which are essentially Magellanic, and all three of the littoral species are related to the Magellanic fauna. The examination of the anatomy of the various forms preserved afforded opportunity for morphological notes of interest, especially those bearing on the relations of *Modiolarca, Philobrya,* etc. The cephalopods were represented only by beaks of cuttlefish found in the stomachs of seals and penguins more or less demoralized by digestive fluids and incapable of identification.

These brief indications will show how much this series of memoirs is likely to add to our knowledge of the Antarctic regions, and how much science is indebted to the intrepidity of the explorers and observers on board the *Belgica.*

W. H. DALL.

SCIENTIFIC JOURNALS AND ARTICLES.

WITH the March issue the *Bulletin of the Michigan Ornithological Club* (quarterly) enters upon its fifth volume. The issue opens with the account of 'The Discovery of the Breeding Area of Kirtland's Warbler,' by Norman A. Wood, which is practically a full life history of this race species with an account of its breeding habits. The article is illustrated by a frontispiece showing the male and female beside a nest; a photo of the egg and other views showing the nesting situation and nature of the country (Oscoda County, Mich.). Chas. C. Adams follows with an article on the 'Migration Route of Kirtland's Warbler,' which is illustrated by three maps. Under the head of Michigan Ornithologists is given a full-page plate of A. H. Griffith, director of the Detroit Museum of Art. Professor Walter B. Barrows, of the Michigan Agricultural College, announces 'A Forthcoming Bulletin on Michigan Birds' to be published by the agricultural college, and requests information from students in the state. Space is given to the Michigan Audubon Society which was organized February 27, 1904, as an auxiliary to the Michigan Ornithological Club, for the protection of birds in the state.

SOCIETIES AND ACADEMIES.

EXPERIMENTAL PSYCHOLOGY.

A MEETING of experimental psychologists was held at Cornell University, April 4 and 5. The session of Monday morning was opened by Professor L. Witmer with a paper on the 'Laboratory Investigation of Backward Children.' This was followed by a discussion of various phases of the reaction experiment, in the course of which the following papers were read: Professor C. H. Judd, 'Analysis of Movements made in Simple and Complex Reactions'; Dr. G. M. Whipple, 'The Simple Reaction as a Test of Mental Ability'; Professor C. E. Seashore (read in absence), "The Psychological Term 'Observer.'" Professor Witmer also spoke on 'Shortest Reaction Values,' and upon the 'Difference between Sensory and Muscular Reactions.' At the afternoon session, Professor Judd read a paper on 'Eye Movements studied by Photography, with Special Reference to the Müller-Lyer, Poggendorff and Zöllner Figures'; Mr. H. C. Stevens outlined a 'Study of Attention by the Method of Expression'; and Dr. J. W. Baird spoke upon recent investigations in perimetry.

The session of Tuesday morning was opened by Professor E. C. Sanford, with a report of Dr. Kuhlmann's experiments upon idiots. Mr. C. E. Ferree emphasized the importance of adaptation in fluctuations of the visual attention, and Professor W. B. Pillsbury discussed the 'Influence of Closing Eyes upon Attention Waves.' At the afternoon session Professor Pillsbury read a paper on 'An Apparatus for Investigating Torsion during Eye Movement, with some Results'; Professor Judd spoke upon the 'Imitation of Tones, With and Without Distraction'; Professor Sanford demonstrated a novel form of color mixer, and Mr. G. H. Sabine a 'Speed Regulator for the von Frey Limen Gauge.' The remainder of the afternoon was devoted to a business meeting, and to an inspection of the psychological laboratory. At an evening session, held in the psycho-educational laboratory, Dr. Whipple spoke upon 'Some Difficulties in the Use of the *A*-Test,' and demonstrated an apparatus for determining the relative legibility of the small letters.

The following papers were read by title: Dr. J. W. Baird, 'Convergence and Accommodation in the Perception of Depth'; Miss M. Castro (paper introduced by Professor J. R.

Angell), 'An Outline of an Experiment Investigating the Interrelations of Taste and Smell'; Mr. C. E. Galloway, 'Fluctuations of Attention and Vasomotor Waves'; Professor E. B. Titchener, "The 'Psychophysical Series' as a Training Experiment: Methods, Results and Computation"; and 'Type *vs.* Instruction in Psychophysical Work.'

It was decided that a similar meeting should be held in 1905; and Professor Münsterberg's invitation to the psychological laboratory of Harvard University was gratefully accepted, with the understanding that the meeting should be transferred to Clark University in case of any interference with Professor Münsterberg's plans.

PHILOSOPHICAL SOCIETY OF WASHINGTON.

THE 582d meeting was held March 12, 1904.

Dr. A. F. Zahm continued his paper begun at the previous meeting, discussing several specific problems in aerodynamics in the light of the constants he had determined experimentally; he pointed out that some of the forms of flying machines of noted experimenters had an excessive amount of skin friction, and showed some of the conditions of maximum efficiency in such machines.

Mr. G. K. Gilbert spoke on 'The Feasibility of Measuring Tides and Currents at Sea.' This problem appeals to the geologist as well as to the hydrographer. It was suggested that a hollow vessel might be anchored at some distance below the surface of the sea, containing a registering pressure gauge on which the superincumbent column of water acted. Various forms of gauges were discussed as to their range, sensibility and adaptability.

