

# Preview of the 119th Meeting, AAAS, St. Louis December 26–31, 1952

THE 119th meeting of the American Association for the Advancement of Science—in the quality and variety of its programs, in the several conferences now on an annual basis, and in the business to be transacted—will be one of the most important annual meetings in the history of the Association, now well into its 105th year. In addition to the programs of the 18 sections and subsections, 56 societies and other organizations are participating in the meeting. These include three mathematical societies; the Oak Ridge Institute of Nuclear Studies; the Society of Systematic Zoology; three science teaching societies; the Society for Industrial Microbiology; and such medical groups as the American Academy of Forensic Sciences, the American Association of Hospital Consultants, the American Physiological Society, and the American Psychiatric Association.

Faculty members of Saint Louis University and of Washington University have generously assisted some of the Association's sections in arranging symposia or sessions of invited papers that will bring together specialists from all parts of the nation. Scientists of the research laboratories of Anheuser-Busch, Inc., and Monsanto Chemical Company have been responsible for other symposia. Local members and friends of the Association—scientists, industrial executives, physicians, and others—are cooperating to make the sixth St. Louis meeting at least as well attended and as successful as the previous five meetings in this metropolis of the Missouri-Mississippi basin. Washington University is host to the mathematicians for four intensive days. The nationally known Central Institute for the Deaf and the Missouri Botanical Garden will each be the scene of a day of sessions for Sections M and G, respectively. AAAS Section C and the Academy of Science of St. Louis will collaborate in a celebration of the centenary of Washington University, the dedication of Louderman Hall, and the vice-presidential address of Carroll A. Hochwalt.

Officially, this meeting of the Association is the concluding event of the Centennial of Engineering, and there is a substantial emphasis on engineering, physics, chemistry, and industrial science in the more than 300 sessions. No principal field of science, however, will be neglected. Indeed, the botanical sciences, with both symposia and sessions for contributed papers, are well represented; the zoological programs—with papers, four public discussion panels of books (in which eight authors will debate their subjects), and symposia—are wide in their appeal; and the medical sessions are more numerous and varied than at any AAAS meeting in recent years.

This year the AAAS is sponsoring three general symposia: "Disaster Recovery" (two sessions) is a serious attempt to assess the common principles and aspects of recovery from large-scale disasters, both natural and man-made. "Applications of the Theory of Games" will interest mathematicians and laymen alike. "The Nation's Nutrition: From Soil to Cytoplasm" (two sessions) brings together all pertinent aspects of the sources of food and the biochemistry of human nutrition. Speakers in these general symposia not only are national authori-

ties but are able speakers as well. Sixty symposia and panels are being sponsored or cosponsored by AAAS sections (SCIENCE, 116, 550 [1952]; THE SCIENTIFIC MONTHLY, 75, 322 [1952])—in contrast with the 42 symposia featured at the Philadelphia meeting last year. In scheduling a record-breaking number of symposia, however, the sections have not failed to provide opportunities for those who wish to read papers. The following sections have multiple, and in some cases concurrent, sessions for contributed papers: C—Chemistry, D—Astronomy, E—Geology and Geography, F—Zoological Sciences, G—Botanical Sciences, H—Anthropology, I—Psychology, L—History and Philosophy of Science, Np—Pharmacy, and Q—Education.

The Conference on Scientific Manpower II and the annual Academy Conference have been joined this year by the Conference on Scientific Editorial Problems I. The special sessions—the annual addresses of the American Mathematical Society and the United Chapters of Phi Beta Kappa (both on Dec. 27), of the retiring AAAS president (Dec. 28), the National Geographic Society, and the Society of the Sigma Xi (both on Dec. 29), and the Scientific Research Society of America (Dec. 30)—are described later. At the meetings of the Association Council, revision of the constitution and bylaws and the problem of a new headquarters building are two important matters that will be considered.

The Annual Exposition of Science and Industry will again be a large-scale series of exhibits of the latest tools and techniques in science and industry. As will be noted from the appended directory of exhibitors and the descriptions of their exhibits, there will be an especially prepared exhibit by the Association of American Railroads; the American Cancer Society's exhibit on cancer of the cervix is new; and there are interesting and important scientific exhibits in medicine and in instrumentation. Adjacent to the exposition, the AAAS Science Theatre once more will show the latest foreign and domestic scientific films. All principal fields of science are represented in the programs, and many of the titles are late 1952.

## Hotel Headquarters

An article on "Hotel Headquarters" appeared in the July 25 issue of SCIENCE (116, 97 [1952]), in which the headquarters hotels for sections, subsections, and participating societies were listed. Any additions or last-minute changes will be found in the General Program.

## Registration

*Main Registration-Information Center.* The Main Registration-Information Center is located in the Kiel Auditorium, at the top of the ramp which begins at the 14th St. Entrance. It will be open daily, Friday, Dec. 26, through Wednesday, Dec. 31, 8 A.M. to 6 P.M., except on Monday evening, Dec. 29, when it will remain open till 11 P.M. to accommodate those nonregistrants who wish to attend the Biologists' Smoker.

Badges and General Programs may also be obtained

at the supplementary registration desks, but the *Main Registration* is the only place to receive supplementary literature, maps, and the like. *Advance Registrants* (who have received programs and badges prior to the meeting) are urged to visit the Main Registration, at any convenient time, to receive these items.

**Supplementary Registration Desks.** There are four supplementary registration desks, as follows:

*Hotel Jefferson*

Dec. 26	Noon-9 P.M.
Dec. 27	8 A.M.-8 P.M.
Dec. 28	8 A.M.-8 P.M.
Dec. 29	8 A.M.-8 P.M.

*Hotel Statler*

Dec. 26	4 P.M.-9 P.M.
Dec. 27	8 A.M.-8 P.M.
Dec. 28	8 A.M.-8 P.M.
Dec. 29	8 A.M.-1 P.M.

*Hotel De Soto*

Dec. 26	1 P.M.-9 P.M.
Dec. 27	8 A.M.-8 P.M.

*Washington University,  
Women's Building*

Dec. 26	Noon-9 P.M.
Dec. 27	8 A.M.-8 P.M.
Dec. 28	Noon-6 P.M.

**Registration Fee.** Each person who registers has the satisfaction of knowing that he has paid his personal share of the expenses of the meeting, and that he has become a definite participant in the meeting. As a registrant, he may visit the AAAS Science Theatre repeatedly and enjoy refreshments and tobacco at the Biologists' Smoker. The AAAS registration fee for all persons is \$2.50. Each registrant receives a receipt, a Convention Badge, and the General Program-Directory—the only publication with the programs of all 18 AAAS Sections and the 40-50 participating organizations. Those who wish an extra copy of the General Program-Directory, valuable for its general reference material on the AAAS, may secure one for \$1.50. Any person who purchased an advance copy of the General Program-Directory but did not register in advance and who then attends the meeting, may complete his registration by the payment of \$1.00—for which he receives his Convention Badge and the privileges that go with it.

**AAAS Convention Badge.** The AAAS Convention Badge should be worn throughout the meeting because (1) it reminds others to register; (2) it is needed for admission to the AAAS Science Theatre, the Biologists' Smoker, and the Reception that follows the Presidential Address; and, not least, (3) it helps your friends to find you.

**Visible Directory of Registrants.** The Visible Directory of Registrants is located in the Kiel Auditorium and is reached by passing through the exhibit area of the Annual Exposition of Science and Industry (around it when the Exposition is closed). The hours it will be open correspond exactly with the hours the Main Registration is open—daily, 8 A.M.-6 P.M., and Monday evening till 11 P.M. The registration cards of all registrants are placed in the Visible Directory as soon as possible after registration. The arrangement is alphabetical. The cards of advance registrants are *completely* alphabetized and typed, since they were posted in Washington prior to the meeting; all other registration cards are filed to the second or third letter of the surname (Ba, Be, etc.). Members of the Press, exhibitor personnel, and guests are included in the Visible Directory on *blue* cards.

**Mail, Telegrams, and Messages.** Mail and telegrams

addressed in care of the AAAS will be held at the AAAS Office in the Kiel Auditorium. Every effort will be made to notify addressees listed in the Visible Directory, but the Association assumes no responsibility for the delivery of mail, telegrams, or messages.

Telephone and personal messages will be filed alphabetically in the AAAS Office, and the names for whom they are intended posted on a bulletin board.

**Society Meal Function Tickets.** In general, tickets to the dinners, luncheons, or breakfasts of any participating society are obtainable only from representatives of that society and during the preceding sessions of the society. Any society, however, has the privilege of the use of a AAAS supplementary registration desk in its headquarters hotel to serve as a ticket booth, provided that that portion is manned by a representative of the society. Experience has shown that it is much more satisfactory to all concerned for each organized meal function to be the responsibility of the society that sponsors it. *For a list of all meal functions, see "Dinners," etc., in the General Program.*

**Kiel Municipal Auditorium.** The city-owned Henry W. Kiel Municipal Auditorium is a large, well-designed convention hall, generally rated as one of the best in the U. S. It faces north on Market St., with side entrances on 14th and 15th Sts., and thus is only a few blocks from all the downtown hotels. Except for the use of the Opera House portion on Monday evening, Dec. 29, for the National Geographic Society, *only one entrance will be used—the 14th St. Entrance.* From this entrance lobby, a ramp leads to the Convention Hall, or second floor level. Here in close proximity are located the Main Registration—Information, the AAAS Office, the Annual Exposition of Science and Industry, the Visible Directory of Registrants, the AAAS Science Theatre—and Meeting Room 2, Assembly Hall 1, and Assembly Hall 2. To reach the remaining session rooms, use the stairs from the corridors of Convention Hall.

**LOCATION OF ROOMS AND FEATURES IN KIEL AUDITORIUM**  
(Use 14th St. Entrance for all rooms except Opera House)

AAAS Office .....	Room A, Second Floor, 14th St. side
Biologists' Smoker .....	Main Exhibition Hall (under Convention Hall), Street Level
Exposition .....	Convention Hall, Second Floor
Light Refreshments .....	Corridor, Second Floor, 14th St. and 15th St. sides
Main Registration-Information Center .....	Second Floor, 14th St. side
Opera House .....	Street Level, Market St.
New Member Service .....	Booth in Exposition
Science Theatre .....	Room C, Second Floor, 15th St. side

**Session Rooms**

Assembly Room 1 .....	Second Floor, 14th St.
Assembly Room 2 .....	" " 15th "
Assembly Room 3 .....	Third " 14th "
Assembly Room 4 .....	" " 15th "
Room B .....	Second " 14th "
Room 3A .....	Third " " "
Room 3B .....	" " " "
Room 3C .....	" " 15th "
Room 3D .....	" " " "
Room 4A .....	Fourth " 14th "
Room 4B .....	" " " "
Room 4C .....	" " 15th "
Room 4D .....	" " " "
Visible Directory of Registrants ...	Second " " "

## Local Travel Directions

Since all the downtown hotels and the Kiel Auditorium are within a few blocks of each other—5 to 10 minutes of leisurely walking—no local transportation is required. In the event of inclement weather, taxis are available; fares (35¢–45¢) are the same for one to four passengers if they travel together. CHEROKEE bus running east on Washington Ave. turns south on 14th St. directly to the Auditorium. Bus fare is 17¢.

