

Mississippi Valley, no sponge remains have been observed elsewhere.

The Oneota near Springfield Corners is a medium to thick bedded dolomite, having a gray or flesh color and carrying a few lenses and thin beds of chert. The sample yielding the spicules is from a pure, non-cherty bed, the insoluble residue consisting of a minute quantity of very fine sand, silt and sponge spicules.

Under the microscope the spicules are seen to be composed of amorphous silica, with considerable amounts of crystalline silica. In form they are uniaxial needles, sharpened at each end, and show no evidence of having been fused in the organism. The longest one observed measures 0.41 mm in length and 0.02 mm in diameter. Axial canals in the spicules can not be plainly seen, but there is a suggestion that they were present in life. It is believed, therefore, that the spicules are to be classified as *Silicispongia*, order *Monactinellida* Zittel.

The fauna of the Oneota is a meager one, and nearly all the forms found have been in the chert nodules. These sponge spicules may be the first sponge remains reported from the Oneota formation, as the writer has found no mention of them in the available literature describing these rocks. It is stated by Zittel¹ and Berry² that *Monactinellid* spicules are known from rocks as old as Silurian. No mention is made of their occurrence below the Silurian. If the writer's identification is correct, the

spicules from southern Wisconsin may be the oldest *Monactinellid* spicules thus far discovered.

C. E. NEEDHAM

NEW MEXICO SCHOOL OF MINES

THE WATER CONTENT OF MEDUSAE

DR. GORTNER's faith¹ in a marine jelly-fish which is more than 99 per cent. water obviously can not be "flatly contradicted," but there are plenty of data which show his belief to be unfounded in the case of the commoner genera, and which justify skepticism.

In my paper I did not present new data because there was nothing to add to the old; but Dr. Gortner must have observed that the calculation of the "bound water" results in Table 3 necessitated routine determinations of total water. The total solid of *Cyanea* varied from 4.7 to 5.9 per cent., and that of *Aurelia* was always within the range given by Krukenberg. With Gortner's statement that the fraction of organic matter may be less than 1 per cent. I have no quarrel; indeed I once crudely estimated it by keeping a dead *Cyanea* in running tap water for 3 days and then drying it. The dry weight was 0.9 per cent. of the wet weight. The effect of the salts is clearly shown, also, by comparing the dry weight data of Krukenberg, whose jelly-fish came from the Gulf of Trieste, with those of Moebius, from the dilute sea water of Kiel Bay. The mean values for *Aurelia* were 4.88 and 2.08 per cent., respectively.

HEIDELBERG

J. B. BATEMAN

QUOTATIONS

MEDICAL PATENTS

CEREMONIOUS opening of the new laboratories of an important drug manufacturing company is not an occasion on which we expect to hear plain speaking of the kind in which Sir Henry H. Dale indulged at Rahway, on the danger of being too practical in medical research, and of keeping a too eager eye on profits to be derived from the patenting of medical discoveries. The laboratories in question will undoubtedly develop many a useful remedy which will become the subject of a patent monopoly. Sir Henry spoke with authority. Once upon a time he was the director of just such a laboratory. Does not his own career argue against his contention that the pursuit of the practical is incompatible with the pursuit of pure science? He owes his present position of director of Great Britain's National Institute of Medical Research to the distinguished work that he managed to do as a chemist employed by a drug company whose patents are probably its most valuable assets.

¹ Karl A. von Zittel, "Text-Book of Paleontology," Eastman translation, p. 51, Macmillan Company, 1927.

There certainly has been no worshiping of false gods in the laboratories of the great German and American industrial organizations. Such Nobel Prize winners as Langmuir, Bosch and Bergius won their laurels as the employees of wealthy corporations. Indeed, certain kinds of research can apparently be conducted most effectively only with the financial aid and equipment of an industrial laboratory. If we want to learn anything about low-pressure chemistry, we must go to the General Electric Company; the best information on speech and hearing is likely to be obtained from the Bell Telephone Laboratories; the Eastman Kodak Laboratories are the recognized authorities on photochemistry. The larger and more liberal corporations have learned to leave their research staffs alone. Even pure science can not help making discoveries that yield a profit when exploited with the aid of patents.

