

theory and experiment remain uppermost throughout, the rationale of industrial operation is not neglected, but rather follows as an illustration of the doctrines expounded.

Deficiencies there are bound to be in a work of this character, but they are for the most part innocuous: the treatment of sulphur and nitrogen compounds is poor in its brevity (pp. 113-119), likewise inert gas components of natural gas (p. 124); the misuse of the geological term 'weathering' as applied to evaporation of petroleum (p. 175); the data of crude oils of the world are antiquated and there are serious omissions of Mid-Continental and Colombian crudes (Ohio-Indiana is not the accepted Mid-Continent field): the use of the term 'resin' (p. 200) for the asphalt-content of Balachany oil is misleading and should not be allowed to confuse an already clumsy and 'muddy' nomenclature; the section on products is far more sketchy than the rest of the text, especially in regard to the vital subject of lubrication. All this pales, however, by the excellence of the translation and the esteem which one instinctively feels for one who is a master of a particularly complex subject. Prof. Gurwitsch is fully entitled to renewed congratulations.

Our Bookshelf

The Epic of Mount Everest. By Sir Francis Younghusband. Pp. 219 + 16 plates. (London: Edward Arnold and Co., 1926.) 7s. 6d. net.

SIR FRANCIS YOUNGHUSBAND has written a concise and inspiring account of the three expeditions which were organised by the Royal Geographical Society and the Alpine Club. The first expedition reconnoitred the mountain in 1921; the following year the second expedition attempted to climb the mountain, but failed to reach the summit. At the climax of the third attempt, in 1924, Mallory and Irvine were seen for a moment climbing fast, and within reach of the goal. Did disaster overtake them before or after they accomplished their task? Unless those two gallant climbers did in fact reach the summit, and left a record there, the mystery may never be solved.

The author makes it clear that the ascent of Mount Everest is possible, and the mountain will eventually be climbed. He attributes the failure in 1924—if indeed it was a failure—to two causes. The first was the exhaustion of the best climbers in the gallant rescue of four porters, who had lost their nerve in coming down from Camp IV. The second was the attempt to use oxygen. Oxygen does not increase the strength of a climber sufficiently to make up for the weight of the apparatus.

Though the ascent of Everest is possible, it can never be easy or safe. Only the toughest and

most determined climbers have any chance of reaching the summit, and to do so they must first acclimatise themselves to altitudes of more than 20,000 feet. In order that the climbers may reach the last stage in good condition, at least six camps must be established between the base at 17,000 feet, and the jumping-off point at above 27,000 feet. This involves the use of a large number of porters; the 1924 expedition employed seventy, but had not enough. Finally, the weather must be propitious.

There can be no doubt that, if the Tibetan authorities once more open the road to the mountain, Everest will be attacked again and again, until it is vanquished. The victory will not add anything to human knowledge, or to the material wealth of the world. But the mountain offers a perpetual challenge to the boldest climbers. To use Sir Francis Younghusband's own words, "Everest stands for an adventure of the spirit." Yet amongst those who, from the scorching plains of India or the arid plateau of Tibet, lift up their eyes unto the hills, there may be some who mutely hope that the uttermost peak may never be desecrated by the foot of man; and that also is an affair of the spirit.

Essentials of Volumetric Analysis: an Introduction to the Subject, adapted to the Needs of Students of Pharmaceutical Chemistry. By Prof. Henry W. Schimpf. Fourth edition, revised and enlarged by Dr. Alfred A. Cone. Pp. xiv + 370. (New York: John Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1926.) 15s. net.

As an introduction to the subject, this book doubtless covers the requirements of students of pharmaceutical chemistry. It does not, however, in matters of detail, arouse the reviewer's enthusiasm. The introduction of unusual abbreviations is confusing; the arithmetical examples are frequently expounded in an unnecessarily elementary manner; the use of exactly normal solutions, instead of the employment of a factor, is directed; the explanation of the use of excess of free acid in permanganate titrations is incomplete, so as to be quite misleading; the use of the symbol O_3 , except to indicate a molecule of ozone, is to be deprecated; the standardisation of *N*-sulphuric acid by titrating 10 c.c. with "recently prepared and standardised *N*-potassium or sodium hydroxide" is open to obvious criticism. In addition to the usual inorganic volumetric exercises, the analysis of sugars, oils, alkaloids, urea, formaldehyde, and organic nitrites is described, and a short section is devoted to the principles underlying the determination of hydrogen ion concentration. A. A. E.

A Treatise on Viticulture. By Prof. A. I. Perold. Pp. xi + 696. (London: Macmillan and Co., Ltd., 1927.) 35s. net.

ALTHOUGH written at Stellenbosch, South Africa, and dealing very largely with viticulture in South Africa, this work is also applicable to cultivators and students in other parts of the world, for the