The distance to the Kiel Auditorium from Grand Ave. (Melbourne and Sheraton hotels) is about two miles; the distance from Kingshighway (Chase and Roosevelt hotels), about four miles. Use buses marked LINDELL on Lindell Blvd. or Locust St. for all but the Hotel Roosevelt; for the Roosevelt, use buses marked DELMAR or WASHINGTON. The Delmar bus line is six blocks from the Auditorium; the Lindell line, four blocks. Delegates should get off at 14th St. and walk south, or they can secure a transfer from either bus to the CHEROKEE line, which will take them directly in front of the Auditorium. Taxi fares are \$1.00–\$1.50 for one to four passengers (if together).

The distance from the downtown hotels to Washington University is about six miles; from the Melbourne and Sheraton about four miles; from the Chase and Roosevelt about two miles. *Going*, use buses marked LINDELL on Lindell Blvd. for all hotels except the Roosevelt, for which use bus marked DELMAR, transferring to CITY LIMITS bus. *Returning*, use buses marked LINDELL, except for the Roosevelt, for which use CITY LIMITS bus (north on Skinker Blvd., transferring at Delmar Blvd.). Bus fare is 17¢ each way. Taxi fares range from 75¢ to \$1.75, depending on distance, for one to four passengers (if together).

Street-car transportation westward from the downtown area to Washington University is most direct via Routes 11 and 14, which run west on Olive St. to near Kingshighway (on which they jog south from McPherson St.), then west on Waterman St., and, finally, west on Pershing Ave. Get off at Skinker Blvd. The eastward route is the reverse. Fare is 17¢ each way. (For street-car transportation from Hotel Roosevelt, use Route 10 on Delmar, transferring to CITY LIMITS bus at Skinker Blvd.)

## AAAS Public Information Service

Each person who will deliver an address or present a paper at the St. Louis Meeting is requested to provide the Association's Public Information Service with 100 copies of a nontechnical abstract of his paper. One hundred copies of *complete* manuscripts are also required of papers presented by (1) officers of the Association; (2) officers and invited speakers who appear on the programs of the participating societies; and (3) authors whose papers are particularly newsworthy. Most authors already have recognized the necessity of this procedure and have sent their material to the Association's Director of Public Information, Sidney S. Negus, Medical College of Virginia, Richmond. If you are an author of an address or paper and have not done this, please send to Dr. Negus, *to arrive in Richmond on or before Dec. 15*, 100 copies of your nontechnical abstract and 100 copies of your full paper (or significant portions of it if it is unusually long). If it is impossible for you to send this material to Richmond to arrive by Dec. 15 (and mails are much slower in the pre-Christmas period), then mail all your material to Dr. Negus at the Hotel Jefferson, St. Louis—or deliver it to

him in person in the AAAS Press Room, Mezzanine, Hotel Jefferson, before or during the convention. Please be sure, as an aid to the Association's Public Information Service, to send copies of your paper to your *local* newspapers with the time when it is to be presented in St. Louis indicated.

The necessity of keeping the general public informed of the results of the scientific research which it supports, directly and indirectly, is evident. Organized science and the individual scientist must have the understanding and support of all. It is, of course, equally important that the advances of science be publicized with accuracy and clarity and without sensationalism. Progress in this direction in recent years has been most gratifying, thanks in large part to members of the National Association of Science Writers, other accredited science reporters, managing editors of American newspapers, and program managers of radio and television stations.

It is in the interest of accuracy and completeness that science writers frequently wish to discuss various research results with investigators. If you are asked to cooperate in this respect or to participate in a press conference, please do so not only for your own protection but for the benefit of science in general. Scores of science writers will be covering the meeting. News stories filed by the representatives of all the wire services will be published and broadcast throughout the entire civilized world. At no other scientific meeting are the facilities for the dissemination of the most recent findings in all branches of science so complete as they are at the meetings of the AAAS.

This year, not only is the Association fortunate in the continued services of Dr. Negus, but also in its Local Subcommittee on Public Information, headed by Howard A. Marple, director of advertising and public relations, Monsanto Chemical Company.

## AAAS Business Sessions

The *Executive Committee* of the Association will meet in the administrative secretary's suite at the Hotel Jefferson at 8:00 P.M. on Friday, Dec. 26. Dates and hours of subsequent sessions of the Executive Committee during the meeting will be decided at this first session.

The *Council* of the Association will meet Saturday afternoon, Dec. 27, at 4:00 P.M. in Private Dining Room 1, Hotel Jefferson. A second session of the Council is scheduled for Tuesday morning, Dec. 30, at 9:00 A.M. in the same room. All members of the Council have been notified individually, and it is hoped that all can attend.

Subjects to be considered by the Council (in addition to the prepared agenda) usually are first brought before the Executive Committee through the administrative secretary. During the meeting, communications for the Executive Committee should be submitted in writing and left at the Hotel Jefferson mail desk, addressed to Dr. Howard A. Meyerhoff.

There will be a meeting of all section chairmen and section secretaries, Tuesday noon, Dec. 30, in Private Dining Room 4, Hotel Jefferson. Howard A. Meyerhoff and Raymond L. Taylor, *Co-Chairmen*.

## AAAS Special Sessions

One of the characteristic and most important features of the annual meetings of the Association is the series of outstanding general lectures and addresses by distinguished authorities. These special events, sponsored by organizations that meet regularly with the AAAS, are

joint sessions with the Association and are open to the general public of the city in which the meeting is held.

**I. Saturday evening, Dec. 27, Crystal Room, Hotel Jefferson, 8:30 p.m.** United Chapters of Phi Beta Kappa.

Speaker: RICHARD H. SHRYOCK, Institute of the History of Medicine, The Johns Hopkins University.

Subject: The Interplay of Social and Internal Factors in the History of Science: As Illustrated in Modern Medicine.

ARTHUR HOLLY COMPTON, chancellor, Washington University, will preside.

**II. Saturday evening, Dec. 27, Room 100, Brown Hall, Washington University, 8:00 p.m.** American Mathematical Society Josiah Willard Gibbs Lecture.

Speaker: MARSTON MORSE, Institute for Advanced Study, Princeton, N. J.

Subject: Topology and Geometrical Analysis.

JOHN VON NEUMANN, Institute for Advanced Study, president of the society, will preside.

**III. Sunday evening, Dec. 28, Gold Room, Hotel Jefferson, 8:00 p.m.** AAAS Presidential Address.

Speaker: KIRTLEY F. MATHER, chairman of the Department of Geology, Harvard University, and retiring president of the Association.

Subject: The Common Ground of Science and Politics.

DETLEV W. BRONK, president, The Johns Hopkins University, and president of the Association, will preside.

Preceding the address, CHARLES ALLEN THOMAS, president, Monsanto Chemical Company, and general chairman of the St. Louis Reception Committee, will speak briefly.

Following the address there will be an informal AAAS Presidential Reception in the adjacent Crystal Room. All registrants and members of the Local Committee are cordially invited to attend.

**IV. Monday evening, Dec. 29, Gold Room, Hotel Jefferson, 8:15 p.m.** Society of the Sigma Xi.

Speaker: D. M. S. WATSON, professor emeritus of zoology, University of London, and Alexander Agassiz professor of zoology, Museum of Comparative Zoology, Harvard University.

Subject: Africa and the Origin of Man (Illustrated).

HUGH S. TAYLOR, dean of the Graduate School, Princeton University, and president of the society, will preside.

**V. Monday evening, Dec. 29, Opera House, Kiel Auditorium, 8:15 p.m.** National Geographic Society.

Speaker: W. ROBERT MOORE, Foreign Editorial Staff, National Geographic Society.

Subject: Sunshine and Eclipse over Nigeria and Sudan (Illustrated).

KIRTLEY F. MATHER will preside.

**VI. Tuesday evening, Dec. 30, Gold Room, Hotel Jefferson, 8:00 p.m.** Scientific Research Society of America.

Speaker: SHIELDS WARREN, Cancer Research Institute, New England Deaconess Hospital, Boston.

Subject: The Contribution of Atomic Energy to Health.

KARL T. COMPTON, chairman, Corporation of Massachusetts Institute of Technology, and chairman of the society, will preside.

## AAAS Science Theatre Programs

The AAAS Science Theatre, a permanent feature of the Association's annual meetings, presents showings of the latest domestic and foreign scientific films—nearly all with sound—throughout the meeting period. Please note,

in the following schedule, that programs are both repeated and transposed to increase the opportunities to see particular films. Most titles—but not all—will be shown twice. The Association is greatly indebted to all those who made these pictures and lent them for showing.

The AAAS Science Theatre is in Room C of the Kiel Municipal Auditorium, a room which seats 225 comfortably. It is entered from the exhibit area of the Annual Exposition of Science and Industry or from the wide semi-circular corridor containing the Main Registration. Enter the 14th St. Lobby of the Kiel Auditorium and proceed up the ramp to the second floor.

The Science Theatre is a feature for the pleasure and information of all registrants attending the Annual Meeting, and it is deemed well worth the considerable projection costs. It cannot be for the casual passer-by; thus, admission is restricted to those who wear the AAAS Convention Badge—or who show an Association Registration Receipt.

### Hours

Saturday, Dec. 27	2:00 P.M.—6:00 P.M.
Sunday, Dec. 28	2:00 P.M.—6:00 P.M.
Monday, Dec. 29	8:00 A.M.—noon; 2:00 P.M.—6:00 P.M.
Tuesday, Dec. 30	8:00 A.M.—noon; noon—4:00 P.M.

### PROGRAM 1

#### Saturday Afternoon, Dec. 27, 2:00 P.M.—6:00 P.M.

1. TERRA INCOGNITA. North American Philips Company, Inc. Black-and-white. 20 min.
2. CARBON FOURTEEN. Encyclopaedia Britannica Films, Inc. Color. 12 min.
3. THE AUTONOMIC NERVOUS SYSTEM. J. E. Markee and R. Frederick Becker, Duke University. Color. 42 min.
4. THE DANCE OF THE BEES. Karl von Frisch. Black-and-white. Silent. 22 min.
5. WANDOROBA. American Museum of Natural History. Color. 30 min.
6. PLAN TO LIVE. Indiana University. Black-and-white. 18 min.
7. TEHACHAPI EARTHQUAKE DAMAGE AND REPAIR. Southern Pacific Company. Color. 11 min.
8. INSIDE THE CELL, PART I—ENZYMES IN INTRACELLULAR CHEMISTRY. Department of the Army. Color. 40 min.
9. OIL THE INVISIBLE TRAVELER. Shell Oil Company. Color. 20 min.

