

Analytic Function Theory, Volume 2. By Einar Hille. 496 pp. Ginn and Co., Boston, 1962. \$8.00. *Reviewed by George Weiss, University of Maryland.*

WHILE there are many aspects of the modern theory of complex variables that are of direct interest in physics, most of the modern research is more remote from applications. Volume 2 of Hille's set of books on analytic function theory is an excellent introduction to modern research, but it is intended strictly for a mathematical audience. There is considerable emphasis on geometric function theory. Among the topics covered are the Nevanlinna theory of meromorphic functions, normal families, conformal mapping, and analytic functions in a half plane. All of the work reported is for functions of a single complex variable. There is much in the book that was previously available only in journals or in foreign languages.

Astronomical Dictionary. In Six Languages: English, Russian, German, French, Italian, and Czech. By Josip Kleczek. 972 pp. (Publishing House of the Czechoslovak Academy of Sciences, Prague) Academic Press Inc., New York, 1961. \$25.00. *Reviewed by Otto Struve, University of California at Berkeley.*

I HAVE read several highly complimentary reviews of this book*, and no unfavorable ones. It is a pleasure to join those who have praised the book and expressed their thanks to the author, the Czechoslovakian Academy of Sciences, and its editor, Dr. B. Sternberk. Every library devoted to the physical sciences should own a copy. A person who has at least a reading knowledge of one of the six languages will have no difficulty in finding his way, with the help of this dictionary, when he attempts to read scientific writing in one of the remaining five languages.

But in a broader sense, Kleczek's large labor of love serves once more to highlight the extraordinary waste of time and effort that is caused by the "Babel of languages" in which we live. There is no universal scientific language, as there was even in the darkness of the Middle Ages. And with the rise of the new and nationalistically inclined independent nations of Asia and Africa, the situation may become worse before it improves.

M. Minnaert's noble effort to use Esperanto (as well as English) in the text of the 1940 "Photometric Atlas of the Solar Spectrum", by himself, Mulders, and Houtgast, has had no visible consequences. Neither has there been any enthusiasm for T. Banachiewicz's use of the "Latine sine Flexione". Yet, the problem of foreign languages is one that every young astronomer faces when he can least afford to spend his time attending foreign-language courses.

One quite minor point may serve as an illustration of the difficulty of making many different languages tell the same story. The user of the new dictionary

* For example, B. E. G. Pagel, *The Observatory*, 82, 85 (1962); Yu. G. Perel, *Astronomicheskii Zhurnal*, S. S. S. R., 39, 374 (1962).

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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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