size of the funnel mouth, of the relation between the volume siphoned over, cet. par., and the speed of flow of water, is explained by two combined and contrary effects—(a) without interference of water current at the edge of the funnel mouth (as *e.g.,* in the case of wide funnels) more water is siphoned over in the time taken for the water surface to break away from the glass when the maximum tension is exceeded, if the speed of flow of water is greater; (b) the stronger the water current at the edge of the funnel mouth the more prematurely does the water surface break away from the glass.

GUIDO M. DREOSTI
LOW TEMPERATURE RESEARCH LABORATORY,
CAPE TOWN, SOUTH AFRICA

AN IMPROVED METHOD FOR THE STUDY OF DIFFUSIBLE BACTERIAL PRODUCTS IN VIVO

CELLOIDIN capsules containing cultures of living bacteria have frequently been used by bacteriologists and pathologists in studying the action of diffusible bacterial products *in vivo*. The usual method has been to place such capsules in the abdominal cavity of laboratory animals and note subsequent pathological changes. Such a method, in which the bacteria are confined by a semipermeable membrane, has the advantage of simulating a focal infection, but, because of the fragility of the container, it has not proved to be as useful as the experimental method warrants. Home-made capsules of this type are difficult to make, and even when successfully produced they are peculiarly liable to rupture as the result of manipulation or the activity of the animal, and the results are obscured or invalidated by the sepsis which ensues.

While studying the effects of certain bacterial toxins on the leukopoietic system of the rabbit, the writer has used the above method with success, but instead of using a celloidin container, a capsule was prepared by taking two parchment dialyzing thimbles (about 1½ centimeters in diameter) of the type commonly used for purifying bacterial toxins, cutting them down to a length of 2½ centimeters, and fitting one over the other to make a capsule of the same type as the gelatin capsules used in administering powdered drugs by mouth. The two parts were rinsed out with alcohol just before fitting them together, and the capsule was then sealed with celloidin, which was hardened with water. Such capsules were filled with 5 cc of broth cultures of bacteria by means of a sterile fine gauge needle and syringe, and the needle hole sealed with celloidin. Each capsule was rinsed off in alcohol immediately before being placed, with aseptic precautions, in the abdominal cavity of a rabbit.

Only two of fifteen rabbits used in our first series were lost from sepsis, and in each case the leakage was due to the capsule being used before the celloidin cement had hardened sufficiently. If properly prepared these capsules are remarkably substantial and will withstand any amount of manipulation involved in the operation. A pure culture of virulent *Streptococcus hemolyticus* was found on opening a capsule twenty-eight days after operation, and other animals are continuing to show evidence of the viability of the cultures which they contain, after an elapse of more than two months. This method is particularly valuable in the study of diffusible bacterial products which are slow in their action, but which are capable of causing pathological changes in the host.

In our experiments we have been using Abderhalden dialyzing thimbles, but similar products which should be quite satisfactory are listed in the catalogs of a number of the American laboratory supply houses.

E. W. DENNIS
AMERICAN UNIVERSITY,
BEIRUT, SYRIA

THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

THE ATLANTIC CITY MEETING

THE general program of the ninety-first meeting of the association has already gone to press and will be available on Tuesday morning, December 27, at the registration offices in the Municipal Auditorium, Atlantic City. This program will be a book of 225 pages and will contain the titles of over 1,300 papers on practically all topics of scientific interest.

The program of general sessions includes lectures on a wide range of subjects—mathematics, physics, chemistry, zoology, botany, sociology, engineering and medicine. The lecturers will be Dr. Franz Boas, Dr. H. N. Russell, Dr. Harlow Shapley, Dean Dexter S. Kimball, Dr. R. C. Tolman, Dr. R. W. Wood, Dr. Russell W. Bunting, Dr. Dayton C. Miller, Dr. C. C. Speidel, Dr. Mel T. Cook, and Dr. O. H. Caldwell. For titles of these lectures see SCIENCE for November 18.