### PROGRAM 2

#### Sunday Afternoon, Dec. 28, 2:00 P.M.—6:00 P.M.

1. SCIENCE IN THE ORCHESTRA. British Information Services. Black-and-white. 35 min.
2. THE ATOM AND INDUSTRY. Encyclopaedia Britannica Films, Inc. Black-and-white. 12 min.
3. BREAKDOWN. National Film Board of Canada. Black-and-white. 40 min.
4. PLANT GROWTH AND MUTATION IN *Tradescantia Virginica* L. Arthur T. Price. Black-and-white. 11 min.
5. THE JET STORY. General Electric Company. Black-and-white. 15 min.
6. STEPS OF AGE. Mental Health Film Board; (MHFB films exclusively distributed by the International Film Bureau, Inc.). Black-and-white. 25 min.
7. INSIDE THE CELL, PART II—REGULATION OF ENZYMES. Department of the Army. Color. 43 min.
8. EXPERIMENTAL FILM ON AIR BLAST CONTROL OF GASOLINE SPILLAGE FIRES. Parks College of Saint Louis University. Color. Silent. 20 min.

9. EFFECTS OF BETA AND X-IRRADIATION IN THE HAMSTER CHEEK POUCH. G. P. Fulton, B. R. Lutz, D. Joffes, F. Maynard, Boston University. Color. Silent. 15 min.

#### PROGRAM 3

Monday Morning, Dec. 29, 8:00 A.M.—Noon.

1. ABORIGINES OF THE SEA COAST. Australian News and Information Bureau. Color. 25 min.
2. A STORY OF COPPER. Bureau of Mines. Color. 33 min.
3. GIVING THE RORSCHACH TEST: KLOPPER METHOD. Miriam Siegel and Ruth Monroe. Black-and-white. 9 min.
4. UTERINE CANCER: THE PROBLEM OF EARLY DIAGNOSIS. American Cancer Society. Color. 21 min.
5. PADIRAC. French Embassy. In French. Black-and-white. 18 min.
6. OAK WILT IN WISCONSIN. University of Wisconsin. Color. Silent. 20 min.
7. SHACKLES FOR THE GIANT. Mississippi River Commission. Color. 25 min.
8. HARNESSSED LIGHTNING. General Motors Corporation. Color. 25 min.
9. BIRDS AND BILLABONGS. Australian News and Information Bureau. Color. 12 min.
10. POWERING AMERICA'S PROGRESS—A MODERN STORY OF BITUMINOUS COAL. Bureau of Mines. Color. 25 min.

#### PROGRAM 4

Monday Afternoon, Dec. 29, 2:00 P.M.—6:00 P.M.

Same as Program 1.

#### PROGRAM 5

Tuesday Morning, Dec. 30, 8:00 A.M.—Noon.

Same as Program 2.

#### PROGRAM 6

Tuesday Afternoon, Dec. 30, Noon—4:00 P.M.

1. WHISTLE IN THE NIGHT. Association Films, Incorporated. Black-and-white. 15 min.
2. SOME CREATURES OF THE BARRIER REEF. Australian News and Information Bureau. Color. 10 min.
3. EXPERIMENTAL NEUROSIS IN MONKEYS. J. M. Masserman and Curtis Pechtel. Black-and-white. 19 min.
4. WORLD GARDENS. British Information Service. Color. 11 min.
5. THE BIOLOGY OF DOMESTIC FLIES. U. S. Public Health Service. Black-and-white. 9 min.
6. CALIFORNIA AND ITS NATURAL RESOURCES. Bureau of Mines. Color. 40 min.
7. SNOW ON THE RUN. Southern Pacific Company. Color. 22 min.
8. NOTORNIS EXPEDITION. New Zealand Embassy. Black-and-white. 11 min.
9. A STORY OF COPPER. Bureau of Mines. Color. 33 min.
10. SHACKLES FOR THE GIANT. Mississippi River Commission. Color. 25 min.
11. UTERINE CANCER: THE PROBLEM OF EARLY DIAGNOSIS. American Cancer Society. Color. 21 min.

### The St. Louis Reception Committee

It would be impossible to make successful arrangements for the large and complex meetings of the Association, to ensure the smooth operation of each session, to secure adequate local public information—indeed, to finance the meetings—without the very considerable personal services of the members of the local committee. They merit the

unstinted appreciation of all who attend. In making the 119th meeting a successful and memorable one, those whose names follow have advanced science.

#### General Chairman

CHARLES ALLEN THOMAS, President, Monsanto Chemical Company

#### Vice Chairmen

WARREN K. BEGEMAN, director, Adult and Technical Education, St. Louis Board of Education  
LESLIE J. BUCHAN, vice chancellor and dean of faculties, Washington University.  
HOWARD A. MARPLE, director, Advertising and Public Relations, Monsanto Chemical Company

#### Executive Committee

HOWARD F. BAER, president, A. S. Aloe Company  
FRANK R. BRADLEY, director, Barnes Hospital  
AUGUST A. BUSCH, JR., president, Anheuser-Busch, Inc.  
DAVID R. CALHOUN, president, St. Louis Union Trust Company  
ARTHUR H. COMPTON, chancellor, Washington University  
VICTOR E. COOLEY, chairman, Southwestern Bell Telephone Company  
DONALD DANFORTH, president, Ralston Purina Company  
DONALD V. FRASER, president, Missouri-Kansas-Texas Railroad Co.  
CLARK R. GAMBLE, president, Brown Shoe Company  
JAMES H. GROVE, president, The Grove Laboratories, Inc.  
JOHN F. KREY, president, Krey Packing Company  
EDWARD MALLINCKRODT, chairman, Mallinckrodt Chemical Works  
J. WESLEY MCAFEE, president, Union Electric Company of Missouri  
JAMES S. McDONNELL, president, McDonnell Aircraft Corporation  
LAMAR W. MCLEOD, vice president, Westinghouse Electric Corporation  
JOHN M. OLIN, president, Olin Industries, Inc.  
JOSEPH PULTIZER, president, St. Louis *Post-Dispatch*  
EDGAR E. RAND, president, International Shoe Company  
VERY REVEREND PAUL C. REINERT, president, Saint Louis University  
OSCAR C. SCHMITT, president, The Emerson Electric Manufacturing Company  
JOHN K. WALLACE, president, Cupples Company  
HOWARD I. YOUNG, president, American Zinc, Lead and Smelting Company

#### General Service Subcommittee

WARREN K. BEGEMAN, *Chairman*  
REVEREND RAYMOND J. BISHOP, S. J., director, Department of Education, Saint Louis University  
PHILIP BRANTE, assistant building commissioner, St. Louis Board of Education  
DOROTHY CUTTER, Visual Education, Roosevelt High School  
HERALD M. DOXSEE, Visual Education, Cleveland High School  
HERBERT J. HICKS, Visual Education, Central High School  
LEON L. KATZENSTEIN, Visual Education, Hadley Technical High School  
VICTOR H. KIRK, Visual Education, Beaumont High School  
LOUISE LANGENHOHL, Visual Education, Southwest High School  
LESLIE W. LYON, Visual Education, Soldan-Blewett High School  
ALFRED MACK, head of Automechanics Department, Hadley Technical High School  
GOULD MEENACH, Radio Education, Southwest High School

ROSS R. MIDDLEMISS, professor of mathematics, Washington University  
CLARENCE POTTHOFF, supervisor of transportation, St. Louis Board of Education  
JOSEPH STEURER, superintendent of landscapes, St. Louis Board of Education

#### Subcommittee on Local Public Information

HOWARD A. MARPLE, *Chairman*  
D. C. CRONIN, manager, Advertising and Sales Promotion, Olin Industries, Inc., East Alton, Ill.  
OTIS O. MCINTOSH, director of public relations, Ralston Purina Company  
DOUGLAS WILLIAMS, vice president in charge of public relations, Southwestern Bell Telephone Company

### SUMMARY OF EVENTS

#### Friday, December 26

(The AAAS Annual Exposition of Science and Industry opens Saturday morning, and the AAAS Science Theatre opens Saturday afternoon. The Visible Directory of Registrants in the Kiel Auditorium is open 8:00 A.M. till 6:00 P.M.)

#### Friday Afternoon

**Chemistry**  
**C** *Section on Chemistry*—2:00 P.M., Papers, Crystal Room, Jefferson.

#### Friday Evening

**AAAS as a Whole**  
*AAAS Executive Committee Meeting*—8:00 P.M., Suite of the Administrative Secretary, Jefferson.

#### Saturday, December 27

##### Saturday Morning

**AAAS as a Whole**  
*AAAS General Symposium*—Disaster Recovery  
Part I: The Nature of Disasters, 9:30 A.M., Assembly Hall 1, Kiel Auditorium.

**X5, M, Q1** *Conference on Scientific Manpower II, Section on Engineering, AAAS Cooperative Committee on the Teaching of Science and Mathematics, and the Engineering Manpower Commission*—9:30 A.M., Conference on Scientific Manpower, Part I: Current Research on Scientific Manpower, Room 4B, Kiel Auditorium.

#### Mathematics

**A1** *American Mathematical Society*—9:00 A.M., Concurrent Session A, Room 118, Brown Hall; Concurrent Session B, Louderman Auditorium; Concurrent Session C, Room 112, Wilson Hall, Washington University; 10:30 A.M., Concurrent Session A, Room 118, Brown Hall; Concurrent Session B, Louderman Auditorium; Concurrent Session C, Room 112, Wilson Hall, Washington University.

#### Chemistry

**C** *Section on Chemistry*—9:15 A.M., Concurrent Session 1, Symposium: The New Synthetic Fibers, Part I, Room 3A, Kiel Auditorium; 8:45 A.M., Concurrent Session 2, Symposium: Contributions of Chemistry in the Field of Human and Animal Nutrition, Part I, Room 3B, Kiel Auditorium.

#### Zoological Sciences

**F2** *Society of Systematic Zoology*—9:30 A.M., Council Meeting I, Ballroom Assembly South, Statler.

#### Botanical Sciences

**G** *Section on Botanical Science*—10:00 A.M., Papers, Room 3D, Kiel Auditorium.

#### Anthropology

**H** *Section on Anthropology*—9:30 A.M., Symposium: The Rio Grande Pueblos and the Plains, Part I, Room 4D, Kiel Auditorium.

#### Psychology

**I, M, Nm, P** *Section on Psychology, Section on Engineering, Subsection on Medicine, and Section on Industrial Science*—9:30 A.M., Symposium: Men and Machines, Part I: How Can We Fit Man to the Industrial Situation? Assembly Hall 2, Kiel Auditorium.

#### Social and Economic Sciences

**K, O** *Section on Social and Economic Sciences, and Section on Agriculture*—9:00 A.M., Symposium: Combined Resource Development with Special Reference to the Missouri Valley, Part I, Room 4C, Kiel Auditorium.

