

weights. If he wants to know how physical ideas of the constitution of matter and the nature of electrical charges are applied to chemical problems he will read Fitzgerald's lecture on Helmholtz. If he looks for the story of Pasteur's wonderful scientific career and how the chemist applied his chemical experience to the difficult problems of disease and life he will find it admirably told by Frankland in this volume. There are fifteen of these essays in the book, and each possesses an individuality of its own and in general a very high standard of literary quality is reached.

It must, of course, be admitted that the volume does not give the whole history of the progress of chemistry during the last half century, for of course these lectures relate only to deceased *foreign* members of the Chemical Society. The work of Williamson, Odling, Frankland sen., Perkin, Gladstone and Crookes, for example, is only incidentally referred to, for happily these Fathers of Modern Chemistry, with one exception, are still with us. Neither does the volume include any account of the life-long labours of Berthelot, the senior Foreign Fellow of the Society, whose celebration of the fiftieth year of his scientific activity has so recently attracted the sympathetic attention of the whole civilised world. But the rising generation of scientific men may well be reminded in the words which M. Berthelot is reported to have spoken recently in the presence of the President of the French Republic at the Sorbonne, that it is not they who are making the science of the time, but their scientific ancestors. "If each of us adds something to the common domain in the field of science, of art, of morality, it is because a long series of generations have lived, worked, thought and suffered before us."

Experimentelle entomologische Studien vom physikalisch-chemischen Standpunktaus. Von Prof. P. Bachmetjew. Mit einem Vorwort von Prof. Dr. August Weismann in Freiburg i. Br. Erster Band. Temperaturverhältnisse bei Insekten. Pp. x + 160, mit 7 Figuren im Text. (Leipzig: Wilhelm Engelmann.) Price 4s. net.

HITHERTO the best-known researches into the temperature of insects have been those directed to the effects produced on the development or coloration of perfect insects reared from larvæ or pupæ which had been subjected to carefully graduated variations of high or low temperatures. There is, however, a very considerable literature, chiefly scattered in foreign periodicals, dealing with the temperature of insects from a much wider standpoint, especially as to their power of resistance to heat or cold. In the present work Prof. Bachmetjew, who commenced his researches in 1898, and who has already published some preliminary papers, has brought together and classified these scattered materials, adding to them the results of his own work.

The first section is devoted to the effects of temperature, moisture, movement, food, &c.; and the second to the extreme limits of heat or cold which insects are capable of resisting in their various stages. The bibliography at the end of the volume comprises, with additions, upwards of 200 references. The importance of this little volume of 160 pages is far greater than its unpretentious appearance would indicate, more especially as a very useful basis for further investigations and experiments. It is freely illustrated with diagrams and tables, and is too technical for a very detailed notice. The second volume, now in preparation, will be devoted to "Einfluss der äusseren Faktoren auf Insekten."

Flora of Guernsey and the Lesser Channel Islands. By Ernest David Marquand. Pp. viii + 501. (London: Dulau and Co., 1901.) Price 10s. 6d. net.

THE author of this work is to be congratulated on the way in which he has succeeded in his task of bringing up to date the state of our knowledge of a very interesting group of islands. The number of plants recorded in

this volume for Guernsey and the lesser islands collectively is as follows:—

Flowering plants	...	...	828	species
Ferns and fern allies	...	...	29	"
Mosses	..	...	156	"
Hepaticæ	...	...	41	"
Fungi	...	...	624	"
Lichens	...	...	334	"
Algæ	...	...	641	"

Total 2653 species

The flowering plants and ferns are arranged and named in accordance with the last (eighth) edition of Babington's "Manual of British Botany." Each island is separately dealt with, and separate indexes are given for Guernsey, Alderney and Sark—the other five islands, viz. Herm, Jethou, Lihou, Crevichon and Burhou, not requiring one. For Burhou, indeed, less than a score flowering plants and ferns are recorded.

From the descriptive notes we learn that Guernsey is the most densely populated island on the face of the earth—a fact which the visitor, rambling through its country lanes, would find hard to realise. During the last twenty years the fruit-growing industry—owing largely to the extremely favourable climate—has advanced enormously. "At the present day there are certainly scores, if not hundreds, of *miles* of greenhouses in the island. . . . Every week-day during the spring and summer months large shiploads of vegetable produce leave Guernsey for the English markets, as many as 28,000 baskets and crates having been dispatched in a single day." Owing to draining operations and increased cultivation generally some of the rarer local plants will, before long, certainly disappear.

The first record for each plant is given, and interesting notes on its native names and former and present uses, &c. On p. 156 we find a blunder—one, however, repeated in every local flora, and indeed in many much more pretentious works which we have consulted—the plant there noted by Mr. Marquand is certainly not *Lycium barbarum*, but doubtless *L. chinense*. This last is a very different plant from the true *L. barbarum*, which is a thorny small-leaved desert plant—a native of North Africa—which is not anywhere naturalised in Britain or the British Islands. *L. chinense*, on the other hand, is a Chinese plant which readily naturalises itself.

G. N.

Water and Water Supplies. By J. C. Thresh, M.D., D.Sc. Medical Officer of Health to the Essex County Council. Third edition, revised and enlarged. Pp. xv + 527. (London: Redman, Limited, 1901.) Price 7s. 6d. net.

THIS work deals with the chemical composition and physical characters of water; the various sources from which it may be collected; the different ways in which it may be polluted and the effect on health of such pollution; the interpretation of the results of chemical analyses of water; the methods of purification and softening of water; the quantity required for domestic and other purposes; the protection of water supplies; the means of storage and distribution; and the law on water supplies.

Thus it will be seen that the subject is considered from every point of view of importance to those who are interested in providing a good water supply for domestic or trade purposes, and that the work appeals to a wide clientèle, to whom we have no hesitation in confidently recommending it.

For general accuracy, clear exposition and arrangement of subject-matter, and for evidence of a wide practical experience on the part of the writer, this work deserves to take a prominent place in public health literature. The book is well printed and tastefully bound.