

RURAL HYGIENE.

Essays on Rural Hygiene. By George Vivian Poore, M.D., F.R.C.P. (London: Longmans, Green, and Co., 1893.)

EIGHT of the chapters of this work have been, in whole or part, previously published; to these the author has added five others, and the result is a welcome volume, which appeals to all those who take an interest in problems of health.

To the lay reader the book will probably carry conviction upon every one of the many sanitary points which are raised and dealt with, for the writer has a style which is at once clear, incisive, and convincing; and he builds up his conclusions upon good, sound, scientific, and logical bases. Many professed sanitarians will, however, cull here and there from among much which they are unhesitatingly prepared to accept, a little which is not in entire accordance with their own tenets and experience, but which is none the less acceptable as affording much food for thought and speculation.

The keynote struck throughout the work has a genuine ring, for the dominant principles of *rus in urbe* and *urbs in rure* resound through every chapter.

The first chapter deals with the concentration of population in cities, and the author very justly finds great fault with the overcrowding on space that now obtains, and he indicates, upon sound sanitary lines, the conditions which should be imposed to obviate this evil. The advice, however, comes too late for many of our large towns, in which, alas, at the present day, hygiene must needs make way for measures of expediency. Later on, in a capital chapter on "Air," the author resumes his diatribe against overcrowding, and even goes to the extent of facing it in our conventional "at homes." He writes: "Perhaps the day will dawn when it will be considered 'bad form' to give your guests far less than one-twentieth of the fresh air which is allowed to criminals." One is not prepared to unreservedly accept the view that water under pressure and the laying down of sewers have been mainly instrumental in causing overcrowding on space. There can be no gainsaying that our towns, long before the era of the introduction of these two systems, were miserably overcrowded; and there is no reason to doubt that, apart from either of these innovations, the towns would have continued to spread with little or no improvement in this respect, and that, despite the absence of water under pressure, the value of land over certain favoured areas would have insured the appearance of the modern high buildings.

The following principles are powerfully advocated throughout the book: The shallow-earth burial of dead bodies; the payment of water by meter on a sliding scale of charges, giving the "water of necessity" at a low rate, and charging more for the "water of luxury"; that each individual should have at least two-thirds of an acre of land, so as to secure an adequate supply of fresh air, and to provide that all refuse of every kind might be returned to this land in order to maintain and increase its fertility.

The two chapters that deal with personal experiences in a country town are extremely interesting and instructive, as giving the author's experience of a small estate

of his own, upon which about a hundred people are housed, and in which he endeavoured—with no small measure of success—to realise his Utopia, *i.e.* a place where there are no sewer pipes; where every cottage has around it an allotment sufficient to be fertilised by, and to purify, all the waste products furnished by the inmates; and in which the waste waters should run "clear as crystal in open channels without needing so-called ventilation."

Throughout the book many interesting agricultural points are raised and treated ably by one who is evidently able to bring considerable practical experience in harmony with theory.

To sum up:—The book is eminently interesting; it is instructive and furnishes much food for the reflective mind, and as such its perusal may be confidently recommended to one and all.

OUR BOOK SHELF.

Die Klimate der Geologischen Vergangenheit und ihre Beziehung zur Entwicklungsgeschichte der Sonne. Von Eug. Dubois. (Nijmegen: H. C. A. Thieme. Leipzig: Max Spohr, 1893.)

THIS pamphlet is a translation, with additions, of a paper originally published in the *Journal of the Dutch East India Company*. It consists of two portions of somewhat unequal value and interest. In the first section of the book, extending to thirty-six pages, a short but clear summary is given of the evidence bearing on the question of the climate of former geological periods. The references and notes display complete familiarity with the very large literature which is now in existence in connection with this subject. The second and larger half of the pamphlet, extending to nearly fifty pages, is a well-reasoned development of the theme that the variations in the temperature of the earth's surface during successive geological periods were the result of changes in the heat of the sun, and that the sun is in fact a variable star. Anyone wishing to become acquainted with all the recent facts and arguments bearing on the question of the climate of former geological periods, and to find them carefully summarised, with abundant references to original sources of information, will in this little pamphlet recognise a work admirably adapted to his needs.

Polarization Rotatoire, Réflexion et Réfraction vitreuses, Réflexion métallique. Par G. Fousereau. (Paris: Georges Carré, 1893.)

THIS volume consists of a series of lessons given at Sorbonne in 1891-92 to *candidats à l'agrégation*.

Under natural rotatory polarisation the author deals with the fundamental phenomena presented by quartz when traversed by polarised light parallel to the optic axes, and discusses the theories of Fresnel and others relative to rotatory polarisation. The relations between activity and crystalline form, the rotatory power of liquids, and the behaviour of quartz when traversed by light in a direction inclined to the optic axis, are also treated in this section.

Magnetic rotatory polarisation in singly- and doubly-refracting media is discussed in the second part. In both of these sections the effects of the various factors upon which the magnitude of the rotatory power depends—wave length of the light employed, temperature, length and chemical nature of the medium, &c.—are briefly stated.

In the last part is found a discussion of the various hypotheses advanced in connection with the phenomena