#### Medical Sciences

**Nm** *Subsection on Medicine*—10:00 A.M., Symposium: Fluid and Saline Therapy, Assembly Hall 3, Kiel Auditorium.

**Nd** *Subsection on Dentistry*—9:00 A.M., Symposium: The Chemistry of Saliva, Room B, Kiel Auditorium.

#### Industrial Science

**P, P2** *Section on Industrial Science, and Society for Industrial Microbiology*—9:30 A.M., Symposium: Industrial Microbiology, Part I, Room 3C, Kiel Auditorium.

#### Education

**FG4** *National Association of Biology Teachers*—8:00 A.M., Meeting of Board of Directors, Parlor A, De Soto.

**FG4, Q4, X4** *National Association of Biology Teachers, National Science Teachers Association, and American Nature Study Society*—8:30 A.M., Science Teaching Films, De Soto Room, De Soto; 10:00 A.M., Implementation of Basic Principles of Good Teaching, De Soto Room, De Soto.

**X4** *American Nature Study Society*—8:00 A.M., Meeting of Board of Directors, Parlor B, De Soto.

#### Saturday Afternoon

##### AAAS as a Whole

*AAAS General Symposium*—Disaster Recovery, Part II: Disaster Recovery, 2:00 P.M., Assembly Hall 1, Kiel Auditorium.

*AAAS Council Meeting I*—4:00 P.M., Private Dining Room 1, Jefferson.

#### Mathematics

**A1** *American Mathematical Society*—2:00 P.M., Address, Room 100, Brown Hall, Washington University; 3:30 P.M., Concurrent Session A, Room 118, Brown Hall; Concurrent Session B, Louderman Auditorium; Concurrent Session C, Room 112, Wilson Hall, Washington University.

#### Chemistry

**C** *Section on Chemistry*—2:00 P.M., Concurrent Session 1, Symposium: The New Synthetic Fibers, Part II, Room 3A, Kiel Auditorium; Concurrent Session 2, Symposium: Contributions of Chemistry in the Field of Human and Animal Nutrition, Part II, Room 3B, Kiel Auditorium.

#### Geology and Geography

**E3** *National Speleological Society*—2:00 P.M., Papers, Parlor A, Statler.

#### Zoological Sciences

**F, F2** *Section on Zoological Sciences and Society of*

*Systematic Zoology*—2:00 P.M., Public Book Discussion Panel: *Time's Arrow and Evolution*, Ballroom, Statler; 4:00 P.M., Public Book Discussion Panel: *The Meaning of Evolution*, Ballroom, Statler.

#### Botanical Sciences

**G, FG2** *Section on Botanical Sciences and Ecological Society of America*—2:00 P.M., Plant Ecological Papers, Room 3D, Kiel Auditorium.

#### Anthropology

**H** *Section on Anthropology*—2:00 P.M., Symposium: The Rio Grande Pueblos and the Plains, Part II, Room 4D, Kiel Auditorium.

#### Psychology

**I, M, Nm, P** *Section on Psychology, Section on Engineering, Subsection on Medicine, and Section on Industrial Science*—2:00 P.M., Symposium: Men and Machines, Part II—How Can We Fit the Machine to Modern Man? Assembly Hall 2, Kiel Auditorium.

#### Social and Economic Sciences

**K, O** *Section on Social and Economic Sciences and Section on Agriculture*—2:00 P.M., Symposium: Combined Resource Development with Special Reference to the Missouri Valley, Part II, Room 4C, Kiel Auditorium.

#### Medical Sciences

**Nm** *Subsection on Medicine*—2:00 P.M., Symposium: Chemotherapy of Tuberculosis, Assembly Hall 3, Kiel Auditorium.

**Nd** *Subsection on Dentistry*—2:00 P.M., Symposium: Scientific Contributions to the Manufacture of Restorative Dental Materials, Room B, Kiel Auditorium.

#### Industrial Science

**P, P2** *Section on Industrial Science and Society for Industrial Microbiology*—2:00 P.M., Symposium: Industrial Microbiology, Part II, Room 3C, Kiel Auditorium.

#### Education

**FG4, Q4, X4** *National Association of Biology Teachers, National Science Teachers Association, and American Nature Study Society*—2:00 P.M., Implementation of Objectives with Retarded and with Superior Science Students, De Soto Room, De Soto.

#### Saturday Evening

##### AAAS as a Whole

**X10** United Chapters of Phi Beta Kappa: Annual Address, 8:30 P.M., Crystal Room, Jefferson.

##### Mathematics

**A1** *American Mathematical Society*—8:00 P.M., Josiah Willard Gibbs Lecture, Room 100, Brown Hall, Washington University.

##### Zoological Sciences

**F, F2** *Section on Zoological Sciences and Society of Systematic Zoology*—8:00 P.M., Symposium: Life History Studies in Relation to Systematics, Ballroom, Statler.

##### Medical Sciences

**Nd** *Subsection on Dentistry*—8:00 P.M., Symposium: Engineering and Chemical Factors of Water Fluoridation, Missouri Room, Statler.

##### Education

**FG4, Q4, X4** *National Association of Biology Teachers, National Science Teachers Association, and American*

*Nature Study Society*—6:00 P.M., Science Teachers Banquet, Cotillion Room, De Soto; 8:00 P.M., ANSS Presidential Address, De Soto Room, De Soto; 9:30 P.M., All-Societies Mixer, De Soto Room, De Soto.

#### Sunday, December 28

##### Sunday Morning

##### AAAS as a Whole

**X1** *Academy Conference*—9:00 A.M., Business Meeting, Private Dining Room 7, Jefferson; 11:00 A.M., Round Table Discussion, Private Dining Room 7, Jefferson.

**X5, M, Q1** *Conference on Scientific Manpower II, Section on Engineering, AAAS Cooperative Committee on the Teaching of Science and Mathematics, and Engineering Manpower Commission*—9:30 A.M., Conference on Scientific Manpower, Part II: The National Science Foundation Program in Scientific Personnel and Education, Room 4B, Kiel Auditorium.

##### Mathematics

**A1** *American Mathematical Society*—9:00 A.M., Concurrent Session A, Room 118, Brown Hall; Concurrent Session B, Louderman Auditorium; Concurrent Session C, Room 112, Wilson Hall, Washington University; 10:30 A.M., Concurrent Session A, Room 118, Brown Hall; Concurrent Session B, Louderman Auditorium; Concurrent Session C, Room 112, Wilson Hall, Washington University.

**A3** *Mathematical Association of America*—9:00 A.M., Meeting of Executive and Finance Committees, Library, Women's Building, Washington University.

##### Chemistry

**C, Nm** *Section on Chemistry and Subsection on Medicine*—9:15 A.M., Concurrent Session 1, Symposium: Contributions of Chemistry to Medicine, Room 3A, Kiel Auditorium.

**C, Nd** *Section on Chemistry and Subsection on Dentistry*—9:15 A.M., Concurrent Session 2, Symposium: Chemistry and Dentistry Team Up for Progress, Part I, Room 3B, Kiel Auditorium.

##### Zoological Sciences

**F** *Section on Zoological Sciences*—9:30 A.M., Business Meeting, Ballroom Assembly South, Statler.

**F2** *Society of Systematic Zoology*—10:00 A.M., Business Meeting, Ballroom Assembly South, Statler; 11:00 A.M., Council Meeting II, Ballroom Assembly South, Statler.

##### Botanical Sciences

**G** *Section on Botanical Sciences*—10:00 A.M., Symposium: Improvement in the Teaching of Taxonomy, Museum Building, Missouri Botanical Garden.

##### Anthropology

**H** *Section on Anthropology*—9:30 A.M., Papers: Cultural Anthropology, Room 4D, Kiel Auditorium.

##### Social and Economic Sciences

**K, O** *Section on Social and Economic Sciences and Section on Agriculture*—9:00 A.M., Symposium: Combined Resource Development with Special Reference to the Missouri Valley, Part III, Room 4C, Kiel Auditorium.

##### Industrial Science

**P2** *Society for Industrial Microbiology*—9:30 A.M., Papers, Crystal Room, Jefferson.

##### Education

**FG4, X4** *National Association of Biology Teachers*



and *American Nature Study Society*—9:00 A.M., Departure of Field Trip, Lobby, De Soto.

**G4** *National Science Teachers Association*—9:00 A.M., Meeting of Executive Committee, Parlor C, De Soto.

#### Sunday Noon and Afternoon

##### AAAS as a Whole

**X1** *Academy Conference*—1:30 P.M., Round Table Discussion, Private Dining Room 7, Jefferson.

**X6** *Conference on Scientific Editorial Problems*—2:00 P.M., Conference on Scientific Editorial Problems, Room 4B, Kiel Auditorium.

##### Mathematics

**A1** *American Mathematical Society*—2:00 P.M., Presidential Address, Room 100, Brown Hall, Washington University; 3:30 P.M., Concurrent Session A, Room 118, Brown Hall; Concurrent Session B, Louderman Auditorium; Concurrent Session C, Room 112, Wilson Hall, Washington University; 3:30 to 5:30 P.M., Tea, Lounge, Women's Building, Washington University.

##### Chemistry

**C, Nm** *Section on Chemistry and Subsection on Medicine*—2:00 P.M., Concurrent Session 1, Symposium: Contributions of Chemistry to the Cancer Problem, Room 3A, Kiel Auditorium.

**C, Nd** *Section on Chemistry and Subsection on Dentistry*—2:00 P.M., Concurrent Session 2, Symposium: Chemistry and Dentistry Team Up for Progress, Part II, Room 3B, Kiel Auditorium.

##### Zoological Sciences

**F, F2, L** *Section on Zoological Sciences, Society of Systematic Zoology, and Section on History and Philosophy of Science*—3:00 P.M., Symposium: Anecdotal Sketches of Famous Zoologists, Ballroom, Statler.

##### Botanical Sciences

**G** *Section on Botanical Sciences*—12:00 noon, Luncheon, Museum Building, Missouri Botanical Garden; 2:00 P.M., Symposium: Biosystematics and Taxonomic Units, Museum Building, Missouri Botanical Garden.

##### Anthropology

**H** *Section on Anthropology*—2:00 P.M., Papers: Archaeology, Room 4D, Kiel Auditorium.

##### Social and Economic Sciences

**K, O** *Section on Social and Economic Sciences and Section on Agriculture*—2:00 P.M., Symposium: Combined Resource Development with Special Reference to the Missouri Valley, Part IV, Room 4C, Kiel Auditorium.

##### History and Philosophy of Science

**L** *Section on History and Philosophy of Science*—2:30 P.M., Symposium: Relations between Science and Thomistic Philosophy, Room 3C, Kiel Auditorium.

##### Medical Sciences

**N4** *Alpha Epsilon Delta, National Premedical Honor Society*—12:30 P.M., Luncheon, Daniel Boone Room, Statler.

**N4, Nm, K, Q** *Alpha Epsilon Delta, Subsection on Medicine, Section on Social and Economic Sciences, and Section on Education*—2:00 P.M., Symposium: The Social Sciences and Humanities in Medical Education, Missouri Room, Statler.

