eggs and difficult to see the larvæ in the mass of fermenting banana ordinarily used in rearing *Drosophila*. For this reason and for many others one can clearly see what the advantages of a transparent solid medium might be.

Banana agar was made as follows: Five or six bananas were mashed up in 500 c.c. of water. This was allowed to infuse on ice over night, after which the liquid was passed through cheesecloth. Powdered agar-agar was then added in the proportion of 1½ grams to 100 c.c. of the banana infusion. This was then heated until the agar had dissolved. The liquid was next filtered through a thin layer of absorbent cotton into test tubes. The tubes were then plugged, sterilized and slanted in the customary manner.

Media so prepared are quite transparent. Greater transparency may be obtained, of course, by repeated filtration, but this removes too much from the food value. The slanted tubes give about 6–7 c.c. of food with a feeding surface of about 15 sq. cm.

Adult *Drosophila* are inserted into the tubes. The tubes are then incubated at 35° C. or kept in some other warm place. In a day or two the small white eggs may be seen deposited everywhere on the surface of the agar. In a day or two more the eggs hatch and the small larvæ can be seen working in the medium. The average number of days required to complete the cycle on the agar from egg to adult is about thirteen. This is three days longer than the average number of days required on the ordinary fermenting banana mash. This means that the amount of available food is too low. That this is the case is further shown by the fact that some of the larvæ die prior to pupation, and that the flies are somewhat undersized. It is highly probable that the amount of food may be increased by the use of some concentrated form of food like banana flour. An increase of the feeding surface may likewise help.

We have also succeeded in rearing *Drosophila* on potato agar. The average number of days required to complete the life cycle is 15 on this medium. The flies are very much smaller than those reared on banana agar. Clearly, the amount of available food in the potato must be very small.

Of course, bacteria always develop on the medium and sometimes we are troubled by molds. The bacterial growth does not seem to harm the larvæ and the molds are usually destroyed by the larvæ just as soon as they hatch. Sometimes the fungus growth becomes too luxuriant between egg deposition and hatching. At such times the larvæ are killed by the growth, but this is exceptional. It is well to take all bacteriological precautions in handling the tubes.

The agar method for rearing *Drosophila* has the following advantages. The eggs "stand out" clearly and hence the time of deposition and hatching can be noted. The larvæ can also be clearly seen and their habits observed. By using various synthetic solid media, *Drosophila* may become the subject for interesting nutritional experiments. Our solid medium has the slight disadvantage that the concentration of the food is too low. This difficulty can probably be remedied by the addition of some concentrated form of food like banana flour.

J. P. Baumberger,
R. W. Glaser

Bussey Institution

THE NEW YORK MEETING OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

The sixty-ninth meeting of the American Association for the Advancement of Science and affiliated national scientific societies was held in New York, December 26 to 30, under the presidency of Dr. Charles R. Van Hise.

Owing to the large number of organizations brought together at one time, and to the fact that many local institutions are intimately related to these organizations, the places of meeting were widely scattered. The general headquarters of the association were maintained in Earl Hall of Columbia University, and the various buildings of the university served very admirably for the meetings of many of the sections and affiliated societies. Others met at the American Museum of Natural History, at the College of the City of New

York, at the Cornell and other medical schools of the city, at the Engineers' Club and in a number of other places.

The formal opening of the meetings of the association took place on Tuesday evening, December 26, in the Auditorium of the American Museum of Natural History. The association was welcomed to the city by Fire Commissioner Robert Adamson, representing Mayor Mitchel. President Van Hise responded to this welcome on behalf of the association, and then introduced the retiring president, Dr. W. W. Campbell, who delivered an address upon the theme "The Nebulæ." The address was profusely illustrated by a magnificent series of lantern slides. Following the address, a reception was tendered to the members of the association by the honorary reception committee of the City of New York in the newly opened Hall of the Age of Man.

During the meetings the two addresses were given to which the citizens of New York were especially invited, and which occasioned especial interest. These were as follows: "Infantile Paralysis and the Public Health," by Dr. Simon Flexner, director of the Rockefeller Institute for Medical Research. "Nitrogen and Preparedness," by Dr. Arthur A. Noyes, director of physical chemical research at the Massachusetts Institute of Technology.

There were a large number of addresses by retiring officers delivered before the various sections and societies and many of these attracted especial attention, since they touched in various ways upon the great question of national economy and conservation of national resources. A list of the addresses of retiring vice-presidents follows:

Section A. Armin O. Leuschner: "Derivation of Orbits—Theory and Practise."

Section B. E. Percival Lewis: "Recent Progress in Spectrography."

Section C. William McPherson: "Asymmetric Syntheses and their Bearing upon the Doctrine of Vitalism."

Section D. Bion J. Arnold: "The Interrelationship of Engineering and Pure Science."

Section G. W. A. Setchell: "Geographical Distribution of the Marine Algæ."

Section H. Lillien J. Martin: "Personality as revealed by the Content of Images."

Section I. George F. Kunz: "Scientific Efficiency and Industrial Museums our Safeguard in Peace and War."

Section L. Ellwood P. Cubberley: "Some Obstacles to Educational Progress."

Professor Vernon L. Kellogg, vice-president of Section F, sent a cablegram from England that imperative engagements in connection with his Red Cross work would prevent his attendance and the delivery of his address.

