

grasp than those of the higher animals and plants. On the other hand, if too differentiated types be selected, the mass of detail becomes somewhat embarrassing. One may doubt, however, whether the earth-worm is the best selection that might be made, on account of its small size and the rather skilful dissecting it requires. To those who do not accept the annelid origin of the vertebrates, its supposed central position and clear relation to the animals above it are not so apparent.

A novel and most valuable feature of this book is the attention devoted to physiology and embryology. This method of treatment will no doubt prove most attractive and stimulating to the student, as well as give him a much more just and adequate conception of the subject than is possible from anatomical methods alone.

As a whole, the work is excellently done, and the points to which one may wish to take exception are of minor importance. There is not quite enough distinction between fact and inference. For instance: while few naturalists reject the theory of evolution, it seems hardly in place in an elementary text-book. Huxley's example, in respect to matters of theory, is a good one. Then, too, the amount of physics and chemistry is somewhat unnecessary: if the student knows the elements of these sciences, it is superfluous; if not, it is insufficient. But these slight criticisms notwithstanding, we can sincerely congratulate the authors upon their work, and cordially commend it as a very valuable aid to teachers.

The publisher's share of the book is excellent as to print and paper, but the execution of the illustrations is not all that could be wished. Unfortunately this is a complaint that must very frequently be made of American scientific books.

ABBOTT'S UPLAND AND MEADOW.

THE author of 'Upland and meadow,' Dr. C. C. Abbott, tells us the secret of his success on the very first page. To him every half-acre is an inexhaustible zoological garden, every creature is companionable, amusing or instructive or both, and thus no ramble can be lonely, nor even the shortest walk through the tamest region uninteresting or uninteresting. But, like many other secrets, this is of little use to any except those fortunately to the manner born.

The relation between the author and his (generally feathered or furry) friends is not merely one of companionship, but of good-fellowship, comradeship. There is a sympathy between them. He continually tries to put himself in feeling in their

place, not only by his kindness, but by the practical jokes which he plays upon them (see pp. 76-79 and 209) and his keen enjoyment when they use the opportunity to laugh at him. The questions which he answers, and the experiments which he tries, are those which would occur to no mere anatomist or pure systematist, but only to one to whom all nature is in a certain sense akin, and who desires an *inside* view of it. And this, combined with a keen sense of the humorous and a command of a simple style and plain English, constitutes the great charm of the book.

We cannot but feel, however, that what he sees in the birds is often a reflection of his own keen humor; that he often transfers to their minds trains of thought which really exist only in his own; and that, while his observation may be entirely correct, his inferences from them are those of a warm friend rather than of an impartial judge. But one is disposed to pardon the author for this, especially while reading his pages.

The book is throughout a study of animal life, not of dead animals. It is a plea for the study of life-histories, of the habits, instincts, feelings, and thoughts of the common animals. It is a book which would encourage boys to observe, and give the young naturalist an introduction to a field for work unfortunately too sadly neglected by the present generation of scientific men. Why should not every one have a 'Poetquissings Creek'? Every one knows of similar streams, with their uplands and meadows teeming with a life of which we know practically nothing. It is hard to see how any one can read the bright and attractive pages of this book without making a firm resolve to observe more widely and carefully than he ever has before; and a book which will make boys and girls, and men and women, more observing is certainly doing the very best educational work. If love to being in general is the essence of virtue, we shall all certainly be the better for reading it. But the scientific man will also find in it much useful information, and many valuable observations of the occurrence and habits of some of our less known and studied animals.

ACCORDING to the *Lancet*, a new anaesthetic has been discovered in Australia. It is called drumine, and is obtained from the *Euphorbia Drummondii*. It is local in its action, and has certain advantages over cocaine, which is now so extensively employed for local anaesthesia. Its effects are as yet not sufficiently understood to warrant the acceptance of all that is claimed for it; but it will doubtless be investigated further, and its efficacy and value be more thoroughly established.

Upland and meadow: a Poetquissings chronicle. By CHARLES C. ABBOTT, M.D. New York, Harper, 1886. 12°.