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space scientists

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ADSORPTION SYSTEMS RESEARCH. Investigations include a new physical theory of adsorption (applicable to stable and radioactive gas-adsorber systems); experimental investigations of CO₂ adsorption; and studies of CO₂ adsorption systems. Requirement: Physicists or Physical Chemist, PhD.

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Write in confidence to Mr. George R. Hickman, Professional Employment Manager, Dept. 16LA

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will notice at once that the introductions—printed in each of the six languages—are of somewhat different lengths. Surely, what can be said in 18 lines in Italian does not require 21 lines in German or 37 lines in Czech. But the author may have felt that he wanted to say more to his compatriots than to others. It is a little more unusual that he also—perhaps for good reasons—said slightly different things in the different languages. Thus, the English and the Russian introductions state that “this dictionary is not to be considered as normalizing the use of terms”. His Russian word for normalizing is, transliterated, *normativnym*.

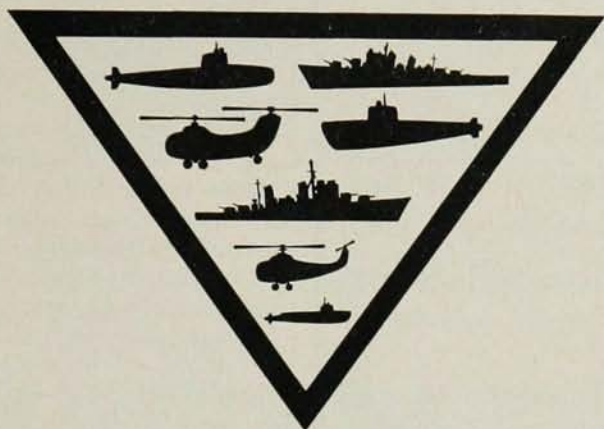
I suppose that the author meant to tell the scientists of the two principal, but quarrelling, nations that he did not propose to pick a fight and *impose* the use of certain terms but merely listed those that would already be found in the literature. I could not suppress a smile when I found that this sentence is missing from the German introduction.

But the word “normalizing”, and especially its Russian equivalent, seemed to me not to express precisely what the author had meant. So I looked into the body of the book and found, on page 612, that for the word “normal”, section 4, line 66, and section 7, line 213, should be consulted. The word “normalization” referred me to section 7, line 520. All three references (to words which are so nearly the same in the six languages that it is almost useless to list them, except perhaps to bring out that fact) give the standard meanings of the words, but not the one I expected to find.

Infrared Methods. Principles and Applications. By G. K. T. Conn and D. G. Avery. 203 pp. Academic Press Inc., New York, 1960. \$6.80. Reviewed by Stanley S. Ballard, University of Florida.

INFRARED physics and technology are being treated very well in scientific publications, both technical articles and books. Several good books have appeared during recent years and others are now in press (see my review of this situation on pages 585–586 of *Applied Optics* for September 1962). Some of the new books are surveys of the field written to acquaint readers with its extent and its ramifications. Others are of a tutorial nature and may be used as textbooks in courses given in the physics or engineering departments of our colleges and technical institutes. *Infrared Methods* by Conn and Avery falls into neither of these categories. I believe that the statement in the preface is indeed correct and accurate, namely that “The present volume was written in response to the need for a working manual in which the principles and the experimental techniques are provided for the user and the potential user of infrared methods.” That is, this is not a browse book for dilettantes, nor a survey which indicates the breadth if not the depth of the field, nor a proper textbook. Rather, it is a “how-to-do-it” monograph for people who really want to use infrared tech-

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Exhibit

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niques, especially in the laboratory. The treatment is sophisticated in a technical sense and the comments reveal a true and thorough understanding of the subject matter by the authors—a sympathetic soul can sense the suffering the authors had undergone in their own laboratories in learning the experimental truths which are here revealed for the guidance of others.

The first and longer part of the book treats the principles of the chief components used in infrared instrumentation. There are chapters on radiation sources, radiation detectors, optical materials, and amplifiers, and an excellent one on dispersive systems that includes the design of spectrometers. The second and shorter part deals with selected practical applications, specifically the calibration of detectors, the description of a simple monochromator, and a brief recounting of instruments used for gas analysis and plant control and in radiation pyrometry.

Copious references, chiefly to journal articles, are given at the end of each chapter for the further information and guidance of the interested reader. Speaking quantitatively, of the five chapters of the main part of the text, there are 99 references for one chapter, 24 for another, with an over-all average of 55 per chapter. This feature alone will be of great utility to the earnest user of this most valuable little book.

The Hall Effect and Related Phenomena. By E. H. Putley. 263 pp. Butterworth Inc., Washington, D. C., 1960. \$9.50. *Reviewed by Stuart A. Rice, University of Chicago.*

STUDIES of the Hall effect have provided valuable information on the electronic properties of solids. Indeed, recent applications of this technique to the study of liquid metals by Wilson, Cusak, and others provide some of the best supporting evidence for current concepts of the liquid metallic state. Putley's monograph is a very fine survey of the Hall effect and related phenomena with primary emphasis on the study of semiconductors. The material is presented in a concise and easily understandable form. Numerous tables are provided which collate large amounts of information and present it in a very usable manner. These tables range from the characteristics of thermometers through equations for transport properties under a variety of conditions and include magneto-resistance functions, saturation magneto-resistance for multi-ellipsoidal surfaces, etc. The descriptions of most phenomena are detailed enough to be useful but not so detailed that further reference to the literature is unnecessary. For example, six pages are devoted to impurity band conduction, but the description concerns experimental details and no discussion of the theory is given.

I believe the book will be extremely useful to graduate students starting research on aspects of the solid state and can also be wholeheartedly recommended to those investigators interested in the properties of semiconductors.