**N7** *American Association of Hospital Consultants*—2:30 P.M., Symposium: Science and Medical Care, Room 3D, Kiel Auditorium.

**N10** *American Physiological Society*—2:00 P.M., Symposium: Education in Physiological Science, Part I, St. Louis Room, Statler.

##### Industrial Science

**P2** *Society for Industrial Microbiology*—2:00 P.M., Papers, Crystal Room, Jefferson.

##### Education

**Q1, Q4, FG4, X4** *AAAS Cooperative Committee on the Teaching of Science and Mathematics, National Science Teachers Association, National Association of Biology Teachers, and American Nature Study Society*—1:30 P.M., Identification of Talented Youth in Science and Mathematics, Parlor D, De Soto.

#### Sunday Evening

##### AAAS as a Whole

**X1** *Academy Conference*—6:00 P.M., Academy Conference Dinner, Private Dining Room 2, Jefferson.

AAAS Presidential Address—8:00 P.M., Gold Room, Jefferson.

AAAS Reception—9:00 P.M., Crystal Room, Jefferson.

##### Mathematics

**A1** *American Mathematical Society*—8:00 P.M., Council Meeting; Lounge, Brown Hall, Washington University; 8:00 P.M., Opera Workshop Performance by Washington University Department of Music, Room 100, Brown Hall.

**A3** *Mathematical Association of America*—7:00 P.M., Meeting of Section Officers, Room 107, Brown Hall, Washington University.

##### Zoological Sciences

**F, F2** *Section on Zoological Sciences and Society of Systematic Zoology*—7:30 P.M., Motion Picture: *The Last Frontier*, Ballroom, Statler.

##### Anthropology

**H** *Section on Anthropology*—6:00 P.M., Anthropologists' Dinner, Private Dining Room 8, Jefferson; 7:30 P.M., Vice-Presidential Address of Section H, Private Dining Room 9, Jefferson.

##### Medical Sciences

**N10** *American Physiological Society*—8:00 P.M., Symposium: Education in Physiological Science, Part II, St. Louis Room, Statler.

##### Education

**FG4** *National Association of Biology Teachers*—8:00 P.M., Meeting of Board of Directors, Parlor A, De Soto.

**X1** *Academy Conference*—7:30 P.M., Junior Scientists Assembly, Cotillion Room, De Soto.

#### Monday, December 29

##### Monday Morning

##### AAAS as a Whole

AAAS General Symposium—Applications of the Theory of Games, 10:00 A.M., Assembly Hall 1, Kiel Auditorium.

**X5, M, Q1** *Conference on Scientific Manpower II, Section on Engineering, AAAS Cooperative Committee on the Teaching of Science and Mathematics, and Engineering Manpower Commission*—9:30 A.M., Conference on Scientific Manpower, Part III: Scientists and Engineers in the Defense Program, Room 4B, Kiel Auditorium.

##### Mathematics

**A1** *American Mathematical Society*—9:00 A.M., Concurrent Session A, Room 118, Brown Hall; Concurrent



Session B, Room 101, Crow Hall; Concurrent Session C, Room 104, Crow Hall, Washington University; 10:30 A.M., Concurrent Session A, Room 118, Brown Hall; Concurrent Session B, Room 101, Crow Hall; Concurrent Session C, Room 104, Crow Hall, Washington University.

**A2 Association for Symbolic Logic**—9:00 A.M., Papers, Room 106, Crow Hall, Washington University; 10:30 A.M., Presidential Address, Room 106, Crow Hall.

**A3 Mathematical Association of America**—9:00 A.M., Meeting of Board of Governors, Room 107, Brown Hall, Washington University.

#### Physics

**B, B2, M, P Section on Physics, Oak Ridge Institute of Nuclear Studies, Section on Engineering, and Section on Industrial Science**—9:00 A.M., Symposium: Nuclear Science in Industry, Room 4C, Kiel Auditorium.

#### Chemistry

**C Section on Chemistry**—10:00 A.M., Papers commemorating the Centenary of Washington University, Room 111, Louderman Hall, Washington University.

#### Geology and Geography

**E, E1 Section on Geology and Geography and Geological Society of America**—9:00 A.M., Symposium: Modern Research of State Geological Surveys and its Economic Values, Part I, Room 3A, Kiel Auditorium.

#### Zoological Sciences

**F Section on Zoological Sciences**—10:00 A.M., Papers: Physiology, Parlor A, Statler.

**F2 Society of Systematic Zoology**—10:00 A.M., Concurrent Session 1, Papers: Evolution and Classification, Ballroom Assembly South, Statler; Concurrent Session 2, Papers: General Systematics, Room 102, Statler.

#### Botanical Sciences

**G, G1, FG1 Section on Botanical Sciences; Illinois Section, American Society of Plant Physiologists; and American Society of Naturalists**—9:30 A.M., Symposium: Nitrogen Metabolism in the Green Plant, Part I, Room 3B, Kiel Auditorium.

#### Psychology

**I Section on Psychology**—9:00 A.M., Papers: Clinical Psychology, Room 4D, Kiel Auditorium.

#### Social and Economic Sciences

**K, H Section on Social and Economic Sciences and Section on Anthropology**—10:00 A.M., Symposium: Social and Economic Aspects of Technical Assistance Programs, Part I, Room B, Kiel Auditorium.

#### Engineering

**L, M, P, L1 Section on History and Philosophy of Science, Section on Engineering, Section on Industrial Science, and Philosophy of Science Association**—9:30 A.M., Symposium: Methodology of Engineering Research, Room 3C, Kiel Auditorium.

#### Medical Sciences

**F, G, F3, N, N13, N15 Section on Zoological Sciences; Section on Botanical Sciences; Saint Louis University Institute of Biophysics; Section on Medical Sciences; Missouri Division, American Cancer Society; and Society of General Physiologists**—9:00 A.M., Symposium: Survival of Frozen Tissues, Part I: Basic Problems and Surgical Applications, Assembly Hall 2, Kiel Auditorium.

**Np, N6, N8, N9, N12 Subsection on Pharmacy; American Association of Colleges of Pharmacy; American College of Apothecaries; American Pharmaceutical Association, Scientific Section; and American Society of Hos-**

**pital Pharmacists**—9:00 A.M., Greetings and Messages, Papers, Room 3D, Kiel Auditorium.

**N5 American Academy of Forensic Sciences**—9:15 A.M., Symposium: Problems in Forensic Sciences, Part I, Room 4A, Kiel Auditorium.

**N11 American Psychiatric Association**—9:00 A.M., Papers, St. Louis Room, Statler.

#### Industrial Science

**P1, Nm, P American Industrial Hygiene Association, Subsection on Medicine, and Section on Industrial Science**—10:00 A.M., Symposium: Industrial Hygiene—An Applied Science, and Vice-Presidential Address of Section N, Assembly Hall 3, Kiel Auditorium.

#### Education

**FG4 National Association of Biology Teachers**—8:00 A.M., Meeting of Editorial Board, *American Biology Teacher*, Parlor A, De Soto.

**FG4, Q4, X4 National Association of Biology Teachers, National Science Teachers Association, and American Nature Study Society**—8:30 A.M., Science Teaching Films, De Soto Room, De Soto.

**FG4 National Association of Biology Teachers**—10:00 A.M., Papers, Gold Room, Jefferson.

**Q Section on Education**—9:30 A.M., Panel: Visual Performance Engineering in Industry and in the School, Part I, Private Dining Room 3, Jefferson.

**Q, Q1, Q4 Section on Education, AAAS Cooperative Committee on the Teaching of Science and Mathematics, and National Science Teachers Association**—9:00 A.M., Symposium: A Report of Research on the New York State Regents Science Examinations, Ivory Room, Jefferson.

**Q4 National Science Teachers Association**—10:00 A.M., Concurrent Session 1, Reports from Inside NSTA, De Soto Room, De Soto; Concurrent Session 2, Business Meeting, Business-Industry Section, Parlor D, De Soto.

**X4 American Nature Study Society**—10:00 A.M., Session, Hunt Room, De Soto.

#### Monday Noon and Afternoon

##### Mathematics

**A1 American Mathematical Society**—2:00 P.M., Business Meeting, Room 100, Brown Hall, Washington University.

**A and A1 Section on Mathematics and American Mathematical Society**—3:30 P.M., Vice-Presidential Address of Section A, Room 100, Brown Hall, Washington University; 3:30 to 5:30 P.M., Tea, Lounge, Women's Building, Washington University.

**A2 Association for Symbolic Logic**—3:30 P.M., Papers, Room 104, Crow Hall, Washington University.

**A1 American Mathematical Society**—5:00 P.M., Concurrent Session A, Room 101, Crow Hall; Concurrent Session B, Room 104, Crow Hall; Concurrent Session C, Room 106, Crow Hall, Washington University.

##### Physics

**B2 Oak Ridge Institute of Nuclear Studies**—12:30 P.M., ORINS Luncheon, Private Dining Room 7, Jefferson.

**B, B2 Section on Physics and Oak Ridge Institute of Nuclear Studies**—2:00 P.M., Symposium: Research Applications of Carbon 14, Room 4C, Kiel Auditorium.

##### Chemistry

**C Section on Chemistry**—12:15 P.M., Luncheon, Washington University Dining Rooms; 1:45 P.M., Dedication of Louderman Hall, Room 111, Louderman Hall, Washington University.

##### Astronomy

**D Section on Astronomy**—2:00 P.M., Papers, Private Dining Room 8, Jefferson.

**D, D1 Section on Astronomy; and Astronomical League, Mid-States Region**—3:00 P.M., Contributions of the Amateur Astronomer to the Advancement of Astronomy, Private Dining Room 8, Jefferson.

#### Geology and Geography

**E, E1 Section on Geology and Geography and Geological Society of America**—2:00 P.M., Symposium: Modern Research of State Geological Surveys and its Economic Values, Part II, Room 3A, Kiel Auditorium.

#### Zoological Sciences

**F, F2 Section on Zoological Sciences and Society of Systematic Zoology**—2:00 P.M., Public Book Discussion Panel: Three General College Biology Texts, Ballroom, Statler.

**F2 Society of Systematic Zoology**—4:00 P.M., Council Meeting III, Parlor A, Statler.

#### Botanical Sciences

**G, G1, FG1 Section on Botanical Sciences; Illinois Section, American Society of Plant Physiologists; and American Society of Naturalists**—2:00 P.M., Symposium: Nitrogen Metabolism in the Green Plant, Part II, Room 3B, Kiel Auditorium.

**G, FG2, FG3 Section on Botanical Sciences, Ecological Society of America, and Grassland Research Foundation**—2:00 P.M., Symposium: The Western Range—Our Great Natural Resource, Room 4B, Kiel Auditorium.

#### Psychology

**I Section on Psychology**—1:00 P.M., Papers: Clinical Psychology, Room 4D, Kiel Auditorium; 3:00 P.M., Papers: Training, Room 4D, Kiel Auditorium.

