertaken until 1939 in "Strukturbericht", so the new series will bridge the gap between 1939 and the present time, and continue to report new work as it appears. This first volume deals with 1947-48, to avoid starting with a serious time-lag.

The book, like Caesar's Gaul, is divided into three parts—metals, inorganic compounds and organic compounds—each the responsibility of a separate team of abstractors. The arrangement within individual reports is usually (but not always) as follows: name, formula, papers reported, unit cell, space group, atomic positions and parameters, interatomic and intermolecular distances, material, discussion, details of analysis, and references—an exhaustive list which indicates the admirable thoroughness of the abstracts.

Anyone who has had much experience of the arduous and exacting task of scientific abstracting will recognize the quite exceptional care and skill which a team of busy and competent people have expended, often in time they could ill spare, on the production of a body of abstracts of unusual merit. It would be inappropriate, therefore, to criticize too freely what is undoubtedly an extremely valuable book, except in the conviction that its shortcomings lie in the planning of the work rather than in its execution; for the policy adopted, whatever its merits in theory, has obviously proved difficult to carry out in practice, and might perhaps be modified in the preparation of subsequent volumes.

First, the scope of the abstracts. "Ideally," says the introduction, "they extract only material of structural interest." However, although the depth of the quagmire into which the abstractor may plunge via the ill-defined bypaths of some "structural interest" is perhaps over-emphasized by the unusually complex problem of diamond (pp. 187-197), the close connexion between the structure and properties of all substances makes it seem imperative to decide just where to draw the line, if it is not to be drawn ruthlessly at atomic positions. No such decision would seem to have been made.

It is fair to say that no volume of this kind is better than its index, so we must be especially grateful for the provision of comprehensive subject (that is, name) and formula indexes (but why should the mixed crystals referred to on p. 687 occur in the former, but not in the latter?). There is also an author index. The strictly alphabetical arrangement of the formula index will prove particularly valuable to non-chemists. But the inclusion in the subject index of "a few physical properties" seems regrettable, because misleading. The scarcity of entries is due not only to the declared policy of abstracting "only

material of structural interest", but also to inadequate indexing. To cite but three examples: "Infra-red emission" (surely "absorption" was intended; no data are quoted concerning infra-red emission) and "Raman Effect" are listed only for diamond (as are 25 per cent of all these extra entries) although the data quoted for urea (p. 596) and ammonium chloride (p. 219) seem at least equally interesting; and under "Texture" there is no reference to divergent-beam photography (p. 748).

Secondly, it is stated that this volume covers the period 1947-48. Almost one-quarter of the main entries in the inorganic section (and about a dozen of those in each of the other sections) cite publications outside this period. One can understand the temptation to include work published prior to 1947 if later work on the substance is entirely dependent on it, but the inclusion of, for example, $N_2H_4F_2$ (p. 267) or $KSbO_3$ (p. 443), published in 1942 and 1940 respectively, does not seem justified merely for comparison with more recent work. Why would a reference not have been sufficient? Apart from the fact that this increased scope must lead either to extensive duplication in future volumes, or to the exclusion of work from the volume to which it really belongs, there is no clear indication as to whether or not any work has, in fact, been done in the period 1940-46 on substances for which the period 1947-48 has not been overstepped. If the abstractors have consistently covered this wider period, surely this fact should be indicated in the title.

The book is well produced in clear type, and illustrated by some two hundred informative line diagrams. Although there are a number of misprints, these are seldom likely to cause confusion; but if, and when, it becomes necessary, perhaps a list of errata could be published in *Acta Crystallographica*.

These criticisms notwithstanding, we will all wish to associate ourselves with Prof. P. P. Ewald (who as the initiator of "Strukturbericht" has fittingly contributed the preface) in welcoming these excellent abstracts.

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INDUSTRIAL TOXICOLOGY

The Chemistry of Industrial Toxicology

By Dr. Hervey B. Elkins. Pp. ix+406. (New York: John Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1950.) 44s. net.

INDUSTRIAL toxicology is an expanding subject, and Dr. Hervey B. Elkins has made a very creditable attempt to pack a vast amount of useful information into the 406 pages of his book. There are many attractive features, notably the systematic presentation and the inclusion of numerous clearly labelled diagrams, and a wide range of tables. In particular, the parallel recording of concentrations with vapour pressures of certain substances (for example, mercury, Table 6, p. 39) is a time-saving aid to a hard-worked chemist who may have to give a quick and intelligible answer to his non-technical colleagues.

It is a relief to find that the author has departed from the tedious routine of facts by including at least two controversial chapters, namely, Chapter 14, "Maximum Allowable Concentrations", and Chapter 15, "Fallacies and Unsolved Problems". The latter is a bold and happy addition and includes comments