

THURSDAY, DECEMBER 1, 1910.

HISTORY IN BRITISH PLACE-NAMES.

British Place-names in their Historical Setting. By Edmund McClure. Pp. 349. (London: Society for Promoting Christian Knowledge, 1910.) Price 5s.

THE loving labour of an average lifetime, "studies in leisure hours extending over some thirty years and more," this work is an eloquent testimony to the value of the science of philology in the elucidation of historical materials. It is both a history and a valuable guide to the philology of British place-names "as they occur chronologically in authentic historical documents from 54 B.C. until A.D. 1154." In his last paragraph, the author explains why he draws a line at Stephen's death.

"The consideration of later records containing place-names is not worth pursuing, as the forms therein presented vary but little from those now in use, and the new terms introduced by the continental monastic orders, such as *Beaulieu*, *Rievaulx*, *Jervaulx*, &c., explain themselves" (p. 304).

The phrase "not worth pursuing" surely needs some qualification, and the explanation offered implies that the author is satisfied that later documents contain no material additions to his list of historical place-names.

Very appropriately, "a short summary of the modern methods employed in linguistic research" is given at the beginning, to "illustrate the statement in the text and show the truly scientific character of comparative philology" (p. 13). The text is mainly a history of Britain with the place-names worked in, the latter elaborately discussed in "notes" and footnotes. The thoroughness, as well as the duration, of the author's studies are well attested by the numerous catenæ of name-forms. The best authorities on place-names are cited. Yet the author exhibits throughout a commendable critical independence, as well as personal detachment from pet theories, or theories one would have liked to press from personal conviction. When he discusses rival theories, as in the case of the Picts and their language, he gives a clear idea of the situation.

Considering the great advance made in philology and historical criticism in the last thirty years, such a work as this is must have been periodically revised to a large extent. Specialists in certain lines of inquiry would have expected further revision of some of the information given. The author betrays a suspicion of the genuineness of Gildas's "Destruction of Britain," the spuriousness of which has recently been demonstrated by Mr. Wade Evans and others. In the discussion of sites of battles fought by Arthur, no reference is made to Mr. Anscombe's clever elucidation of the place-names. Sir John Rhys is, of course, the most frequent witness in the author's court, but while the latest edition of the classic "Celtic Britain" has been consulted, no reference is made to that eminent scholar's contributions to the British Academy and the Cymmrodorion Society within the last seven years or so. The author's remark that "the nucleus of the work has already appeared in a

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serial" sufficiently accounts for the belatedness, in these expeditious days, of some sections of the work. Finality in a work of such a comprehensive design is out of the question, and such omissions as those noted above affect only very slightly the unquestioned usefulness of the work as it is.

The author seems to have a very firm grip of the Scandinavian element in British place-names, a subject which is coming more and more to the fore. In his discussion of the place-names of Shetland and the Orkneys, which are "almost exclusively Scandinavian" (p. 227), the author leaves an impression that he is unwilling to go as far as his evidence goes, and one's attention is arrested by a doubtful deduction.

"As *Orkn* in Norse means a seal, *Orkn-eyjar* would seem a natural designation for these islands, but the term *Orc* in Orcades goes back to classical times, long before a Northman had put his foot upon them, and its meaning must be sought in the language of the earliest inhabitants" (p. 225).

The facts cited favour a theory of a very early occupation of the Orkneys by Scandinavians, and other evidence may be adduced to the same effect, but all that evidence must be laid aside, because the author is satisfied with some late date for such occupation, and with "classical" spellings of place-names in Britain. On general grounds, alleged dates of the beginnings of great racial migrations are open to a reasonable suspicion, and "classical" references to places in Britain cannot be accepted as final as against overwhelming local evidence.

The perusal of this scholarly, yet readable, book, in which history and philology are made to elucidate each other, opens up a vast field of inquiry, in which archæology, anthropology, and astronomy should also be requisitioned. We have given us an estimate of the value of documentary place-names. A companion volume on the documentary value of place-names in current use, or unrecorded in the documents examined by the author, would be very acceptable. The book is a marvel of compression, and an index of forty-five pages makes it a most welcome work of reference.

JOHN GRIFFITH.

THE CHEMISTRY OF THE ALKALOIDS.

Die Alkaloide. By Prof. E. Winterstein and Dr. G. Trier. Pp. vii+340. (Berlin: Gebrüder Borntraeger, 1910.) Price 11 marks.

SINCE Derosne and Sertürner isolated morphine, the crystalline principle of opium, about a century ago, the separation of the natural bases from plants has always taken a prominent place in chemical research. To-day the number of these substances exceeds two hundred, and the list is probably far from complete. The process of their isolation is usually accompanied by a study of their therapeutic value and by the more difficult and fascinating task of discovering their structure. Of the pioneers in this branch of chemistry, A. W. Hofmann stands in the forefront. Following the earlier discoveries of Gerhardt on the relation of the pyridine bases to the alkaloids, he was able by the aid of new and ingenious methods of dis-

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integration, to identify many of the products with derivatives of these bases. But, as the authors of the above monograph state:—

“The constitution of an alkaloid cannot be regarded as definitely ascertained until it has been artificially prepared in accordance with the formula and identified with the natural product.”

