

tific than the original, which, however, served a very useful purpose in the past.

A new edition of Johns's "Flowers of the Field" differs only from the last remodelled version, published in 1905, by the addition of the coloured plates. This addition is obviously a concession to the modern practice of supplying illustrations in colour. The drawing of the plants is good, but the colour and printing are uneven in the reproduction.

Dynamo Laboratory Manual for Colleges and Technical Schools. Vol. I., Direct-current Studies and Tests. By W. S. Franklin and W. Esty, with the cooperation of S. E. Seyfert and C. E. Clewell. Pp. viii+152. (New York: The Macmillan Company; London: Macmillan and Co., Ltd., 1909.) Price 7s. 6d. net.

THE advisability of publishing a laboratory manual which consists practically only of a reprint of the instructions given to the students in a particular college or university is a matter that is open to question. It may be objected that the instructions can only be of real value to those who have an equipment exactly the same as that in the laboratory of the authors, a coincidence that is likely to be rare, and that each teacher will preferably use instructions of his own, drawn up to suit the circumstances of his case. On the other hand, it may fairly be contended that such publications are of special value to teachers in that they enable them to compare their own methods with other people's, and to modify and improve their own courses as a result. From this point of view this volume, in common with others of the same kind, must be regarded as rather of value to the teacher than to the student. Indeed, as the instructions without the experiments are like the white of an egg without salt, the student can gain little from the present volume unless it is adopted by his teacher.

The volume deals only with direct-current machines. There is a short introduction dealing with general methods of measurement, &c., and the remainder of the book is divided into three parts, each describing sixteen tests. The experiments seem well chosen so as to bring out the more important points in direct-current dynamo work, and the instructions are full, if anything too full. There are a large number of clear diagrams.

The authors admit in their preface that their leaning is towards the purely pedagogical aspects of laboratory work; it is hardly the place in a review of a book written frankly on this basis to discuss whether this aspect is the best one, and it need only be said that, granting this premise, the course indicated in the volume before us seems admirably suited to get the most out of the laboratory training.

Mona's Records of the Earth's Changes. By Joseph Lewin. Pp. iv+100. (Douglas: Brown and Sons, Ltd., 1909.)

THIS is not, as might be supposed, a popular sketch of the geology of the Isle of Man. It is a description of certain highly hypothetical changes in the relations of sea and land that are held to have taken place within historic times. Five successive lowerings of the sea are said to have left their traces in wave-worn terraces, and these records were all formed in the last 2000 years (p. 39). Seeing that the Mona of Tacitus (p. 2) is moved by the author from Anglesey to the Isle of Man, we may well have doubts as to his historic judgment. One of the withdrawals of the sea is placed in 1538, so as to coincide with the enlargement of the shore near Pozzuoli; and such changes are attributed to movements of the axis of rotation of the earth, or to movements of the shell of the earth over

the axis of rotation. The author does not seem quite clear as to which of these he adopts; but his context usually conveys the latter impression. His style may be gauged from the following portion of a sentence, the whole being too long for quotation (p. 94):—"But, according to the wobbling state of the poles of our earth at present, as described by our scientists at the earthquake, that caused so much damage and loss of life at Messina, as described in the *Daily Mail*, our earth at any moment, with another great earthquake, may lose its centre of gravity at the Poles, and move again slightly in the same direction as it has already done. . . ."

The general underlying conception is that the British Isles are being carried nearer to the North Pole, and away from the bulge of waters round equatorial regions. Palestine (p. 99) is to profit by the next change, which is due in a few years. There are some interesting scraps from old chronicles throughout the book, which save it from being judged too severely as a scientific treatise. G. A. J. C.

Ancient Angling Authors. By W. J. Turrell. Pp. xiii+239. (London: Gurney and Jackson, 1910.) Price 3s. 6d. net.

IT is fortunate that our English ancestors did not all agree with Plutarch in regarding fishing "as a filthy, base, illiberal employment," for the works which they have left us in praise and honour of the angler's art contain a valuable history of both tackle and methods. The fisherman has for a long time enjoyed a poor reputation for truthfulness, and Mr. Turrell exposes the angling author as a most unblushing plagiarist; but in spite of these shortcomings they are both excellent companions.

The respectable antiquity of many methods, reputable and otherwise, practised to-day is certainly remarkable; in 1657 one Barker had already discovered the use of salmon-roe as a bait, and salmon-fishing with the prawn was known in 1740. While Cotton (1676) may claim the credit of first describing how to take trout in clear water with the worm, the exact history of dry-fly fishing appears obscure, and cannot be definitely traced beyond the early part of the eighteenth century. So long ago as 1600, Taverner was recommending that fish-ponds should lie dry every other year, as is, we believe, the modern German practice, and ten years earlier Mascall had discussed the best methods of preserving fish.

There is, however, one habit of our ancestors which we have fortunately abandoned, to wit the anointing of our baits with strange and horrible unguents to attract the fish; from the beginning of the seventeenth to the middle of the eighteenth century recipes for the compounding of these form part and parcel of the current angling literature, and it is small wonder that these medleys of man's fat, cat's fat, assafoetida, mummy dust, and turpentine called forth the anger of Dr. Martin Lluelyn on those whose

"pastes fox Rivers throat, . . .
That from May to parcht October
Scare a Minew can sleepe sober."

With the help of Mr. Turrell's little work and its really admirable index, much further information as to the early history of various parts of the angler's equipment and the different forms of his art may be readily gleaned, and the various subjects touched upon will be found to be explained by copious extracts from contemporary books. Nor must it be supposed that we are dealing with a mere compilation; Mr. Turrell has obviously gone to the very fountain-head for his information, and he is at times able to correct the errors of his predecessors and to throw fresh light upon doubtful points.