beds for every 100 soldiers. . . . Weather disregarded. You have to get through barbed wire like a knife, and tear your clothes much or little."

Sir Walter's friends owe a debt of gratitude to Lady Raleigh for these volumes, and to Mr. Nichol Smith for his brief but admirable memoir of their author, for they will recall many delightful hours in his company. In all their readers they cannot but arouse regret that so rare a spirit has passed beyond the term of human acquaintanceship.

Our Bookshelf.

The Petrology of the Igneous Rocks. By Dr. F. H. Hatch. Eighth edition, revised with the assistance of Dr. A. K. Wells. Pp. xxiv+566. (London: George Allen and Unwin, Ltd.; New York: The Macmillan Co., 1926.) 15*s.* net.

WITH the collaboration of Dr. A. K. Wells, this well-known text-book has been revised and extended until now it is virtually a new book. Among the new features are chapters dealing with the consolidation of magmas; the classification of igneous rocks; changes in composition subsequent to consolidation (including pneumatolytic, hydrothermal and other phases of metamorphism as well as weathering); petrographic provinces; and cycles of igneous activity in the British Isles.

Dr. Hatch was a member of the Committee on British Petrographic Nomenclature (1920), and he has naturally adhered to most of the decisions then reached. A welcome simplification of the unwieldy nomenclature of the subject has been achieved, but unnecessary confusion has been introduced by adopting first a classification of types into *acid*, *intermediate* and *basic* divisions, and then a subdivision of some of the groups, such as the syenite group, into *oversaturated*, *saturated* and *undersaturated* divisions. The term 'acid' is sometimes used to mean that a rock is oversaturated, and sometimes to imply a silica percentage not less than 66. It is a pity that the older terms were not altogether dropped. On p. 186 the terms *salic* and *femic* are wrongly used for *felsic* and *mafic* respectively. A useful suggestion due to Prof. Watts has been adopted: the naming of a rock according to its texture with the qualifiers 'intrusive' or 'extrusive' added where necessary. Thus one may have an *intrusive basalt* or an *extrusive dolerite*, and a common source of futile indecision among students is thereby removed, in the only logical way.

The book is now thoroughly up-to-date. It contains abundant references to the splendid work carried out at the Geophysical Laboratory at Washington. Heteromorphous rocks are discussed, eclogite being recognised as a heteromorphous phase of gabbro. The work of Dr. Brammall and Dr. Harwood on the minerals of the Dartmoor granite is included, and the book may be said to present a very complete and well-balanced survey of the subject up to the end of 1925. Controversial and speculative matters are wisely given little space, and students using the book may rely upon it as a sound and authoritative exposition of a delightful subject.

Applied Chemistry: a Practical Handbook for Students of Household Science and Public Health. By Prof. C. Kenneth Tinkler and Helen Masters. Vol. 2: *Foods*. Pp. xi+276+3 plates. (London: Crosby Lockwood and Son, 1925.) 15*s.* net.

THIS book deals with certain branches of the chemistry of foods which have particular interest to students working for the B.Sc. (Household and Social Science) degree of the University of London. It forms a companion volume to that produced by the same authors in 1920 on water, detergents, textiles, fuels, etc. The general treatment is elementary, but the authors have adopted the policy of giving references to standard works wherever possible. In addition to such subjects as milk, edible oils, foods their analysis and calorific value, raising agents, vinegar and preservatives (subjects which are found generally in food analysis books), a separate chapter on the cooking of foods is included. In introducing this somewhat novel subject in an elementary text-book, it is explained that this operation is still primarily an art and not a science, and that our knowledge of the chemistry and physical changes which take place in the preparation and cooking of foods is at present very meagre. Nevertheless, the authors in some thirty-five pages have collected a large amount of scientific data on cooking foods and on the use of condiments, and have given an exceptionally good exposition of the subject.

In many cases interesting chemical determinations bearing directly on food analysis, etc., have been considerably restricted for want of space, yet the determination of specific gravity, specific rotatory (spelt rotatary) power, calorific value, and hydrogen ion concentration—subjects usually well treated in practical physico-chemical text-books—receive a comparatively large amount of attention. The book is well produced with clear diagrams, and the price reasonable judging by present-day standards.

J. REILLY.

Éléments d'astrophysique: introduction à l'étude de l'énergétique solaire et stellaire. Par Dr. Albert Nodon. Pp. viii+244. (Paris: Albert Blanchard, 1926.) 20 francs.

THE author has produced a useful book of reference based on his public lectures delivered at Bordeaux. The contents are divided into two parts. Part 1 contains some seventy paragraphs, in which are outlined the recent advances in astrophysics made possible by well-known theoretical and practical investigators. Part 2 includes tables of notation, physical constants, explanatory notes, and bibliography arranged with reference numbers so as to amplify the paragraphs of Part 1. Although the book is intended, presumably, for general scientific reading, the arrangement of the subjects will scarcely commend itself to the beginner. Commencing with an account of modern ideas on the structure of the atom and the phenomena of radiation, the author then passes to such matters as the opacity of stellar atmospheres and radiation pressure. Paragraphs dealing with the sun follow those on stellar spectra, giant and dwarf stars, etc.

Many of the illustrations receive no explanation in the text, and a knowledge of instrumental equipment is assumed. We consider that the lack of detail in