

BOOK REVIEW

Chemisorption, 2nd ed. By D. O. HAYWARD and B. M. W. TRAPNELL. Butterworths, London, 1964. 323 pp. Price £3.

The first edition of this work, by Dr. Trapnell, gave a characteristically lucid account of the work to 1955 on chemisorption. After touching on the highlights of previous work, it plunged into an account of the results of Beeck and others, obtained with evaporated films and 10^{-6} Torr vacuum technique, and their interpretations in terms of theories of the solid state and chemical bonds. It was timely in that it marked the end of an era, preceding the discovery of the Alpert gauge and ultra-high vacuum technique, and it was in many ways a model as far as monographs go, earning golden opinions all round (some of which are reproduced on the dust cover of this new edition). The new edition is very much to be welcomed. Two chapters on catalysis have been omitted, but a good deal of extra material has been incorporated so that the present book is some 62 pages longer than the previous one. Mainly the new matter relates to new experimental methods,

infrared, field emission, ultra-high vacuum, electron diffraction, and magnetic methods. As a result we are rapidly learning much more about the complex character of adsorbed films on different exposed planes, and even something about the effects of point defects, dislocations, etc. On the whole though, the great advances in experimental methods have not been accompanied by any corresponding advances in the theory of the chemisorption bond. Because of its complexity the subject is still primarily experimental and will be for some years to come. This book will certainly stimulate a new generation of research students to activity and be a great help to their professors, and thus help towards this end. Will some wave mechanical expert not oblige with a critical treatment of the theory of solid surfaces and the adsorption bond, as a guide to the experimenter?

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