**K, H Section on Social and Economic Sciences and Section on Anthropology**—2:00 P.M., Symposium: Social and Economic Aspects of Technical Assistance Programs, Part II, Room B, Kiel Auditorium.

**K, K1, P, K2 Section on Social and Economic Sciences, National Academy of Economics and Political Science, Section on Industrial Science, and Pi Gamma Mu**—2:00 P.M., Symposium: Information Processing in Social and Industrial Research, Private Dining Room 9, Jefferson.

#### History and Philosophy of Science

**L, L1 Section on History and Philosophy of Science and Philosophy of Science Association**—2:00 P.M., Symposium: Leonardo da Vinci, Room 3C, Kiel Auditorium.

#### Medical Sciences

**F, F3, N, N13, N14, N15 Section on Zoological Sciences; Saint Louis University Institute of Biophysics; Section on Medical Sciences; Missouri Division, American Cancer Society; Saint Louis University School of Dentistry, Department of Pathology; and Society of General Physiologists**—2:00 P.M., Symposium: Survival of Frozen Tissues, Part II, Survival of Frozen Tumor Tissues, Assembly Hall 2, Kiel Auditorium.

**Nm, M, P, P1 Subsection on Medicine, Section on Engineering, Section on Industrial Science, and American Industrial Hygiene Association**—2:00 P.M., Symposium: Health Hazards and Health Protection, Part I: Food Protection, Assembly Hall 3, Kiel Auditorium.

**Np, N6, N8, N9, N12 Subsection on Pharmacy; American Association of Colleges of Pharmacy; American College of Apothecaries; American Pharmaceutical Association, Scientific Section; and American Society of Hospital Pharmacists**—1:45 P.M., Papers, Room 3D, Kiel Auditorium; 2:15 P.M., Symposium: Accreditation of Hospital Pharmacies, Approval of Pharmacy Interns and Residency Programs, Room 3D, Kiel Auditorium.

**N5 American Academy of Forensic Sciences**—2:00

P.M., Symposium: Problems in Forensic Sciences, Part II, Room 4A, Kiel Auditorium.

**N11 American Psychiatric Association**—2:00 P.M., Round Table Discussion: Personality of Scientific Investigators, Room 102, Statler.

#### Education

**FG4 National Association of Biology Teachers**—12:30 P.M., Luncheon and Address, Hunt Room, De Soto.

**FG4, Q3 National Association of Biology Teachers and National Association for Research in Science Teaching**—2:00 P.M., Papers, De Soto Room, De Soto.

**Q Section on Education**—2:00 P.M., Concurrent Session 1, Panel: Visual Performance Engineering in Industry and in the School, Part II, Private Dining Room 3, Jefferson; Concurrent Session 2, Papers, Private Dining Room 2, Jefferson.

**Q4 National Science Teachers Association**—12:00 noon, Luncheon of the Business-Industry Section, Garden Room, Lennox; 2:00 P.M., Concurrent Session 1, Business-Industry Section, Parlor D, De Soto; Concurrent Session 2, Improving the Program for Science in General Education at Senior High School and Junior College Levels, Ballroom Assembly South, Statler; Concurrent Session 3, Improving the Program for Science in General Education at Elementary and Junior High School Levels, Daniel Boone Room, Statler.

**X4 American Nature Study Society**—2:00 P.M., Panel: Presenting Nature and Conservation through the Major Mediums of Public Enlightenment, Missouri Room, Statler.

**X8 Scientific Research Society of America**—4:00 P.M., Annual Convention, Ivory Room, Jefferson.

**X9 Society of the Sigma Xi**—2:00 P.M., Annual Convention, Ivory Room, Jefferson.

#### Monday Evening

##### AAAS as a Whole

**X9 Society of the Sigma Xi: Annual Address**, 8:15 P.M., Gold Room, Jefferson.

**E2 National Geographic Society: Annual Lecture**, 8:15 P.M., Opera House, Kiel Auditorium.

**F2 Society of Systematic Zoology: Biologists' Smoker**, 9:00 P.M. till 12:00 midnight, Exhibition Hall, Kiel Auditorium.

#### Mathematics

**A, A1, A2, A3 Section on Mathematics and Mathematical Societies**—6:30 P.M., Mathematicians' Dinner, Hotel Gatesworth.

#### Physics

**B, B4 Section on Physics and Sigma Pi Sigma**—7:00 P.M., Physicists' Dinner and Vice-Presidential Address of Section B, Crystal Room, Jefferson.

#### Chemistry

**C, X2 Section on Chemistry and Academy of Science of St. Louis**—7:00 P.M., Chemists' Dinner and Vice-Presidential Address of Section C, St. Louis Room, Statler.

#### Astronomy

**D Section on Astronomy**—8:00 P.M., Vice-Presidential Address of Section D, Private Dining Room 1, Jefferson.

#### Geology and Geography

**E, E1 Section on Geology and Geography and Geological Society of America**—8:00 P.M., Geologists' Smoker and Vice-Presidential Address of Section E, Wilson Hall, Washington University.

#### Botanical Sciences

**G Section on Botanical Sciences**—6:00 P.M., Bota-

nists' Dinner and Vice-Presidential Address of Section G, Ballroom Assembly South, Statler.

#### Psychology

**I** *Section on Psychology*—8:00 P.M., Symposium: Problems in Psychotherapy, Missouri Room, Statler.

#### Social and Economic Sciences

**K, H** *Section on Social and Economic Sciences and Section on Anthropology*—8:00 P.M., Symposium: Social and Economic Aspects of Technical Assistance Programs, Part III, Room B, Kiel Auditorium.

#### Medical Sciences

**Nm, M, P, P1** *Subsection on Medicine, Section on Engineering, Section on Industrial Science, and American Industrial Hygiene Association*—8:00 P.M., Symposium: Health Hazards and Health Protection, Part II: Air Pollution, Assembly Hall 3, Kiel Auditorium.

#### Education

**FG4** *National Association of Biology Teachers*—8:00 P.M., Meeting of Membership Committee, Parlor A, De Soto.

**X4** *American Nature Study Society*—8:00 P.M., Annual Meeting of the ANSS, Cotillion Room, De Soto; 8:30 P.M., Annual Showing of Kodachromes, Cotillion Room, De Soto.

#### Science in General

**X7** *National Association of Science Writers*—8:30 P.M., Symposium: Science in the News Columns, Private Dining Room 9, Jefferson.

**Tuesday, December 30**

**Tuesday Morning**

#### AAAS as a Whole

*AAAS Council Meeting II*—9:00 A.M., Private Dining Room 1, Jefferson.

*AAAS General Symposium*—The Nation's Nutrition: From Soil to Cytoplasm, Part I: Sources of Food, 9:30 A.M., Assembly Hall 1, Kiel Auditorium.

#### Mathematics

**A3** *Mathematical Association of America*—9:00 A.M., Papers, Louderman Auditorium, Washington University.

#### Physics

**B** *Section on Physics*—9:00 A.M., Symposium: Magnetic Resonance and Its Applications, Room 3B, Kiel Auditorium.

**B, B3, X3** *Section on Physics; Saint Louis University Institute of Technology, Department of Geophysics and Geophysical Engineering; and American Geophysical Union*—9:00 A.M., Invited Papers in Geophysics, Room B, Kiel Auditorium.

#### Chemistry

**C** *Section on Chemistry*—9:00 A.M., Concurrent Session 1, Symposium: Liquid Fuel Supplies of the Future and the Impact on the Chemical Industry by Chemicals Available as Coproducts from Synthetic Fuel Processes, Part I, Room 4C, Kiel Auditorium; 8:45 A.M., Concurrent Session 2, Symposium: Contributions of Chemistry to Agriculture, Part I, Room 4B, Kiel Auditorium.

#### Geology and Geography

**E, E1** *Section on Geology and Geography and Geological Society of America*—9:00 A.M., General Geology: Stratigraphy and Sedimentology, Room 3A, Kiel Auditorium.

#### Zoological Sciences

**F** *Section on Zoological Sciences*—10:00 A.M., Con-

current Session 1, Papers: General Biology and Behavior, Parlor A, Statler; Concurrent Session 2, Papers: Embryology and Anatomy, Room 102, Statler.

**F2** *Society of Systematic Zoology*—10:00 A.M., Papers: Nomenclature and Distribution, Ballroom Assembly South, Statler.

#### Botanical Sciences

**G, FG2** *Section on Botanical Sciences and Ecological Society of America*—9:30 A.M., Symposium: Plant Sociology and the Taxonomy of Vegetational Units, Part I, Room 3C, Kiel Auditorium.

#### Psychology

**I** *Section on Psychology*—9:00 A.M., Papers: Theoretical Psychology, Private Dining Room 9, Jefferson.

#### Social and Economic Sciences

**K, E, H, O** *Section on Social and Economic Sciences, Section on Geology and Geography, Section on Anthropology, and Section on Agriculture*—10:00 A.M., Regional Research: Emerging Concepts and Techniques, Private Dining Room 3, Jefferson.

#### History and Philosophy of Science

**L, L1** *Section on History and Philosophy of Science and Philosophy of Science Association*—9:30 A.M., Symposium: Philosophical Problems of Contemporary Biology, Room 4D, Kiel Auditorium.

#### Engineering

**M, Nm, Nd, M2** *Section on Engineering, Subsection on Medicine, Subsection on Dentistry, and Central Institute for the Deaf*—9:30 A.M., Symposium: Hearing and Speech Aids, Part I, Clinics and Research Building, Central Institute for the Deaf.

#### Medical Sciences

**Nm, M, P, P1** *Subsection on Medicine, Section on Engineering, Section on Industrial Science, and American Industrial Hygiene Association*—10:00 A.M., Symposium: Health Hazards and Health Protection, Part III: Radiation Hazards, Assembly Hall 3, Kiel Auditorium.

**Np, N6, N8, N9, N12** *Subsection on Pharmacy; American Association of Colleges of Pharmacy; American College of Apothecaries; American Pharmaceutical Association, Scientific Section; and American Society of Hospital Pharmacists*—9:00 A.M., Papers, Room 3D, Kiel Auditorium; 10:15 A.M., Symposium: The Content of Hospital Pharmacy Courses in Schools of Pharmacy, Room 3D, Kiel Auditorium.

#### Industrial Science

**I, M, P** *Section on Psychology, Section on Engineering, and Section on Industrial Science*—9:30 A.M., Effective Utilization of Industrial Manpower, Part I: How Scientific is Modern Industry? Ivory Room, Jefferson.

#### Education

**FG4, Q4, X4** *National Association of Biology Teachers, National Science Teachers Association, and American Nature Study Society*—8:00 A.M., Meeting of Officers to plan the 1953 coordinated program, Parlor D, De Soto; 8:30 A.M., Science Teaching Films, De Soto Room, De Soto; 10:00 A.M., Symposium: Producing and Using Science Text and Reference Books, De Soto Room, De Soto.

