

the black heath bee (*Apis mellifica* var. *Lehzeni*) of Holland and parts of France.

In the chapters on disease, much confusion of thought as to etiology and causative organisms is shown, both in referring to brood diseases and also diseases of the adult bee, which are all brought together under the term "Isle of Wight Disease." Remedial measures are given, sometimes without making it clear for which disease they are intended, and without insisting that a correct diagnosis is necessary before prescribing.

It would be easy to continue to criticise the scientific part of the book; and the same could be done with the part dealing with practical methods, but here we are dealing with matters of opinion. Suffice it to say that many of the operations should be condemned as being calculated to spread bee diseases rapidly through the apiary. D. M.

*The General Theory of Thermodynamics: an Introduction to the Study of Thermodynamics.* By Prof. J. E. Trevor. Pp. x + 104. (Boston, New York, Chicago and London: Ginn and Co., Ltd., 1927.) 1.60 dollars.

THE object of Prof. Trevor's book is to "develop the general laws of Thermodynamics with logical consecutiveness and mathematical clarity" for students of physics, physical chemistry and engineering, for mathematicians and practising engineers. No applications of general principles are considered. The treatment departs considerably from traditional lines, as would be expected from the author's paper in the *Journal of Physical Chemistry*, 1908, and familiar words and phrases are used in new and disconcerting senses. Thus when a weight  $w$  is raised a small distance  $dh$ , "the inexact expression  $w dh$  denotes the work absorbed" (p. 12). The equation  $dE = dW + dQ$  "asserts that the work and heat absorbed are integrals of exact differential expressions" (p. 13). In connexion with the  $pv$  diagram, "an irreversible path cannot be depicted by a curve in the plane" (p. 18). The law of dissipation runs, "when a thermally and dynamically isolated body undergoes a change of state that admits of a reversible path, the change of the entropy of the body is positive" (p. 85), which appears unduly restrictive. In later chapters, for example, that on the porous plug experiment, the treatment conforms more to tradition. It is not easy to understand how the book can serve as "an introduction to the study of thermodynamics."

*Memoirs of the Geological Survey of England and Wales. Explanation of Sheet 232: The Geology of the South Wales Coalfield. Part 2: Aber-gavenny.* By Aubrey Strahan and Walcot Gibson; with Notes by J. R. Dakyns and Prof. W. W. Watts. Second edition, by Dr. T. Robertson. Pp. xi + 145 + 4 plates. (London: H.M. Stationery Office; Southampton: Ordnance Survey Office, 1927.) 3s. 6d. net.

THE first edition of this important memoir was published in 1900, and the need for a new edition has been made the occasion of certain additions and corrections, none of which can, however, be said

to be of any serious importance. A good deal of palæontological work has been done, especially perhaps in the Millstone Grit. Naturally, the active development of the collieries during the last quarter of a century has thrown valuable light upon the structure of the coalfield. The Carboniferous Limestone has been exhaustively studied and the question of its dolomitisation has been examined in detail. The fact that a quarter of a century of active work has necessitated so little change in any of the fundamental portions of the memoir is evidence of the care and thoroughness with which the work was originally done.

*Soil Conditions and Plant Growth.* By Sir John Russell. (The Rothamsted Monographs on Agricultural Science.) Fifth edition. Pp. viii + 516 + 6 plates. (London: Longmans, Green and Co., Ltd., 1927.) 18s. net.

THIS well-known text-book has now reached its fifth edition, a sufficient proof of its value and popularity. The last edition has been revised in the light of the author's recent travels abroad, during which he has had many opportunities of seeing the work of other stations. Nevertheless, the book retains its original character, and continues to give great (and no doubt well-merited) prominence to the work of Rothamsted. In recent years that has been largely concerned with soil biology in what may be loosely termed its purer aspects, but the agronomist feels that field results have followed slowly and is glad that soil tillage—which exercises a profound influence on the soil flora and fauna—is now engaging the serious attention of Rothamsted. We doubt also whether sufficient prominence has been given to the work of other soil laboratories, such as Bangor. The recent revolution in the methods of soil analysis, as referred to in App. I., for example, is due entirely to the original work carried out there.

*Some Nigerian Fertility Cults.* By P. Amaury Talbot. Pp. xi + 100 plates. (London: Oxford University Press, 1927.) 12s. 6d. net.

MR. AMAURY TALBOT here describes the beliefs of the Ibo and Ijaro tribes of the Degamo division to which he was posted in 1914. For the most part they centre around the cult of Ale, the Mother-Earth goddess, and her consort, the Thunderer. Mr. Talbot describes at some length the M'bari houses or shrines and the ceremonies connected with them. He has brought considerable acumen to bear on the interpretation of these rites; but perhaps his most pregnant suggestion is made in connexion with the cult of the Great Drum. By an ingenious line of reasoning, he unravels the symbolism of the representation of the tortoise and identifies it with the female pudenda. Of the many ceremonies and beliefs connected with the promotion of the fertility of the crops which serve to illustrate the principles of the "Golden Bough," the most striking is that relating to the priest of the Elele Yam cult, whose office, like that of the priest of Nemi, reverted to the man who succeeded in slaying him.