It is this last synthetic process which calls for the utmost resource and skill of the experimenter. The success which accompanied Hofmann's researches only served to emphasise the difficulties of the final synthetic stage. In spite of the magnitude of the task, Ladenburg accomplished the complete synthesis of coniine (the active principle of hemlock) in 1886. This was followed by Hantzsch's synthesis of trigonelline in the same year, and of piperine by Ladenburg in 1894. Perhaps the most brilliant of recent achievements in this region of research are the syntheses of the tropine alkaloids (atropine, cocaine, tropacocaine) by Willstätter, laudanoline, papaverine, and nicotine, by Pictet, and the purine bases by E. Fischer.

As it is improbable that any known alkaloid exceeds in complexity those the synthesis of which has been accomplished, it may be safely predicted that sooner or later all will be produced artificially. Interesting as this record is of past results and future promise, the real significance of these discoveries is much more far-reaching; for the peculiar physiological properties of the alkaloids has led directly to the study of the relation of atomic grouping to physiological action. The ceaseless activity which has been displayed in this direction, especially in the German laboratories, has thrown so much light on the subject that new drugs are constantly produced the therapeutic action of which closely imitates that of the natural product. This vast and ever-increasing mass of new observations has already been carefully compiled in a treatise by Pictet, and in several monographs by Schmidt.

With the exception of one chapter on the source and significance of the alkaloids in plant-life, to which reference is made below, there is nothing in the present volume which can be said to supersede those named. Like the latter, it is a compilation of the more important facts systematically arranged and brought up to date; but there is no attempt at literary embellishment, which renders Pictet's book so readable, nor are those full references given, which are indispensable in a book of this nature, and form so important a feature in its predecessors. The concluding chapter on the origin of the alkaloids in the plant is the most interesting in the book, not because it throws much new light on the problem, but rather because it reveals the enormous difficulties which surround it. The authors rely on the proteins for their raw material, which, it is well known, contain no pyridine, quinoline, or isoquinoline constituent. For these nuclei they have recourse to such protein products as lysine and arginine, which can conceivably be fused into rings and bring to their aid formaldehyde, and its reduction and oxidation products, methyl alcohol, and formic acid for further elaborating these simpler ring compounds. Theorising is a necessary part of every progressive science, and no fault need

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be found with the authors if they like to exert their ingenuity on so fascinating a theme. At the same time, it may be pointed out that, if protein materials are to be taken as the starting point, the origin of such compounds as tyrosine and tryptophane affords difficulties quite as great as those which surround the natural synthesis of the alkaloids.

J. B. C.

PRACTICAL GARDENING.

Manual of Gardening. A Practical Guide to the Making of Home Grounds, and the Growing of Flowers, Fruits, and Vegetables for Home Use. By L. H. Bailey. Pp. xvi+539. (New York: The Macmillan Company; London: Macmillan and Co., Ltd., 1910.) Price 8s. 6d. net.

PROF. BAILEY is already very well known to readers in this country as the author of numerous works upon various branches of scientific horticulture. His greatest work is a “Cyclopædia of American Horticulture,” in several large volumes, and containing an immense amount of information on American garden plants, contributed by a large number of specialists. The present work, though far less ambitious, will be found extremely useful to gardeners in the States, even to those with very little experience, for the author, specialist as he is, finds no difficulty in writing upon garden subjects in a manner easily understandable by amateurs.

In a large measure the work is a combination and revision of two former volumes, “Garden Making” and “Practical Garden Book,” and it constitutes a guide to the making of home grounds, and the growing of flowers, fruits, and vegetables for home use.

Gardening in the States is not so general or technical as it is in our own country, and most of those who attempt to practise it find a great difficulty at the very outset, for they have few good models available to inspire them with correct ideas. In a large number of instances the formal method of design and planting is given preference, and the ordinary formal garden in America has most of the blemishes such gardens possess at home, but few of the virtues that characterise this system of landscape gardening at its best. There are certain instances of first-rate formal gardening in America, but, as the author of “The American Flower Garden” pointed out recently, the public has seldom the opportunity to inspect them.

Prof. Bailey's advice on the formation of gardens is therefore very opportune, for whilst he does not show himself as a partisan of either of the opposed methods, he explains carefully and in great detail how to make the best use of both by adopting them to the special circumstances of site, aspect, altitude, soil, and climate. Having discussed the “point of view” with regard to laying out the garden and planting it, the author proceeds to relate in detail the treatment of the more important species of plants. The chapter on the protection of plants from things that prey upon them (pests) is unusually valuable, for Prof. Bailey has a rare experience of the subject. Chapters ix. and x. deal respectively with fruit and vegetables, and on these subjects cultural details are supplied on almost every crop. The crops are much the same as