CHARLES K. WEAD,
Secretary.

THE ACADEMY OF SCIENCE OF ST. LOUIS.

AT the meeting of the Academy held on March 21, Professor W. L. Eikenberry delivered a lecture on the 'Principles of Ecology and the Development of Plant Societies.' He showed that the science of botany had been greatly advanced by the study of plant-ecology or plant-sociology, *i. e.*, by the study of plants in their external relations to each other, and the adjustment of plants and their organs to their physical surroundings. Formerly taxonomy, or the determining of a plant's position in a scheme of classification, was the aim of all students and teachers. Now the study of botany is pursued on a broader scale, plants being studied as living things, which are not scattered at haphazard over the globe, but are organized into definite communities, determined by the conditions under which certain plants can live. Ecology, since it considers plants and their environments, takes the student directly into the field, instead of confining him to herbarium specimens. Systematic botany, while very essential, should always be made one of the means, and not the final end of botanical study.

By a series of lantern slides Professor Eikenberry showed the transition from a pond society to a swamp-forest. First we have a lily-pond with sedges at the margin of the water. As the lily-pond loses its water, the sedges and swamp-grasses crowd in. This swamp-moor is followed by shrubs, and finally by a swamp-forest, such as tamarack, pine and hemlock. Professor Eikenberry also traced the developments of plant societies adapted to dry air and soil. Various plants, such as lichens, mosses and small crevice plants, are able to live upon bare rocks. As these exposed rocks are weathered away the crevices become larger, and seeds of small plants find lodgment there. As time goes on, the fissures increase in size, more soil is formed, and shrubs and finally trees root there, resulting ultimately in forests.

CLEMSON COLLEGE SCIENCE CLUB.

AT the regular monthly meeting held February 26, 1904, Dr. H. Metcalf presented a paper entitled 'A Contribution to Culture Methods.' The speaker gave a description and exhibition of special apparatus for cultural work in plant pathology, as published in the *Journal of Applied Microscopy* for September, 1903. This was preceded by a demonstration of various bacterial and fungus colonies through the projecting microscope. Professor P. T. Brodie gave a paper entitled 'Engineering Features of the Isthmian Canal.' The speaker discussed his subject under the

following topics: (1) Brief history of the Isthmian Canal problem, with special reference to the Nicaragua, Panama and San Blas routes; (2) comparative advantages of the canals at Nicaragua and Panama; (3) general description of plans for Panama Canal, as made by the government commission and now adopted by provisions of treaty with the Republic of Panama, and a comparison of this with the sea-level canal of de Lesseps and other plans by the French companies; (4) a discussion of the engineering difficulties involved at Culebra cut and the Bohio dam; (5) The Bohio Lake and the Gigaganti Spillway for the control of the summit level and the floods of the Chagris River; (6) a comparison of the advantages of a lock canal at Panama with those of a sea-level canal at Mandingo, involving a tunnel through the continental divide. The lecture was illustrated with forty lantern slides, prepared from drawings and photographs.

F. S. SHIVER,
Secretary.

CLEMSON COLLEGE, S. C.,
March, 1904.

DISCUSSION AND CORRESPONDENCE.

THE UNIVERSITY OF CINCINNATI AND ITS PRESIDENCY.

THE history of the University of Cincinnati for the last five years, has, without doubt, a most important bearing upon the principles of university government. This is due to the features of its early organization and to the peculiar relations which it sustains to the community. The original endowment of a 'free college for white children' by Charles McMicken in 1858, the incorporation of the University of Cincinnati by act of legislature in 1874, with McMicken College as an integral part of it; the issue of city bonds for construction and the levying of a tax for the partial support of the institution, were the acts that gave a free university to Cincinnati.

A municipal university, distinctly anomalous among American universities, had to be provided with a mechanism of government. This was arranged for by the statute which created a board of directors of nineteen members including the mayor of the city, *ex officio*. Originally twelve of these members were appointed by the superior court and six were selected by the board of education, but in 1892 the law was so amended that the superior court appointed the entire board, thus taking it out of politics. The board had and still has control of the funds and of the faculty of the academic department alone, which for a number of years was the only department of the institution actively organized and in working condition.

In the beginning the board of directors invested the dean of the faculty with executive functions, but in 1877 it elected Rev. Thomas Vickers rector. This arrangement lasted until 1884, when, after a long and sensational 'investigation' the executive office again became vacant. An interregnum ensued until 1885, when General Jacob D. Cox, then, and for some years before and after, dean of the Cincinnati Law School, became president. His incumbency lasted until 1888. These two experiences and the dearth of funds prompted the board of directors to revert to the old policy of having the dean of the academic faculty exercise the executive functions in that department, and to provide, furthermore, that members of the faculty in the order of seniority should serve as dean, each one to serve for a year.

In 1887 the board of directors, prompted by a desire to expand the institution to the proportions of a real university, affiliated certain local professional schools, namely, the Cincinnati Law School, the Medical College of Ohio, the Miami Medical College and the Ohio Dental College. Each of the affiliated institutions was only nominally a department of the university, since each maintained its autonomy, its own governing body and acted under its own charter.

In 1892 the relations with the two medical schools were terminated, but the Medical College of Ohio in 1896 by surrendering its charter to the university became the medical department; still, however, with many rights reserved, viz., the right to nominate all the members of its faculty, the control of its funds and of its internal management.