

BOOKS

L'oxydation des métaux ; Tome I, Processus fondamentaux,
(The oxidation of metals ; Vol. I, Fundamental processes.)
Edited by J. Benard (Paris, Gauthier-Villars, 55 NF).

In addition to the chapters provided by the editor, this book includes contributions from Jean Bandolle, Florent Bouillon, Michel Cagnet, Jean Moreau and Gabriel Valensi.

Oxidation phenomena are studied in such a way that the reader can follow the whole development of research relating to each aspect of the problem, namely, adsorption, germination, growth of thin films, growth of thick layers, and oxidation of alloys.

The authors have relied on experimental results in their identification of the various factors involved and the establishment of correlations between them. In theoretical studies based on the results of this work an adequate number of observations is taken into account.

Two aspects of oxidation are covered to the same extent. One concerns the chemisorption of oxygen in a weakly oxidizing atmosphere, a phenomenon which is of great importance for ultra-high vacuum and the optical properties of reflecting surfaces. The other concerns the properties of true oxides forming on the surface of metals, and especially the mechanical properties of such oxides.

The book is well written and contains a good number of illustrations of the phenomena discussed.

R. Godef

Low-temperature physics. Lectures delivered at Les Houches during the 1961 session of the Summer School of Theoretical Physics, University of Grenoble. Edited by C. Dewitt, B. Dreyfus, and P.G. de Gennes (New York, Gordon and Breach, \$ 20.00, students' edition \$ 9.50).

The lecturers, some using English, some French, are A.B. Pippard, M. Tinkham, H. Suhl, J. Beenakker, A. Herpin, L. Néel, C. Kittel, A. Abragam, and J. Friedel. They cover in a fairly general way the theory of electrons in metals, superconductivity, superfluidity, magnetism, defects and irradiation, and the Mössbauer effect, with a more specialized account by Néel of the properties of 'grains fins antiferromagnétiques'. The arguments of the general articles are on conventional lines, except for that of Pippard on electrons in metals. There, a sustained attempt is made to work as far as possible in classical and geometrical terms ; this will appeal to some people, and others will find it perverse.

Except for Néel's article, and that of Friedel on irradiation effects, the work is strongly theoretical in character; however, the theory is not developed in the abstract, but with constant, if schematic, reference to experimental data. The book is valuable to theorists as a fairly up-to-date review of this field. It could also be useful to low-temperature experimenters prepared to work rather hard to understand the theory.

J.S. Bell

There can be found, in what would be called 'good libraries', a half-dozen or so very good English-language periodicals, whose aim is not so much the popularization of science as — to use an expression of M. Louis Armand's — its 'cultivation' ('culturisation').

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OZALID ZURICH

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Such journals are scarcer in French ; there are perhaps three or four. '**Sciences**' (115, bd St. Germain, Paris 6, 27 NF for 6 issues per year) is one of these. Each issue offers a variety of interesting articles of high scientific value, written by scientists or engineers on a level suitable for a large educated readership.

As a typical example, Prof. Louis Leprince-Ringuet has recently contributed an article on 'The era of giant accelerators', in which he reveals a certain amount of sadness at the disappearance of the older methods of physics in favour of the more specialized work of the present-day large laboratories.

Easy reading of the articles is helped by the layout and printing.

'Sciences' has now reached its 18th issue. If its publication only every two months, and somewhat irregularly, is to be regretted, its publishers must be given credit for knowing how to present to the exclusively French-speaking man with an enquiring mind a publication which will keep him informed about the major currents of contemporary science.

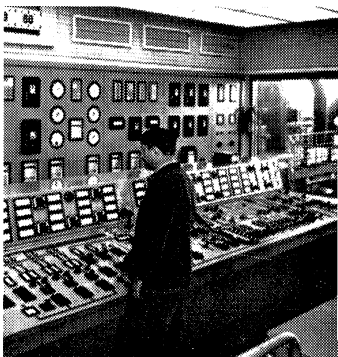
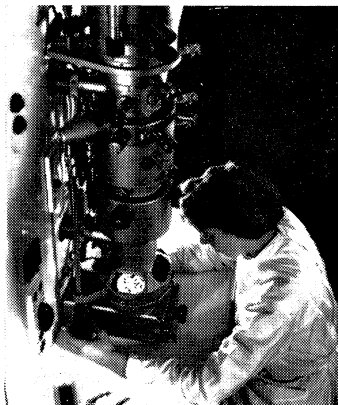
R. A.

