

Echinoderms.—There is every indication that April will be an excellent time for one who wishes to secure an abundance of Echinoderm material, either for embryological or for experimental study. The star-fish are approaching sexual maturity. The most attractive eggs are those of the ‘sand-dollars’ (*Echinarachnius parma*). Bushels of this echinoid were dredged off Quick’s Hole. The eggs readily fertilize and develop normally. The first cleavage occurred two hours after fertilization; the gastrulation occurred in from 30 to 36 hours. ‘Plutei’ from embryos hatched on March 22d were raised without difficulty, and are now, at the end of the month, still living. I regret that observations on the breeding habits of the Holothurians were not made.

Cœlenterates.—The wealth of Cœlentarete life found during this month is bewildering and distracting. Ctenopores (adult *Mnemiopsis* and *Pleurobrachia*) hydro- and scyphomedusæ abound. The *Ephyra* and young of *Aurelia* were taken at Waquoit in countless numbers and lived in the laboratory from the 16th to the close of the month. On March 30th the calm surface of the water in Great Harbor was literally spangled with the slightly protruding discs of *Cyanea*. The piles and rock-work of the ‘basin’ are covered with breeding ‘Hydroids’ of *Coryne*, *Clava* and *Parypha*. The dredge has brought up *Sertularia argentea*, laden with eggs, and, most beautiful of all, enormous specimens of *Tubularia couthouyi*. The expended hydranths of this species are as large as ‘bachelor’s buttons,’ and are borne upon a stalk several inches in height. They literally droop with their burden of ripe gonophores. The young are possessed of remarkable vitality and would make excellent material for experimental work. *Tima formosa*, though abundant in Narragansett Bay from January to March in 1896, has not thus far been seen either in the

‘Sound’ or in Buzzards Bay. *Metridium*, *Sagartia*, *Halcampa* and *Astrangia* have been taken, though an examination of their reproductive glands has not been made. *Grantia* is not abundant, and the individuals collected were small and apparently immature.
H. C. BUMPUS.

THE ANNIVERSARY MEETING OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

THE local committees for the Boston meeting—the fiftieth anniversary to be celebrated from August 22d to 27th—have now been arranged, and contain the names of a greater number of men of science and men interested in science than could probably be secured in any other city of the United States, not excepting New York and Washington. His Excellency, Roger Wolcott, Governor of Massachusetts, is Honorary President of the Committee; Colonel Henry L. Higgenson is the Honorary Treasurer and Professor Thomas Dwight, Professor Alpheus Hyatt and Professor E. C. Pickering are the Honorary Secretaries. The chairman of the reception committee is Dr. J. R. Chadwick; of the committee on rooms for meetings, Professor Charles R. Cross; of the committee on invitations for foreign guests, Professor H. P. Bowditch; of the committee on excursions, General Francis H. Appleton; of the Cambridge committee, President Chas. W. Eliot; of the Salem committee, Hon. Robert S. Rantoul, and of the executive committee, Professor William T. Sedgwick. The Local Secretary is Professor H. W. Tyler, Massachusetts Institute of Technology.

Professor F. W. Putnam, President and until the meeting Permanent Secretary, has prepared the following letter calling attention to the meeting: Early in the year 1897 the Boston Society of Natural History appointed a committee to take the initiative in extending an invitation to the Associ-

ation to hold its Jubilee Meeting in Boston. Later, the Governor of Massachusetts and the Mayor of the city of Boston united with the various scientific and educational institutions of Boston and vicinity in a cordial invitation to the Association to hold its anniversary meeting in the city of its birth. This invitation was accepted at the Detroit meeting.

The Boston Local Committee is now organized; and the names of the distinguished men and women included in this Committee is a guarantee that everything will be done to make the meeting a successful one, both in its scientific and its social aspects. All realize that this anniversary gives promise of being the most important scientific gathering ever held in the United States, and that the celebration of fifty years of science in America is an occasion worthy of the best efforts of the city.

Many foreign scientists will be invited to take part, and many foreign educational and scientific institutions will undoubtedly send delegates, thus giving to the meeting an international character.

During the Association week and the days immediately preceding, a number of affiliated societies will meet in Boston, including the American Forestry Association, the American Geological Society, the American Chemical Society, the Society of Economic Entomologists, the Society for Promoting Engineering Education, the Society for the Promotion of Agricultural Science, the American Mathematical Society and several other important bodies.