**Q** *Section on Education*—9:00 A.M., Papers, Private Dining Room 2, Jefferson.

**Q, Q2** *Section on Education and American Educational Research Association*—9:30 A.M., Joint session, Private Dining Room 8, Jefferson.

## Tuesday Noon and Afternoon

### AAAS as a Whole

*AAAS Section Officers Luncheon and Business Meeting*—12:00 noon, Private Dining Room 4, Jefferson.

*AAAS General Symposium*—The Nation's Nutrition: From Soil to Cytoplasm, Part II: Assimilation of Food, 2:00 P.M., Assembly Hall 1, Kiel Auditorium.

### Mathematics

**A3** *Mathematical Association of America*—2:00 P.M., Business Meeting and Symposium: Teaching of Service Courses in Mathematics, Louderman Auditorium, Washington University; 3:30 to 5:30 P.M., Tea, Lounge, Women's Building, Washington University.

### Physics

**B, B1, B3, X3** *Section on Physics; American Meteorological Society; Saint Louis University Institute of Technology, Department of Geophysics and Geophysical Engineering; and American Geophysical Union*—2:00 P.M., Symposium: Tornadoes and Tornado Forecasting, Room B, Kiel Auditorium.

### Chemistry

**C1** *Alpha Chi Sigma*—12:30 P.M., Luncheon of St. Louis Professional Chapter, Private Dining Room 7, Jefferson.

**C** *Section on Chemistry*—2:00 P.M., Concurrent Session 1, Symposium: Liquid Fuel Supplies of the Future and the Impact on the Chemical Industry by Chemicals Available as Coproducts from Synthetic Fuel Processes, Part II, Room 4C, Kiel Auditorium; Concurrent Session 2, Symposium: Contributions of Chemistry to Agriculture, Part II, Room 4B, Kiel Auditorium.

### Geology and Geography

**E, E1** *Section on Geology and Geography and Geological Society of America*—2:00 P.M., Concurrent Session 1, General Geology: Pleistocene and Physical Geology, Room 3A, Kiel Auditorium; 2:00 P.M., Concurrent Session 2, Panel: Impact of the Missouri Basin Program, Room 3B, Kiel Auditorium.

### Zoological Sciences

**F, F2** *Section on Zoological Sciences and Society of Systematic Zoology*—2:00 P.M., Public Book Discussion Panel: Three College Zoology Texts, Ballroom, Statler.

**F1** *Herpetologists League*—2:00 P.M., Conference on Common Names of Reptiles and Amphibians of the United States, Ballroom Assembly South, Statler.

### Botanical Sciences

**G, FG2** *Section on Botanical Sciences and Ecological Society of America*—2:00 P.M., Symposium: Plant Sociology and the Taxonomy of Vegetational Units, Part II, Room 3C, Kiel Auditorium.

### Psychology

**I** *Section on Psychology*—1:00 P.M., Papers: Experimental Psychology, Private Dining Room 1, Jefferson.

**I, Q** *Section on Psychology and Section on Education*—2:00 P.M., Vice-Presidential Addresses of Sections I and Q, Private Dining Room 1, Jefferson.

### Social and Economic Sciences

**K** *Section on Social and Economic Sciences*—2:00 P.M., Symposium: The Individual Scientist in Today's World, Private Dining Room 9, Jefferson.

### History and Philosophy of Science

**L1** *Philosophy of Science Association*—4:30 P.M., Business Meeting, Room 4D, Kiel Auditorium.

**L, L1** *Section on History and Philosophy of Science and Philosophy of Science Association*—2:00 P.M., Symposium: Confirmation of Scientific Theories, Room 4D, Kiel Auditorium.

### Engineering

**M, Nm, Nd, M2** *Section on Engineering, Subsection on Medicine, Subsection on Dentistry, and Central Institute for the Deaf*—2:00 P.M., Symposium: Hearing and Speech Aids, Part II, Clinics and Research Building, Central Institute for the Deaf.

### Medical Sciences

**Np, N6, N8, N9, N12** *Subsection on Pharmacy; American Association of Colleges of Pharmacy; American College of Apothecaries; American Pharmaceutical Association, Scientific Section; and American Society of Hospital Pharmacists*—1:45 P.M., Papers, Room 3D, Kiel Auditorium; 2:30 P.M., Symposium: The Role of the U. S. P., the N. F., the N. N. R., and the A. D. R. in Developing and Maintaining Sound Drug Therapy Trends and Standards, Room 3D, Kiel Auditorium.

### Industrial Science

**I, M, P, M1** *Section on Psychology, Section on Engineering, Section on Industrial Science, and Association of American Railroads*—12:30 P.M., Luncheon Meeting and Address, Crystal Room, Jefferson.

**I, M, P** *Section on Psychology, Section on Engineering, and Section on Industrial Science*—2:30 P.M., Effective Utilization of Industrial Manpower, Part II: Contributions of the Several Disciplines, Ivory Room, Jefferson.

### Education

**FG4** *National Association of Biology Teachers*—2:00 P.M., Panel: Effective Techniques in Teaching Conservation in Biology, Parlor D, De Soto.

**Q, I** *Section on Education and Section on Psychology*—2:00 P.M., Vice-Presidential Addresses of Sections Q and I, Private Dining Room 1, Jefferson.

**Q** *Section on Education*—3:30 P.M., Business Meeting, Private Dining Room 1, Jefferson.

**Q4** *National Science Teachers Association*—12:00 noon, Luncheon of the Business-Industry Section, Garden Room, Lennox; 2:00 P.M., Concurrent Session 1, Here's How I Do It—Senior High School Sciences, De Soto Room, De Soto; Concurrent Session 2, Here's How I Do It—Junior High School and Elementary Science, Hunt Room, De Soto.

**X4** *American Nature Study Society*—2:00 P.M., Panel Discussion and Demonstration: Getting Better Results from Nature Photography, Cotillion Room, De Soto.

## Tuesday Evening

### AAAS as a Whole

**X8** *Scientific Research Society of America: Annual Address*, 8:00 P.M., Gold Room, Jefferson.

### Zoological Sciences

**F, F2** *Section on Zoological Sciences and Society of Systematic Zoology*—7:00 P.M., Zoologists' Dinner and Vice-Presidential Address of Section F, Bevo Mill.

### Education

**FG4** *National Association of Biology Teachers*—8:00 P.M., Meeting of National Conservation Committee, Parlor D, De Soto.

## Wednesday, December 31

### Wednesday Morning

### Physics

**B1** *American Meteorological Society*—9:00 A.M., Conference of Midwestern Meteorologists, Private Dining Room 1, Jefferson.

## History and Philosophy of Science

**L Section on History and Philosophy of Science**—9:30 A.M., Papers, Crystal Room, Jefferson; 11:00 A.M., Vice-Presidential Address of Section L, Crystal Room, Jefferson.

## Education

**FG4 National Association of Biology Teachers**—9:00 A.M., Conservation Work Conference, Parlor D, De Soto.

**Q Section on Education**—9:00 A.M., Current Criticisms of Public Education and How to Meet them, Private Dining Room 8, Jefferson.

## ANNUAL EXPOSITION OF SCIENCE AND INDUSTRY

The AAAS Annual Exposition of Science and Industry, which dates back to 1924 (still earlier with certain pioneer exhibitors), has become an important and integral part of the Association's annual meeting. It provides an outstanding opportunity for those who use the tools and materials of science to meet those who produce and distribute them. The 1952 edition of the Exposition, which occupies the Convention Hall of the Kiel Municipal Auditorium, is up to the same high standard of previous years.

The exhibits include the latest and best in scientific books, instruments, and materials; they are on a scale, and with a diversity, not usually possible at the meeting of an individual society or group of societies in a single field of science. In addition to this "core" of the Exposition, a variety of organizations have special exhibits, and there are technical exhibits by large firms representative of the basic industries of the nation. Prominent concerns in the chemical, pharmaceutical, and other industries are sharing with the attending scientists some of their impressive technological accomplishments. The Exposition should not be missed by anyone who attends the meeting. Your Convention Badge assures admission.

The AAAS Annual Exposition of Science and Industry fills Convention Hall of the Kiel Municipal Auditorium. The exhibit area, which is on the second floor, is reached through the 14th Street Entrance.

The Exposition is open to:

1. All registrants attending the 119th meeting.
2. Interested adults who have applied for, and received, complimentary tickets of admission.

### Hours

Saturday, Dec. 27 .....	10:00 A.M.—6:00 P.M.
Sunday, Dec. 28 .....	Noon—6:00 P.M.
Monday, Dec. 29 .....	11:00 A.M.—9:00 P.M.
Tuesday, Dec. 30 .....	10:00 A.M.—4:00 P.M.

## Directory of Exhibitors

(Descriptive material prepared by individual exhibitors)

**AAAS New Member Service—Science—The Scientific Monthly (Booth 93).** There are personal advantages in joining the Association. Every person in attendance at the 119th meeting is cordially invited to visit the New Member Service for information concerning the Association. Since its founding, in 1848, the Association has admitted to membership not only professional scientists but also other men and women who have a general interest in science, who wish to keep informed of the progress of science, and who would like to support the high purposes of the one organization that represents all science.

Included in the annual dues of \$6.50 (for 1953), each member has a choice of a year of *SCIENCE*, the professional scientist's newsworthy, or *THE SCIENTIFIC MONTHLY* (or both, for an additional \$3.50). Free sample copies of these two publications will be distributed, and

all not familiar with both magazines are invited to visit this booth. The Symposium Volumes and other publications of the AAAS are also on display. *Prospective advertisers* may obtain sample copies of the magazines and rate cards. Members of the AAAS are requested to nominate fellow scientists for membership.

**Leland B. Alford, M.D., St. Louis, Missouri (Booth 65).** The localization of dementia ("confusion") in the human brain. This relatively novel finding is now supported by a number of independent studies. Associated with certain lesions in the region of the thalamus, in themselves not particularly noxious, is the symptom or group of related symptoms variously designated as dementia, confusion of consciousness, disorientation, and unconsciousness. In no other part of the brain is this clinical picture produced. Since in this condition practically all rational psychological responses are abolished, the theoretical implications appear to be highly important. The exhibit shows photographs and drawings of cerebral lesions in which dementia was the symptom and of control lesions in various locations where mental capacity was excellent. The cases are from both the exhibitor's own material and from medical literature.

**Aloe Scientific (Booths 69 and 70).** The Aloe Scientific exhibit consists of new and modern laboratory devices for research and teaching purposes. The De Fonbrune Micromanipulator and Microforge will be demonstrated. Aloe Moduline steel laboratory and institutional furniture will be displayed.

**American Cancer Society, Inc. (Booths 77 and 78).** Statistical data on incidence and mortality, section on demographic and possible etiologic aspects; staging of disease, with emphasis on Stage O and its diagnosis. Diagnostic methods, with particular emphasis on the role of cytology in detecting early cervical cancer, methods of taking a cervical biopsy. The problem of cancer of the cervical stump is outlined; results of treatment of the four stages of cervical cancer are indicated.