There was held at Columbia University a scientific exhibit and conversazione arranged by committees in each of seventeen sciences. There was also held at the American Museum a chemical exhibit and a Pasteur exhibit.

At the meetings of the council action was taken upon a number of matters of general interest to the members of the association. The two amendments to the constitution and by-laws proposed at the Columbus meeting were passed. The one of these designates section C as "chemistry." The other, amending Article 9, makes the secretaries of the sections eligible for reelection.

Two amendments were proposed which will be acted upon at the next meeting. First. Amend Article 9 as follows: Insert after the words "Permanent Secretary" in lines 5, 8 and 9, the words "General Secretary" (to make the term of office of the general secretary five years).

Second. In Article 35 for the words "three" substitute the word "four" so as to read "The annual dues for members and fellows shall be four dollars."

On recommendation of the committee on policy action was taken in the following matters:

1. A committee of seven on grants for research was constituted to apply the research income of the association, the committee to be appointed by the president.

2. It was decided that in the case of members of affiliated societies, elected to membership in the American Association for the Advancement of Science within one year of the election to membership in an affiliated society, the entrance fee shall be remitted.

3. The council authorized the appointment of a committee of twelve fellows resident in Washington and representing each section of the association to scrutinize the list of members and to nominate fellows to the council.

4. The council endorses the following resolution: "Resolved that the American Association for the Advancement of Science advocates the greater use of the metric units of weight and measure in the United States so as to increase the usefulness of our publications and to aid our foreign relations with the many countries where these units are official and in use."

5. The council approved the selection of Dr. Henry M. Howe as vice-president of Section D to succeed the late Dr. E. L. Corthell, and of Dr. C.

Stuart Gager, as vice-president of Section G, to succeed the late Dr. Thomas J. Burrill.

6. On recommendations of the committee on policy, this same committee was instructed to prepare a revision of the constitution of the association, with by-laws, and to report to the council at its next stated meeting. As a part of its recommendation the committee on policy asked that the council should instruct the committee in this revision especially to redefine the duties of the permanent secretary and of the general secretary and the council acted favorably upon this request.

7. It was voted that $4,000 or whatever sum is available from interest on the permanent fund, be appropriated to the committee on grants for allotment, and that the treasurer be directed to pay the sums allotted on the order of the chairman of the committee. The committee on grants, appointed by the chair with the advice of the committee on policy, consists of E. C. Pickering, chairman; W. B. Cannon, Henry Crew, N. L. Britton, E. C. Franklin, J. McKeen Cattell, secretary, leaving one vacancy to be filled by a geologist.

8. An appropriation for the coming year to the Pacific Branch of the association, of the entrance fees collected by the branch and $1 for each actual member, was made.

9. The permanent secretary was authorized to pay the expenses of local branches during the coming year in an amount not to exceed 50 per cent. of the dues from such branches over and above the expenses of the journals and also the entrance fees secured through the efforts of such branches.

10. The following resolution was also adopted: "On behalf of the American Association for the Advancement of Science, its council extends to the secretaries and bureau chiefs of the United States government its appreciation of the fact that through their encouragement the important scientific work under their directions has been well represented at the meetings of the association." This representation has greatly promoted the influence and usefulness of the bureaus, both by making their work more widely known, and by the stimulus imparted to and gained from other workers in similar fields. The association is so keenly interested in the work of the government bureaus that it ventures to express the hope that members of their staffs who are engaged in research be given all practicable encouragement to attend the meetings of the association and other national and international organizations devoted to the advancement of science.

11. The council took especial pleasure in gratefully acknowledging the receipt of the following gifts: From Mr. E. D. Adams, $1,000; from Mr. Cleveland D. Dodge, $500. Mr. Adams was elected a patron of the association and the two gifts were added to the permanent fund reserved for research.

12. At the meeting the following life members *emeritus* were elected: Cyrus Fay Paine, W. J. Beal, F. W. Clarke, W. H. Dall. Mr. Paine was elected a member of the association in 1858, and is the oldest member in continuous membership.

Franz Boas, H. L. Fairchild and Irving Fisher were elected members of the council for a term of three years: W. J. Humphreys, D. T. MacDougal and E. L. Nichols were elected to the committee on policy for a term of three years.

The seventieth meeting of the association and of the national affiliated societies will be held at Pittsburgh, beginning on Friday, December 28, 1917. Boston is recommended as the place of meeting in 1918.

Officers were elected as follows:

President: Theodore W. Richards, Harvard University.

Vice-presidents:

Section B: W. J. Humphreys, U. S. Weather Bureau.

Section C: W. A. Noyes, University of Illinois.

Section E: George H. Perkins, University of Vermont.

Section F: Herbert Osborn, Ohio State University.

Section G: Burton E. Livingston, Johns Hopkins University.

Section H: Edward B. Titchener, Cornell University.

Section I: George W. Perkins, New York City.

Section K: C.-E. A. Winslow, Yale University.

Section L: E. F. Buchner, Johns Hopkins University.

Section M: H. J. Waters, University of Kansas.

Secretary of Council: Walter V. Bingham, University of Pittsburgh.

General Secretary: J. McKeen Cattell, Columbia University.

Secretaries of Sections:

Section B: G. W. Stewart, State University of Iowa.

Section C: James Kendall, Columbia University.

Section E: Rollin T. Chamberlin, University of Chicago.

Section K: A. J. Goldfarb, College of the City of New York.

W. E. Henderson,
General Secretary