

it is unsafe to build where one has ever passed. The house in Pickens county stood on a hill from which a log-cabin had been blown away some thirty years before. I witnessed the last of three, which have passed along the same track. Near Hernando, Miss., three have followed an unvarying line." He suggests that some places are more favorable than others for the production of these storms, which would make them of a more local character than Mr. Finley would be willing to admit.

While Mr. Finley's work, like that of all others, is capable of improvement, the writer believes he has done great service to this branch of science, and deserves the sincere gratitude of both the student of science and the resident in tornado districts. In enabling him to pursue his investigations, the signal service deserves the commendation of the scientific and general public.

ZIEGLER'S PATHOLOGICAL ANATOMY.

A text-book of pathological anatomy and pathogenesis.

By ERNST ZIEGLER; translated by Donald McAlister. London, *Macmillan*, 1883. 360 p. 8°.

THIS book is a translation, from the German, of a portion of Professor Ziegler's work on pathological anatomy, which appeared two years ago. The work is not as yet completed in German, nor does the translation contain all that has yet been published, covering only the ground of general pathological anatomy.

Professor Ziegler is a young man who has already gained distinction in Germany by his original investigations in connection with tuberculosis and certain of the processes involved in inflammation.

The scope of the present work is to afford to students and physicians a text-book which shall give a short and concise statement of what is known upon the subjects treated, including the results of the most recent investigations.

The book opens with a section of three chapters on malformations. This is condensed and dry; and further, as there are no plates to illustrate the monstrosities, the student wishing to acquire a knowledge of this difficult subject will do better to fall back upon the earlier monographs of I. G. St. Hilaire, Foerster, and Ahlfeld.

Then follow four chapters on the pathology of the blood and lymph, which, though short, are very good, containing essentially what is known upon the subject. Very little space is devoted to thrombosis and embolism; but this is not a neglect on Ziegler's part, as he treats

of it in detail in that portion of the book which has not yet been translated.

The succeeding chapters on the retrograde disturbances of nutrition are worthy of much praise, giving as they do a very clear, though concise, account of these changes, including also the results of the latest work on coagulation-necrosis.

The chapter on cysts, consisting of but a single page, is incomplete, and does not treat with sufficient fulness this important subject.

The three chapters devoted to hyperplasia, regeneration, and metaplasia of tissues, give a good account of the somewhat meagre knowledge on these points.

In treating of inflammation, the author gives a short historical sketch of the ideas held at various times upon the conditions present in this process, and then devotes considerable space to the ideas now in vogue, as expressed by Cohnheim, Samuel, and others; the exudation from the vessels, due to presumable changes in the vessel-wall, now forming the anatomical basis. The parenchymatous inflammations of Virchow find no place in the category, nor will Ziegler allow that the connective-tissue corpuscles take any part in the process, as advanced by Virchow, and still maintained by von Recklinghausen.

The secondary changes occurring in the products of an inflammation are well treated; a point in regard to which Ziegler has himself contributed some original work.

The infective granulomata are removed from the category of tumors, and are classed with the inflammations. Under this head are considered tubercle, syphilis, leprosy, glanders, lupus, and actinomycosis.

The anatomy of tubercle and its development are fully and well treated, and the relation of the *Bacillus tuberculosis* to the disease detailed so far as the present knowledge permits.

Virchow's classification of tumors is adopted, with the exception, as already stated, of the omission of the granulation-tumors. In reference to the aetiology of tumors, the author does not regard Cohnheim's embryonic-foci theory as sufficient to explain all cases, though undoubtedly applicable to many.

Of the increasing importance of the subject of parasites in relation to disease, no better proof is to be found than in the greater number of pages devoted to this point in the newer books; and among the parasites the *Schizomycetes* claim the lion's share of attention.

The author gives Cohn's classification of the latter, together with a description of their gen-

eral morphological characters. He then devotes considerable space to a consideration of the conditions, such as temperature, nutritive substances, and the like, favoring their growth; their effect in causing the groups of changes included under the terms fermentation and putrefaction; finally, discusses their relation to disease. Of their method of action, he very properly refrains from expressing an opinion.

The list of pathogenic microbia, according to Ziegler, is a larger one than the strictly cautious observer will admit. For, to go beyond as a proven fact that specific organisms have been found in connection with other diseases than anthrax, relapsing fever, septicaemia of mice, and probably with tuberculosis, glanders, malignant oedema, and, under the *Hyphomycetes*, actinomycosis, is, in the present state of our knowledge, unwarrantable.

In regard to the mutability of bacteria, the views of various writers *pro* and *con* are given, but no definite conclusion is expressed.

To the *Hyphomycetes* a chapter is devoted; and, while giving a very good account of what is known in regard to their pathogenic qualities, one can but be impressed with the fact of the extreme meagreness of knowledge of the relation which the ever-present mould-fungi bear to disease.

The chapter on animal parasites contains nothing of special interest.

The book as a whole shows evidence of having been written by a young man. All that is new has special stress laid upon it, while the work of the earlier generation receives less attention. The author inclines to state things positively, with but little of the cautious scepticism which marks the writings of the older and more conservative worker who is prepared to weigh every objection, and combat every point.

This latter quality, however, does not in the least detract from the value of the work, for the object for which it was intended; on the contrary, much enhances it. For nothing can be more disheartening to the student beginning a subject, than to be plunged at first into that mire of doubt which is ever present for him who attempts a deeper insight into a science.

The English translation is a remarkably good one. It is certainly as agreeable as it is rare, to read a smooth translation, where one is not constantly reminded of the tongue from which it had its origin.

The letter-press and wood-cuts are much superior to those usually found in text-books; and Macmillan deserves with Dr. McAlister the thanks of the English-reading profession

for presenting Professor Ziegler's work in so attractive and readable a form.

As a text-book for students, physicians, and those men of science who are interested in the sciences upon which medicine rests, it fills a gap which has long been felt.

ECONOMIC ENTOMOLOGY IN ENGLAND.

Report of observations of injurious insects during the year 1882, with methods of prevention and remedy, and special report on wire-worms. By ELEANOR A. ORMEROD, F. M. S., etc. London, 1883. 98 p., illustr. 8°.

THIS is the fourth of a series of reports prepared by Miss Ormerod for the use of the farmers of Great Britain. The plan of these reports is peculiar. They consist largely of abstracts from the writer's correspondence; the greater part of which is presumably in reply to circulars issued by her. In thus collecting and publishing the results of the experience of the more observing agriculturists, Miss Ormerod is doing an important work, and the enthusiasm and energy which she has displayed in it are deserving great praise. It is fortunate, however, that she has not confined herself to the work of compilation, but has recorded the results of personal observations. And we venture to suggest that what she states on her own authority will be read with more interest than the quoted portions of her work. For no one but herself can judge of the relative value of the conclusions of her various correspondents. We realize, however, that the publication of the reports of these correspondents is probably a considerable part of the incentive to their co-operation with her; and the system has produced such good results that one should be slow to criticise it.

The report for 1882 contains notes on more than thirty different species of insects infesting fruit, garden-vegetables, field-crops, and forest-trees. The most serious injury recorded for that year is that to hops by Aphides. It is estimated that the loss to the hop-growers of the United Kingdom from this cause was not less than £1,750,000. This injury is the greatest which has been incurred for many years.

Nearly one-half of the report is devoted to an article on wire-worms, or click beetles. This article was compiled from notes contributed in reply to a circular issued by the council of the Royal agricultural society, and it doubtless gives a very good idea of the popular beliefs now held in the British isles respecting these pests. We wish that the above-named society