The things saved out were used by the children for two or three days. The rest of the rubbish was burned. Near the last of December the three children were taken sick with scarlet-fever."

The diagram (A) exhibits in a condensed form the experiences of the health-officers in Michigan relating to scarlet-fever during the year 1886. It shows, that, in the 324 outbreaks, the average number of cases was 5.30, and the deaths were .31 ; that in the 45 outbreaks in which isolation or disinfection, or both, were neglected, the average number of cases was 13.84, and the deaths 1.02 ; that in the 58 outbreaks in which isolation and disinfection were both enforced, the average number of cases was only 2.74, and the average number of deaths .19, the difference being an average of 11.10, and .83 deaths, indicating a saving in these 58 outbreaks of 644 cases and 48 deaths. This saving is shown not simply by comparison with those outbreaks in which nothing was done, but also with outbreaks in which either isolation or disinfection was enforced.

A table (compiled in the office of the secretary of the State board of health, from reports made by local health-officers) giving the basis for the diagram and foregoing statement is as follows : —

SCARLET-FEVER IN MICHIGAN IN 1886.

	(1) All Outbreaks. (324 Outbreaks.)		(2) Isolation or Disinfection not mentioned, or Statements Doubtful. (220 Outbreaks.)		(3) Isolation or Disinfection, or Both, Neglected. (45 Outbreaks.)		(4) Isolation and Disinfection Both Enforced. (59 Outbreaks.)	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Totals....	1,716	100	914	41	623	46	179	13
Averages.	5.30	0.31	4.15	0.19	13.84	1.02	3.03	0.22

BOOK-REVIEWS.

Geology, Chemical, Physical, and Stratigraphical. Vol. II. By JOSEPH PRESTWICH. Oxford, Clarendon Pr. 8°.

THE present volume of Prestwich's 'Geology' treats of stratigraphy and physical geology, — the history of the earth as traced from the study of strata and fossils. In the first volume of this great work, which appeared in 1886, the composition of rocks, and the changes brought about in them by the various meteorological agencies on the surface, and by thermal and chemical action at depths, were discussed, and the nature of the disturbances which the rocks have undergone by the action of subterranean agencies, the elevation of mountain-chains, and the manner of volcanic action, were described. This discussion of dynamic geology is now followed by a geological history. As the handbook is mainly intended for use in Europe, the geological history of Europe, more especially that of Great Britain, is treated more fully than that of other countries ; but the author, after having described the geological history of a period in Great Britain, gives a sketch of the contemporaneous course of events in other parts of the world.

The volume deals naturally with two classes of geological data, — paleontological and physiographical. The description of the evolution of life in the various periods and areas is profusely illustrated by carefully selected illustrations, part of which are printed in the text, while others are shown on lithographed plates. The cuts show the characteristic classes and orders which are peculiar to the greater divisions, while the plates show characteristic genera of each group. In discussing the lesser divisions of formations, figures representing important species are inserted in the text. By this arrangement of illustrations, and by a careful choice of the best among the available material, the author has succeeded in making the volume very instructive and useful to the student. He dwells at some length on the results of recent discoveries, and on the important part played by sponges and foraminifera in building up certain sedimentary strata. The relation of the globigerina ooze of the deep seas to the chalk is fully discussed ; and the author shows that the physical conditions of the deep sea of the present time, with its cold polar water, and those of the cretaceous sea, which was probably not so deep, and certainly not so cold, were so different that their deposits must necessarily be different. He compares the chemical and physical composition of the chalks to that of the globigerina ooze, and shows that the former is far purer than the latter, and that no equivalent deposit is forming at the present time. "The conditions under which it was deposited were peculiar and special ; and, though it presents many points of analogy to the calcareous ooze, there are none of identity ; and the chalk stands alone among the British strata in its peculiar structure and origin. It is for these reasons that I have taken the opportunity of making the foregoing remarks, not because the chalk forms an exception to the general rule of constant change, but because its features are so clear and so well marked that it serves better than most other deposits to illustrate this law of unceasing variation."

The range of genera and species of the same period through space is also briefly described. The geophysical problems which geological history has to treat are wisely confined to the concluding chapters, where the student will find the most important theories held by physicists discussed, so far as they can be proved or refuted by geological data. The author himself advocates the theory of a thin crust, a solid nucleus, and a viscous magma between the two, as he believes that the motions of the earth's crust can only be explained by such a theory.

The volume has a very full index, and is accompanied by a geological map of Europe compiled by William Topley and T. G. Goodchild. The colors adopted resemble, for the most part, those proposed by the International Geological Congress, with the exception of the Trias, Permian, and Siluro-Cambrian, for which the tints more familiar to English geologists were retained.

NOTES AND NEWS.

ABOUT one hundred and fifty scientific men and women of Washington gathered in the hall of the Columbian University on the evening of Thursday, April 5, to pay their tributes to the memory of Dr. Asa Gray, the eminent botanist, and to listen to addresses by several of his intimate friends and co-workers. The president of the meeting was Professor Langley, secretary of the Smithsonian Institution, who opened the exercises with a brief tribute to the memory of Dr. Gray. Professor Chickering delivered the first address, giving a sketch of the life and life-work of Dr. Gray, tracing the gradual unfolding from the pioneer's life of boyhood to the finished scholar and true scientist of middle and later life. The world is indebted to him, he said, for popularizing botany. He put into plain English that which interested people. He had a genius for work. Work was a delight. He was never in a hurry. He had time for social enjoyment with his friends, as well as for investigation and the preparation of a great number of books. He conducted a very large correspondence, but he economized time and labor even in this. He often returned a letter containing a great number of questions with simply 'yes' or 'no' written at the bottom of each. Professor Chickering also spoke of the honors that had been heaped upon him. He was a member of the Royal Society of London, and, of the Institute of France, one of the eight immortal foreign members. Professor Chickering spoke of the last year of his life as the happiest, and closed with an eloquent tribute to his memory. Dr. Vasey of the Agricultural Department spoke of the influence Dr. Gray exerted upon botanical science. He began with a review of the state of botanical knowledge before his time, spoke of his studies under Dr. Torrey in New York, of his botanical text-books, and of his investigations of the collections made by the government and by private individuals. He spoke in detail of his work ; said that during his lifetime the number of known botanical species upon the continent of North America had increased from 4,081 to more than 11,000, and the number of volumes of his school-books published was more than half a million. Prof. L. F. Ward of the National Museum spoke of Dr. Gray's relations to the discovery of the theory of evolution, showing that Mr. Darwin had the greatest confidence in him, and intrusted to him, almost before he did to any other, the secret of his great discovery. Dr. Gray was one of the first to understand and appreciate the importance of Mr. Darwin's work, and did more than any other to make it acceptable