Yet physicians as a class will endorse Sir Henry's warning. Deep down in all of us there is a repug-

² E. W. Berry, "Paleontology," p. 29, McGraw-Hill Company, 1929.

¹ SCIENCE, March 17, 1933.

nance to making money out of human suffering. Even the men in university laboratories who patent their medical discoveries share it. They apply at least part of their royalties to conducting fresh research. But it is a question whether royalties do not quench the disinterestedness that is the very essence of pure research. A patented drug becomes the object of jealous concern. Is it likely that the merits of a competitive product will be objectively appraised and

conceded? Questions such as these were probably uppermost in Sir Henry's mind. No doubt the men who have given us patented insulin, patented liver extract and patented ergosterol can be trusted to observe the medical tradition. Yet there is a clear need for some method which will enable a researcher to obtain the money that he needs and yet pursue his studies with a serenity that knows nothing of profits. —*The New York Times*.

THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

SPRING MEETING OF THE EXECUTIVE COMMITTEE

THE spring meeting of the executive committee of the council of the American Association for the Advancement of Science was held at the Hotel Stevens in Chicago on March 24 and 25.

Dr. Fox, as executive secretary of the Committee on Foreign Guests for the Chicago meeting, reported regarding the acceptance of invitations issued jointly by the Century of Progress Exposition and the association, and also on the assignment of guests to sectional and society programs.

Dr. Fox stated that he had sent out communications from his office to colleges and universities in order to provide opportunities for such guests as desired invitations to lecture at various points. Different foundations in the United States have been cooperating with Dr. Fox in furnishing information concerning other foreign scientists whom they might have in this country about the time of the Chicago meeting. The executive committee voted that distinguished foreigners who expect to be in the country at the time of the meeting should be invited to participate as honorary foreign guests and members of the association for the Chicago meeting.

The permanent secretary laid before the executive committee the record of receipts and expenditures at the Atlantic City meeting and a summary of the condition of the various funds of the association up to February 28, 1933. From these data it appeared that the balances available were narrow and care must be exercised in making further appropriations. The paid-up membership had fallen off slightly but was still at an encouragingly high level. Some items regarding succeeding meetings were reported and especially the plans for the Boston meeting, which, due to a highly efficient local committee, had already reached a well-advanced stage.

The permanent secretary reported that since Dr. A. F. Woods had been elected a member of the executive committee at the Atlantic City meeting a vacancy

in the council was created. Dr. W. W. Cort, of the School of Hygiene and Public Health of the Johns Hopkins University, was elected to fill the vacancy. Dr. Cort's term will expire at the close of the Pittsburgh meeting, in December, 1934.

Certain members, on the basis of credentials duly presented, were elected as fellows of the association.

The question of branch registration offices for the Chicago meeting was discussed. In view of the widely separated locations fixed upon by affiliated societies and sections and of the complexity of the program, the permanent secretary's office was instructed to arrange for branch registration at a limited series of places. This arrangement was approved for the Chicago meeting only.

The presentation of the financial report led to a discussion regarding miscellaneous expenses. The permanent secretary was requested to prepare a communication to section secretaries, urging the need of economy and pointing out the necessary limitations in incurring expenses in connection with the work of the section. It was voted that other items of expense than those regularly included under the regulations of the association be paid only provided that approval was secured from the office of the permanent secretary before the expense had been incurred.

The permanent secretary was asked to revise the general statement for travel and per diem allowances of executive committee members and section secretaries so as to provide for pro-rated distribution of expense whenever travel is undertaken for purposes other than those of the meeting.

In view of general economic conditions and of the two meetings held this year it was voted that section secretaries in attendance at the Chicago meeting be allowed actual minimum railroad fare plus pullman charges and a room at the headquarters hotel as regularly arranged for by the permanent secretary's office for a period not to exceed one week. The per diem allowance was discontinued for the Chicago meeting.