General sessions of the association will be held in the Municipal Auditorium and in Haddon Hall, which will be headquarters for the association. Sessions of the sections and of the forty-one societies, in general,

will be held in the hotels used as headquarters, but a few societies—the American Physical Society, the American Society of Zoologists, the American Society of Parasitologists and the Genetics Society of America—will hold their sessions in the Municipal Auditorium, which is centrally located on the Boardwalk. For a list of societies meeting with the association see SCIENCE for October 28.

Dr. Franz Boas, the retiring president of the association, will deliver his presidential address at the official opening session of the association on Tuesday, December 27, 1932, at 8:30 P. M. in the Ballroom of the Municipal Auditorium. He has announced his subject as "The Aims of Anthropological Research." Following Dr. Boas' address a general reception for members of the association and friends will be held in the Vernon Room (not in the Rutland Room, as previously announced) of Haddon Hall.

A number of societies and sections have organized important symposia (see SCIENCE for November 11). Dr. R. A. Millikan and Dr. Arthur H. Compton, Nobel prize winners in physics, will participate in a symposium on "Cosmic Rays," which will be held on Wednesday morning, December 28, at 10 o'clock, in the Municipal Auditorium. Distinguished economists and engineers will participate in a symposium on "The Stabilization of Employment" that will be presented on Wednesday at joint sessions of Sections K and M.

The tenth award of the American Association's prize of $1,000 for a noteworthy paper will be announced on Saturday, December 31, at the close of the meeting. Rules regarding the prize will be published in the general program.

A general election of officers will take place at sessions of the council in Atlantic City. Association officers to be elected include the president, the general secretary, the permanent secretary, the treasurer, fifteen vice-presidents and fifteen secretaries of sections. The first council meeting will be held on Tuesday, December 27, at 3:00 P. M. in Room 133–137 of Haddon Hall. Other sessions of the council will occur on Wednesday, Thursday and Friday morning at 9:00 o'clock in the same room. Business to be presented to the council must first be considered by the executive committee. Matters to be considered by the executive committee should be transmitted through the permanent secretary who may be reached in Haddon Hall.

CHARLES F. ROOS,
Permanent Secretary

THE PRESS SERVICE

COOPERATION is the spice of human existence, without which life is flavorless and insipid and scarcely seems worth while. More and more cordial in recent years have become the relations between the Press Service and the members of the association, until at the present time it is difficult to see how they could be improved.

Modern publicity with many of us is a difficult pill to swallow. The reason is that science deals wholly with the unemotional exposition of facts, whereas the newspaper reading public demands "human interest" —that is, emotion in some form—in everything put before them.

The press representatives, always conscientious and most anxious to present science accurately, must necessarily write in terms that will interest the average man. Let us see how this has come about. It is well illustrated by the press history of our own meetings.

In 1873 the *New York Tribune* published, as "Extra No. 10" in its "Scientific Series," forty-two columns on the twenty-second meeting of the association held at Portland, Maine. This account was illustrated by wood-cuts of the brain of a female fox, oceanographic apparatus of various kinds, and deep-sea animals that had recently been dredged up by the newly established U. S. Fish Commission.

The scientific names of animals were freely used, and there was a long list of names of invertebrates brought up in a single dredge haul six miles east of Seguin Island. But together with this detailed account of the proceedings of the association we find an advertisement of a phrenological journal that "teaches choice of pursuits, self-culture, &c." Also we see an advertisement inserted by an ex-army officer, a graduate of West Point, who wishes an engagement as professor of mathematics.

In those days education and the reading of newspapers were limited to a small portion of the population, who regarded education as more or less synonymous with culture, and who were willing to read and try to understand anything that appeared to have the possibility of increasing their knowledge, and therefore their culture.

With the spread of education among all classes of the population the great majority of the newspaper readers came to be found among the more emotional elements; so, of necessity, reports of scientific meetings were clothed in more or less—usually more—emotional language.

During the past decade there has been a determined effort on the part of the press to make science not only interesting to the average newspaper reader, but also accurate. And the members of the association have cordially done their part by making their contributions, so far as possible, intelligible to the average man.

It is a real pleasure to be able to say that never before has the material submitted to the Press Service