

the way and mount enthusiasm by way of "The Gift of Tongues" by Margaret Schlauch. Proceed next to Part 2 of "The Loom of Language", and finish with the appropriate volume from "The Basis and Essentials Series" edited by Charles Duff. It is only fair to say that these suggested volumes are included in Dr. Bodmer's bibliography.

The reviewer, after the toil of learning French and the consequent enjoyment of its literature, was dashed to discover that the author rates it as having an "ostentation-value as a female embellishment". Although it is no stigma to be unable to speak French, one doubts whether it is wise to applaud Lloyd George and Wilson because Clemenceau had to speak to them in English. Perhaps the outcome of the conversation might have been different if the Anglo-Americans had had some knowledge of French, and with it an inkling of the workings of the French mind.

The planned language here outlined appears in theory to have many points in its favour. In its final form as seen in "Interglossa" by Prof. L. Hogben, one fears that it will probably meet the same fate as its predecessors. If an international language is to be planned, might it not be better to start from a basic accepted language with an added international vocabulary of scientific and technical terms?

An edified and entertained reviewer recommends this book to all students of languages. If any such students happen to have bourgeois tendencies, they will no doubt be occasionally galled by the author's political interpolations to about the same extent as the author would be if he read "Who are the People" by Colm Brogan. J. MARSHALL.

ELEMENTARY PHYSICAL CHEMISTRY

Elementary Physical Chemistry

By Prof. M. Randall and Prof. L. Esther Young. Pp. xiv+455. (Berkeley, Calif.: Randall and Sons, 1942.) 4.50 dollars.

Introduction to Physical Chemistry

By Prof. Alexander Findlay. Second edition, revised and enlarged. Pp. vii+582. (London, New York and Toronto: Longmans, Green and Co., Ltd., 1942.) 15s. net.

RANDALL AND YOUNG'S book is described on the cover as for second- and third-year college students and as a broad survey of elementary physical chemistry. It is not easy to equate this with a corresponding treatment in Great Britain. Some of the topics are elaborated in great detail and others, in the reviewer's opinion, are considerably advanced. The early introduction of the idea of flow-sheets for simple reactions is a novelty, and the precise definitions of concentrations and the implications which flow from them is a good but unusual feature in elementary books of this kind.

The volume is produced, possibly owing to war exigencies, in what looks like imitation typescript and is termed 'photolith'. This method gives good illustrations, which are often drawn from industrial practice; but it is rather trying to the eyes and not conducive to prolonged reading. This may be due to habit.

Findlay's volume is written from the British point of view, and its treatment is in marked contrast to that of "Randall and Young". It deals

much more with the experimental side of the subject, and does not go so deeply or so dogmatically into theory. It covers most of the usual field in this subject and should prove a useful aid to students who are beginners as well as to those who are a little more advanced. One characteristic feature is the assignment of dates to the workers who are mentioned.

The book starts on the basis of the atomic theory and ends with an elementary discussion of heterogeneous equilibrium. The thermodynamical treatment is a little old-fashioned; activity is only dealt with in elementary fashion. These may be matters of personal taste. The ambiguities in methods of expressing concentration which become important in all but very dilute solutions are not very clearly brought out. This may be an obsession of the reviewer and could scarcely be expected in a book of this standard; nevertheless clarity in such definitions is very helpful in more advanced work.

CHEMICAL ANALYSIS

Textbook of Quantitative Inorganic Analysis

By Prof. I. M. Kolthoff and Prof. E. B. Sandell. Revised edition. Pp. xvii+794. (New York: The Macmillan Company, 1943.) 21s. net.

Systematic Qualitative Organic Analysis

By H. Middleton. Second edition. Pp. viii+280. (London: Edward Arnold and Co., 1943.) 8s. 6d. net.

BOTH these text-books have this in common, that they have entered into a second edition and that deservedly, for they are extremely useful works which, although primarily meant for university students, are profitable to chemists who have proceeded beyond this stage. There, however, the resemblance ends for, apart from the fact that one deals with quantitative inorganic and the other with qualitative organic analysis, they differ markedly in the manner of treatment of their respective subjects. The former is a comprehensive text-book dealing very thoroughly with the theory and quite adequately with the practice of inorganic analysis, while the latter is severely practical and is meant almost entirely for laboratory use. Perhaps both books could gain something one from the other; the American work would benefit if a few more practical examples were included, particularly in electroanalysis, in amperometric titrations and in nephelometry; Mr. Middleton's book would undoubtedly gain if, here and there, some theory were introduced.

In this new edition of "Kolthoff and Sandell" (previously reviewed in NATURE, 139, 821; 1937) a number of the chapters have been revised, while the sections on errors, organic reagents and spectrophotometry have been expanded. There has also been introduced a discussion on polarographic analysis or, as the authors prefer to term it, amperometric titrations. A folder has been added inside the back cover and carries a leaflet containing atomic weight tables, four-figure logarithms and some gravimetric factors.

The text of the book on organic analysis (the first edition was reviewed in NATURE, 144, 366; 1939) has not undergone much change. Some of the analytical schemes have been rewritten, while some thirty additional compounds have been included.

Both books are well got up, they are clearly written, and the text is in each case singularly free from errors. G. R. D.