

water supply contaminated with the discharge of a person suffering from one of these diseases have now been observed and recorded in sufficient number, and with enough accuracy, to have convinced both scientific men and the public that this is the most common cause of great outbreaks of these diseases, and that the spread of the specific bacteria which produce them is the means by which such impure waters produce their destructive results. The work of Professor Mason presents abundant evidence of this in the form of statistics of different cities, and of records of individual outbreaks, and gives a fair summary of existing methods of testing and of purifying water supplies. In the chemical part of the book the writer gives his own experience in water analysis, and the directions are clear, concise and well up to date. He confirms Dr. Smart's remarks as to the importance of the rate of evolution of the so-called albuminoid ammonia, in the distillation process, but it is curious that no allusion is made to the fact that the prolonged giving off of albuminoid ammonia indicates, in many cases, the presence of urea, and, therefore, of sewage, in the water.

The chapter on the artificial purification of water is a good summary for the general reader, but it is not made as clear as it should be that, in large sand filtration plants, no single filter bed should exceed a certain size, say one acre, and that the effluent from each filter bed should be tested bacteriologically at least once a week, and in many cases once a day. In other words, a small bacteriological laboratory and the services of a skilled bacteriologist are essential features of such a system of filtration.

Among other epidemics of typhoid fever described is the well known one at Lausen, in which the infected water passed through the base of a mountain, and such passage was demonstrated by adding salt to the water. Flour was also added, and did not pass through, but it is doubtful whether this is a satisfactory proof that the water was really 'filtered' in its passage.

Taking it altogether this is decidedly the best book on water supplies that has yet been produced for American readers and as such it is cordially commended.

SCIENTIFIC JOURNALS.

PSYCHE, MAY.

THE leading article by Prof. V. L. Kellogg gives a general account of the Mallophaga, with a key to the genera. W. S. Blatchley continues his account of the winter Coleoptera of Vigo Co., Ill., and Mr. A. P. Morse his notes on N. E. Tryxalinæ. J. W. Folsom examines the types of Packard's *Papirius texensis*, and finds two species among them, one a *Papirius*, the other a new species of *Smynthurus*, which he describes. H. G. Dyar describes the larva of *Cautethia grotei*. T. D. A. Cockerell reviews Dalla Torre's recent catalogue of bees, and F. C. Bowditch gives some notes on the habits of two beetles. Miscellaneous notes complete the number.

THE PSYCHOLOGICAL REVIEW.

THE articles in the May number are researches from the psychological laboratories of Chicago, Harvard and Wisconsin. From Chicago, Prof. Angell and Dr. Moore report on reaction-time experiments in which the attention was alternately concentrated on the attention and on the movement, the stimulus being a sound or a light, and the movement being made with the hand, foot or lips. The reaction-times were on the whole shorter when the alteration was motor, but not to the extent nor with the regularity claimed by the Leipzig experimenters, and the distinction tends to be obliterated or reduced by practice. The authors discuss their results in their relation to attention and habit. In a second research from Chicago, Mr. L. G. Whitehead communicates experiments on visual and aural memory which show that of the thirteen observers tested, ten were able to memorize more rapidly when the series was seen and two when it was heard, while in one case the result was doubtful. Matter memorized aurally appeared to be retained slightly better than that memorized visually.

Dr. Edgar Pierce, now of the University of Michigan, publishes experiments carried out in the Harvard laboratory on the aesthetics of simple forms with special reference to eye movements. He determined the preferences of different observers for figures in different positions,

and concludes that an object satisfies æsthetic demands when the objective conditions fulfill the suggestions aroused by it. Mr. Lough describes a new perimeter made for the Harvard laboratory in which the stimulus is stationary and the fixation point movable.

Mr. F. E. Bolton has repeated and varied, with students at the University of Wisconsin, the experiments on the accuracy of recollection and observation suggested by Prof. Cattell and published in this JOURNAL (Dec. 6., 1895). The scientific students showed greater accuracy of observation and memory than the classical students, and this held even in regard to literary information. The average of the classical students gave 1839 as the date of Victor Hugo's death!

Under Discussion and Reports are given the discussion by Profs. Ladd and Baldwin on consciousness and evolution before the American Psychological Association; Dr. Nichols claims that the existence of specific nerves for pain has been proved; Prof. Herrick writes from his own experience on the testimony of heart disease to the sensory facies of the emotion, and Mr. G. M. Stratton discusses the relation between psychology and logic.

The number concludes with reviews of recent psychological literature, contributed by sixteen writers, and notes.

SOCIETIES AND ACADEMIES.

BIOLOGICAL SOCIETY OF WASHINGTON, 260TH MEETING, SATURDAY, APRIL 18.

WM. H. DALL exhibited two skins of the Glacier or St. Elias bear of Alaska (*Ursus Emmonsii*, Dall), kindly lent for exhibition to the Society by Mrs. Admiral Emmons. He stated that the skins from which the original description in SCIENCE (N. S. II., p. 87, July 26, 1895) was made, were probably summer skins, the hair being shorter and darker than in those shown, which appear to be winter skins, in which the larger part of the hair is white and much thicker and more woolly, the general tint being hardly darker than in the gray wolf of Alaska. These skins had been dressed and trimmed by a furrier, so that the extremities of the head and

limbs were defective, but the peculiar breadth of the head and the remarkable bluish gray coloration of the entire coat indicated an animal specifically distinct from any American bear hitherto known, but more nearly allied to the black than to the brown bears. This opinion, he said, is shared by Dr. Merriam, Mr. True and other students of mammals who have examined them. Earnest efforts are being made to obtain a skull and skin suitable for mounting during the present season.

Under the title "*Preliminary Notes on Middle Cambrian Medusæ*," Chas. D. Walcott, of the U. S. Geological Survey, briefly outlined the character and scope of an extended review of the fossil medusæ, prepared by him. He stated that the preliminary announcement of a review of the fossil medusæ of the Middle Cambrian terrane must be modified, as during the last two months the scope of the work had been broadened and a memoir including not only the fossil forms of the Middle Cambrian, but also those of the lower Cambrian and of the Jurassic of Europe, had been practically completed.

A description was given of the mode of occurrence, conditions and manner of preservation, and the interrelations of the fossil and living medusæ, including an account of some interesting experiments that he had made of the phenomena attending the preservation of recent or living forms.

The numerous plates with which the memoir will be illustrated were shown, 45 being devoted to fossil forms and 7 or 8 illustrating the relationship to recent species.

B. E. Fernow described a *Pine Coppice* in New Jersey, being a remarkable area known as the East and West Plains of nearly 15,000 acres extent, covered with a growth of *Pinus rigida*, sprouting from the stump.

In spite of the poor, shallow, sandy gravel soil with an impenetrable subsoil, hardpan and bog ore underlying it and a periodic recurrence of fires, these pines maintain themselves in a regular coppice. Among the specimens exhibited there was a root bearing two sprouts which had evidently been developed into trees one after the other, the older burnt out, the younger showing 83 years of growth, pointing to a persistence of the root of probably over 150 years.