Also received :

Polish Academy of Sciences, Institute of Nuclear Research, Chemical Publications 1955-1960. (Warsaw, Office of the Government Commissioner for Use of Nuclear Energy, Division of Scientific and Technical Information, 1962). — Photoprints in full or summaries of published and unpublished papers, reports, reviews, and books. Abstracts in Polish, Russian, and English •

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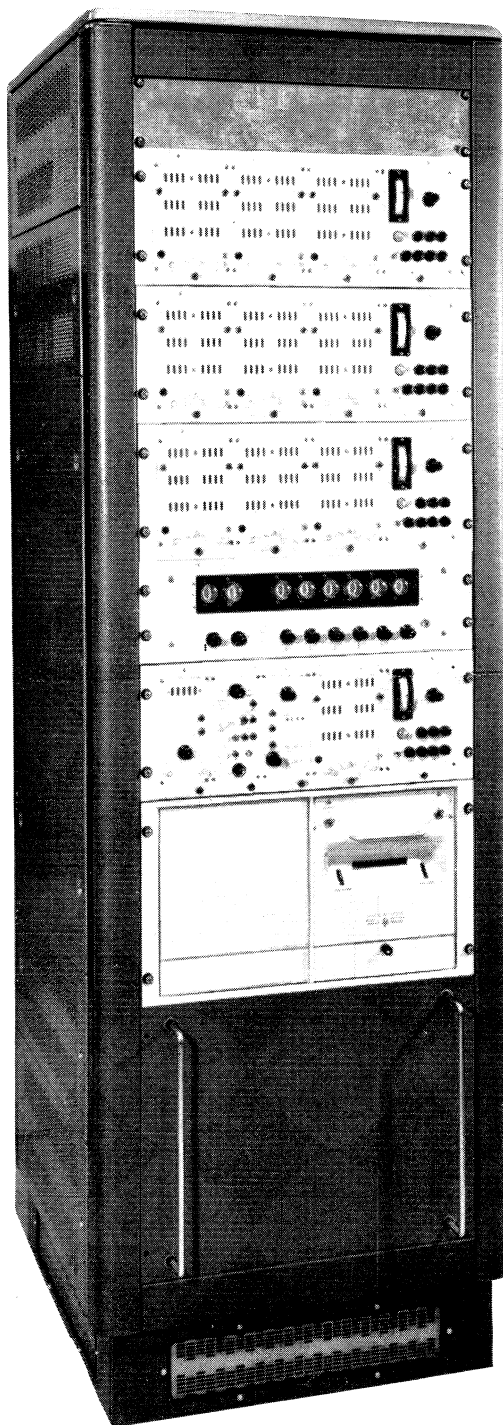
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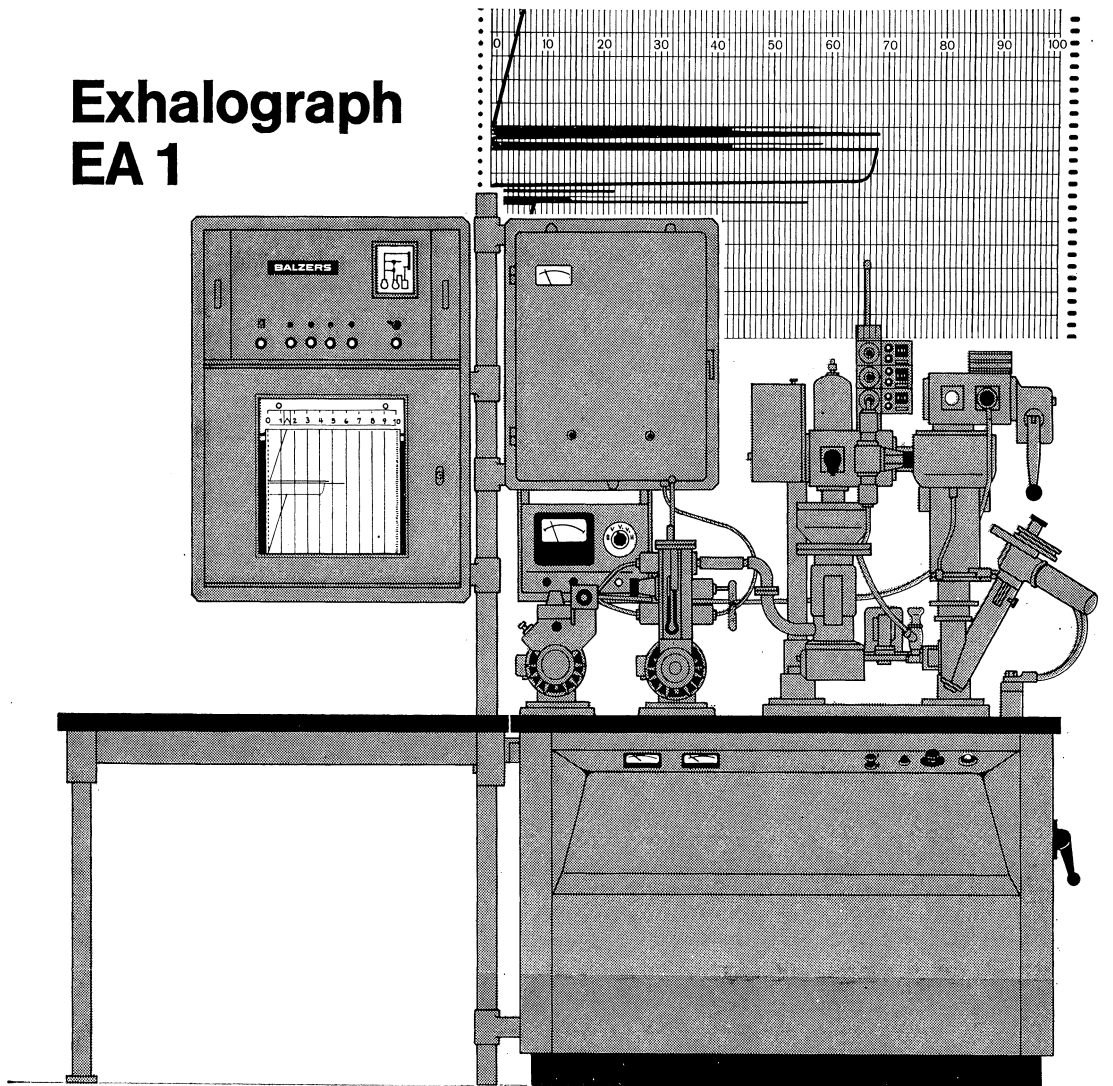
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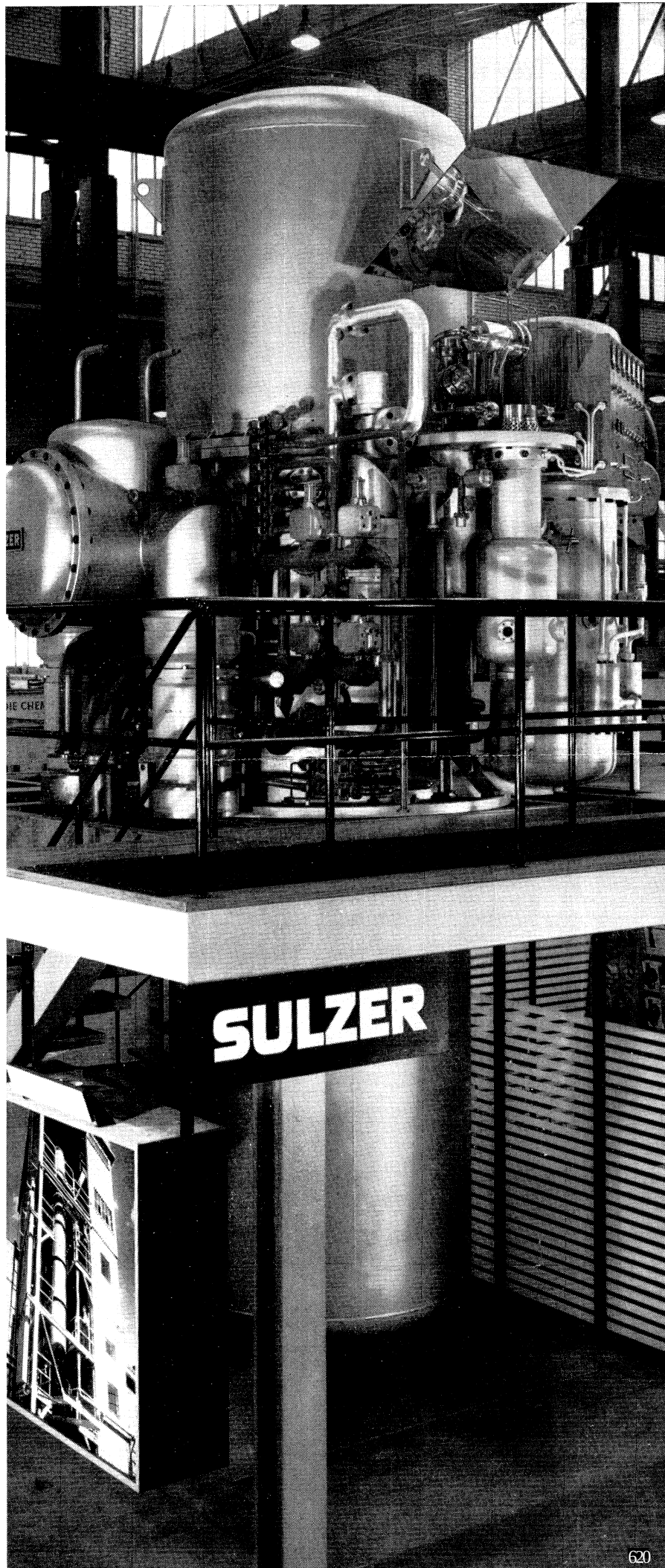
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