

and it is shown that the greater number simply hinder the development of bacteria, and in no way destroy their powers when they are again placed under suitable conditions.

The little volume may be summed up as clear and concise, well illustrated, and inexpensive.

Dr. Black has adopted a rather high sounding title for a course of lectures delivered to the students in the Chicago college of dental surgery. There is no evidence that he has worked practically at the subject, and the generalizations to which he is inclined have to be made entirely upon the work of others which he has not controlled. He thinks that all the processes causing cell destruction or absorption are a sort of digestion, and that micro-organisms act by digesting the cells, or else they are digested by them. Perhaps, if the subject-matter had been a little more digested by the author, he would not have felt himself called upon to publish these lectures.

BILLINGS'S VENTILATION AND HEATING.

THIS book is a reprint, in revised form, of a series of articles which appeared in *The sanitary engineer* in answer to a typical questioner who asked for a rule-of-thumb method for solving problems in ventilation, and who failed to recognize the legitimate relation between 'long-winded discussions on the physics of gases,' and ventilation. The author urges a thorough knowledge of the mechanics of gases, and of the laws involved in their free and constrained movement, as essential to any competent judgment upon the solution of the various pneumatic and thermal problems peculiar to heating and ventilation.

Pecuniary rather than constructive or functional difficulties are stated to be the most serious encountered in providing good ventilation. A partial antidote for scepticism as to the efficiency of any method, because of the frequent entire or partial failure of elaborate and costly systems put to the test of actual use, appears in the description given of systems in successful operation in various types of buildings. If the causes of failure in less successful undertakings had been clearly pointed out, the faith of many would have been still further strengthened. A discussion of the comparative cost of heating, with and without conjoined ventilation, would also have served the good

purpose of furnishing needed information, and of allaying any undue apprehension growing out of the author's statements which make ventilation dependent on liberality of expenditure. The ordinary cost of ventilation does not necessarily represent the minimum cost under conditions of maximum economy and efficiency; and it is along these lines that the progress is to be made which shall inspire confidence, and create demand.

The book is a valuable contribution to the literature, rather than to the science, to which it pertains. It furnishes a clear statement of the fundamental principles involved in the art of heating and ventilation, and describes its methods and results in their application to the numerous and varied illustrations cited. In style, the book is fresh, vigorous, and perspicuous; the occasional flashes of the author's individuality lending a charm the more complete because unmarred by dogmatism. Though occasional statements may provoke marginal interrogation-points, the book is an eminently safe guide, and easily takes a leading place among the works of its kind which have appeared in American literature.

NOTES AND NEWS.

It is suggested by G. P. Putnam's sons of New York to secure for the publications of societies the same advantages that are possessed by the issues of publishers, by having them fully described in a priced and classified catalogue, to be made up, say, twice a year, and to be distributed as widely as are the book-lists of publishing-houses. There are at present in the United States some seventy scientific and historical associations which issue in the course of the year transactions, proceedings, or monographs. Many of these publications possess an interest and importance for the general public, and find sale outside of the special circles of the members of the societies for whom they are more particularly prepared. The general sale of such society publications could be materially increased, to the advantage as well of the special interests they are planned to further, as of the various publication-funds, if provision were made for some trustworthy means by which the general public might secure prompt information concerning the works issued, and for some regular channel through which could be supplied the increased demand that such information would unquestionably induce. Each society whose publications are included in the catalogue, will, under the plan proposed, contribute a small annual payment towards the cost of its preparation, while the publishers will assume the payment of such deficiency as may remain.

— D. G. Brinton of Philadelphia announces as in press "The Lenapé, and their legends; with the com-

Ventilation and heating. By J. S. BILLINGS. New York, *The sanitary engineer*, 1884. 8^s.