The officers of the Massachusetts Institute of Technology and of the Boston Society of Natural History have generously placed their halls and rooms at the disposal of the Association; and thus accommodations will be furnished for all the Sections and for the General Sessions in three closely adjoining buildings.

The Corporation of Harvard University

has invited the Association to be its guest for a day in Cambridge, and the Essex Institute has arranged for a day in Salem. There will also be an excursion in the harbor and, after the meeting, trips to the White Mountains and to Cape Cod. Members who were present at the last Boston meeting, in 1880, and at the Salem Meeting, in 1869, will recall many pleasant memories of those occasions, when the importance of the scientific gatherings was rivalled only by the enjoyment of the social entertainments.

Believing that every member of the Association will wish to attend its fiftieth anniversary, all those whose names have dropped from the roll are earnestly requested to renew their membership, either by paying back assessments and having their names replaced on the roll under their old date of election or by re-election.

It is my hope that at least a thousand new members will be elected by the Council before the Boston meeting, and I beg of each member of the Association to aid me in accomplishing this, my last request as Permanent Secretary. There are in every community many men and women engaged in scientific work who should be invited to join the Association; and there are many more qualified to become members who would find in the meetings of the Association the very incentive they need to develop their love of scientific work. I earnestly appeal to every member to make known the objects and character of the Association, and to aid in securing such an increase of membership as shall make this fiftieth anniversary a marked event in the history of the Association.

Nominees for membership will be considered at the Council meetings to be held before the Boston meeting. All nominations should be sent to the Permanent Secretary that they may be considered at the first following meeting of the Council.

A fiftieth anniversary card will be sent to each member entitled to it. A list of all paying in advance will be printed for the opening day of the Boston meeting. This list will indicate whether a member is to be present or absent. Such a list will greatly facilitate the arrangements for the meeting, and all members are requested to give this new feature their earliest attention. Associate members (wives and daughters, and sons under twenty-one years of age) will also be provided with the anniversary cards, and will have their names entered on the list upon receipt of the associate fee of three dollars.

It is hoped that one of the results of this anniversary meeting will be an increase of the research fund of the Association. To this end members are reminded that they can commute their assessments for life by the remittance of fifty dollars. All money thus received is invested and the income is used for the encouragement of research. This fund now amounts to about \$6,000, which has accumulated during the past twenty years.

The Sectional Committees of each Section will prepare programs for the Sections in advance of the meeting, and notice of papers offered should be sent to the respective Secretaries at an early date.

It is hoped that all the surviving founders of the Association will be present at the Boston meeting, and I shall be much indebted to anyone who will send me the full name and address of any survivor of the meeting of 1848.

It is now twenty-five years that I have had the pleasure of serving the Association as its Permanent Secretary. During all this time I have held the firm belief that the mental stimulus and broadening influence, afforded by such annual gatherings of persons interested in the various departments of science are of vital importance to every professional scientist. Such reunions not

only promote good fellowship among scientists and lovers of science, but also serve to prevent the specialist from becoming so exclusively absorbed in his own particular life work as to forget that it is his duty to unite with his fellow workers in securing results which make a scientific career worthy of special respect—the advancement and diffusion of knowledge and the amelioration of mankind.

CURRENT NOTES ON PHYSIOGRAPHY.

WATERFALL LAKES IN CENTRAL NEW YORK.

IN continuation of the brief suggestion by Gilbert a year ago, Professor E. C. Quereau, of Syracuse, describes the 'Topography and History of Jamesville Lake' (Bull. Geol. Soc. Amer., IX., 1898, 173-182), which furnishes another illustration of exceptional forms in a dissected plateau, thus appropriately following the example of isolated hill groups in the dissected uplands of Missouri, as described by Marbut (SCIENCE, VII., 273). Jamesville lake, a few miles southeast of Syracuse, occupies a cavity in a north-sloping arm of the Allegheny plateau, which is here normally divided into digitate spurs by many obsequent streams and their insequent branches. The lake and the gorge by which it is drained eastward into Butternut creek (obsequent) are the work of a temporary glacial river, which ran eastward between the northward land slope and the southward slope of the retreating ice sheet. A large current of water thus guided crossed several of the plateau spurs, carving channels of greater or less depth, and in a number of cases forming waterfalls on the sill of the Corniferous limestone; the falls retreating and pools being formed beneath their plunge in a fashion normal enough to the glacial river, but entirely abnormal to the ordinary drainage of the plateau. Jamesville lake is one of these