**The American National Red Cross (Booths 54 and 55).** The Red Cross exhibit will illustrate a large cut-out map of the United States dramatically backlit and showing, by means of applied cut-outs, the distribution of blood centers and blood banks. The travel route of the blood trains will also be indicated. This section will contain a small animated unit on the filling of the blood bottle. On each side of the booth we will present recipient set and other equipment in two assembled displays.

**American Optical Company (Booth 87).** Among the group of instruments the American Optical Company's Instrument Division will display will be a phase microscope. The relatively new field of phase microscopy has proved essential for the examination of living organisms and tissues, slightly pigmented or faded preparations, emulsions, plastics, and other material too transparent to be seen with bright-field microscopy. The new simplified P45 Polarizing Microscope, a low-priced instrument designed for crystallography, chemical microscopy, and petrography, both for educational and industrial use, will also be an interesting highlight of the AO exhibit. Also to be displayed is an AO Spencer Photomicrographic Camera with convenient, yet rapid, operational features, designed for use with a monocular microscope. Representatives of the company, C. M. Osborne and P. R. Beckett, will be on hand to demonstrate and discuss the many improvements and outstanding advantages of AO instruments.

**American Pharmaceutical Association (Booths 63 and 64).** The exhibit of the American Pharmaceutical Association shows the role of the pharmacist as a member of the public health team. It also emphasizes the services of the American Pharmaceutical Association over the past century, since this is its centennial year. Photographs showing the association's headquarters in Washington are included in the exhibit.

**The American Tobacco Company (Booths 73 and 74).**

The exhibit of the Research Laboratory of The American Tobacco Company will feature a new type of moisture meter which has been developed by its Instrument Division. This meter records moisture content of tobacco directly by automatically correcting for temperature and eliminates errors previously encountered in manually operated instruments. This is another example of original application of well-known principles which result in closer control of quality in *Lucky Strike* cigarettes.

**Animal Welfare Institute (Booth 43).** Established in 1951 as a nonprofit educational and research organization in the field of laboratory animals including their care, housing, and procurement, the Animal Welfare Institute has three immediate aims in its work toward a more complete understanding between science and humanitarianism: (1) The encouragement of medical research techniques of the highest quality, to reduce both the pain and number of animals required in the laboratory; (2) to discover the most suitable methods of procurement of laboratory animals without jeopardizing constructive humane work; (3) the establishment of a standard code of ethics for the use of laboratory animals. The institute provides a forum and clearinghouse for the legitimate claims of scientists and humanitarians alike, and has made considerable progress in this field since last year's Exposition in Philadelphia. President of the organization is Christine Stevens; headquarters is 730 Fifth Ave., New York 19.

**Arel Inc. (Booth 6).** Arel will show the Medatron medical dental camera unit. Designed in conjunction with outstanding physicians and dentists in Portland, Ore., and at the University of Oregon Medical School, this unit is the answer for the doctor or dentist who desires to use photography in his practice for clinical records, progress recording of cases, and lecture purposes. Compact and portable, total size 7" x 7" x 8", this unit contains its own light source, calibrated for use with daylight-type color film. It is instantly ready for use and is so designed that it automatically computes the exposure, so that a nurse or technician completely unacquainted with photography can obtain the same results as the photographic expert.

**Armour and Company (Booth 68).** In keeping with its policy of Serving Science, Industry, and Medicine, the Central Research Department, Research Division of Armour and Company, will present the following specialty items for experimental use: Pure normal C<sub>12</sub> and C<sub>18</sub> acids, methyl esters, and amines; purified hormones and enzymes of animal origin; liver and plasma fractions; animal lipids, reference compounds, and other fine chemicals. A research investigator will answer your questions concerning the chemical, physical, and biologic properties of such compounds.

**Association of American Railroads (Booths 91 and 92).**

**Association of American University Presses (Booth 26).** Examine these new University Press books—and others—at Booth 26: Trumpler and Weaver *Statistical Astronomy*, \$7.50 (California); Milne *Sir James Jeans*, \$4.00 (Cambridge); Conant *Modern Science and Modern Man*, \$2.00 (t) (Columbia); Sarton *A History of Science: Ancient Science Through the Golden Age of Greece*, \$10.00 (Harvard); Linsky, editor, *Semantics and the Philosophy of Language*, \$3.75 (Illinois); Gowen, editor, *Heterosis*, \$5.75 (Iowa State); McElroy and Glass, editors, *Phosphorus Metabolism*, Volume II, \$10.00 (Johns Hopkins); Dice *Natural Communities*, \$5.50 (Michigan); Albaum et al. *Biology of Phosphorus*, \$2.00 (Michigan State); Storck and Teague *Flour for Man's Bread*, \$7.50 (Minnesota); Levertov *Food Becomes You*, \$3.50 (Nebraska); White and Benson, editors, *Physics and Medicine of the Upper Atmosphere*, \$10.00 (New Mexico); Russell et al. *Time and its Mysteries*, \$3.00 (New York); Möller *The Theory of Relativity*, \$7.00 (Oxford); Fogg, editor, *The Scientists Look at our World*, \$3.00 (Pennsylvania); Sanford et al. *Psychology in the World*

*Emergency*, \$4.00 (Pittsburgh); Winslow *Man and Epidemics*, \$4.00 (Princeton); Hilgard et al. *Psychoanalysis as Science*, \$4.25 (Stanford); Hartman *Possoms*, \$6.00 (Texas); Buller *Researches on Fungi*, Volume VII; *The Sexual Process in the Uredinales*, \$13.50 (Toronto); *Marine Fouling and its Prevention*, \$10.00 (U. S. Naval Institute); Robinson *The Look of Maps: An Examination of Cartographic Design*, \$2.75 (Wisconsin); Urey *The Planets: Their Origin and Development*, \$5.00 (Yale).

**Bausch & Lomb Optical Co. (Booth 100).** There are many items of interest to be seen in the Bausch & Lomb exhibit. Besides the line of dynoptic microscopes, stereomicroscopes, phase contrast microscopes, and grating monochromator, two brand-new items will be shown. An eyepiece camera designed to fit any standard microscope will take pictures on 35mm and 2¼ x 3¼ film, either colored or black-and-white. The viewing device is unique by virtue of this long eye relief and the fact that it need not be removed during the exposure, which makes it nicely suited to live material. Another brand-new item is the monochromatic colorimeter. The new model offers greater accuracy and convenience than ever before. Special interference filters used with the instrument have a band pass of 20 mμ which is far narrower than glass filters and those used on many higher-priced spectrophotometers. Easier and faster analysis is possible by redesign of the controls. Although intended primarily for routine clinical and industrial analyses, it can be used for research because of its accuracy and sensitivity. B&L representatives will welcome inquiries.

**The Bioscope Manufacturing Company (Booth 13).** Modernize your microscopic study with a Bioscope. This instrument will project microscopic slides down on a table or on a wall screen. Especially made to project living material without harmful heat. The Bioscope makes microscopic study thrilling and interesting to students; speeds up microscopic study tremendously; eliminates eye strain and cramped positions; and makes a great saving in microscopes and slides. Be satisfied only with the genuine and original Bioscope. Do not be misled by imitations and higher prices. We are the oldest company specializing in the microprojection field. If there were a better way to do the job we would know about it and do it. We have pioneered in this field since 1934. More than 25,000 school people have approved the purchase of the Bioscope for their school. This great volume of sales and our know-how enable us to offer the best buy on the market. See it demonstrated at our booth. Master Model Bioscope with Polarizer—\$98.50; high power attachment—\$17.50. Standard Model (without attachments)—\$87.50. Especially selected slides (25 per set)—\$9.50.

**The Blakiston Company (Booth 4).** The Blakiston Company cordially invites all members of the AAAS to its exhibit of scientific textbooks and reference works. There will be a number of outstanding new books awaiting your examination. Don't miss *Comparative Vertebrate Embryology* by Nelson—the best book in its field! Ask to see the brand-new *Paramecium* by Wichterman—the most extensive coverage ever made of a microscopic animal. Be sure to look over *Factors of Evolution* by Schmalhausen—supplies important link in the modern view of evolution. Other new books that will be here for your consideration are: *Sheep Management and Diseases* by Belschner; *Physics for Science and Engineering Students* by Furry, Street, and Purcell; *Introductory General Chemistry* by Cavelti; *Quantitative Organic Microanalysis* by Steyermark; *Deciduous Forests of North America* by Braun; *Bacteria* by Thomas and Grainger; *Insect Natural History* by Inms; and *Handbook of Basic Microtechnique* by Gray. Jim Lackey, our science editor, and members of our educational staff will be on hand to discuss these and other distinguished Blakiston works.

**Carolina Biological Supply Company (Booth 75).** The Carolina Biological Supply Company, of Elon College, North Carolina, and Waubun Laboratories, of Schriever,



Louisiana, will exhibit a complete range of biological materials and some pathological materials embedded in plastic. Among the products displayed will be preserved and injected macroscopic specimens, living cultures, bacteriological material, botanical specimens, prepared microscopic slides, and kodachromes for botany and zoology. One of the focal points of interest will be the famous Plast-O-Mounts. There will be in attendance a professional to explain Carolina technique in plastic embedding and color preservation. A general cross section of standard brands laboratory apparatus will be exhibited, including microprojectors and microscopes. A staff of professional biologists will be in charge of the booth and will offer complete biological material information. Free literature, including teaching aids, will be available to visitors at our booth.

**The Chemstrand Corporation (Booths 15, 16, and 17).** The Chemstrand Corporation exhibit dramatizes the functional and fashion characteristics of the firm's new acrylic fiber Acrilan, which had its world premiere showing in New York City last fall. Merchandise of Acrilan was introduced to consumers simultaneously in the leading markets of the country. The exhibit marks a year of progress since the company's first participation in the AAAS at Philadelphia in 1951. The emphasis then was on the research and development progress of the fiber, which at that time was in pilot plant production only. Using display and show props from the company's debut performance, this year's exhibit features not only the fiber Acrilan and its properties and characteristics, but also the fashion aspects of the fiber translated in terms of fabrics and styles made wholly of Acrilan or of Acrilan in blends with other commercially available fibers. The center theme of the exhibit features a wire-mesh mannequin 12 feet 6 inches in height and stuffed with Acrilan fiber. Draped over the body and arms of the "lady" are 40 yards of challis fabric made of 100% Acrilan. Flanking this "theme" display are four spot displays, each dramatizing a functional characteristic of the fiber. One illustrates "washability," showing blanketing material of 100% Acrilan, which is shrinkage-free and without color loss after repeated washings; a second display features "mothproofness" of a fiber; a third, the "hand and feel" of the fiber when translated into fabrics; and the fourth, the "quick-drying" aspects of Acrilan, which is hydrophobic. Mannequins are used against colorful backdrops to highlight around-the-clock and around-the-season styles of Acrilan, ranging from sport and casual wear to formal attire, and deep-pile fabrics for stoles and capes. The Chemstrand Corporation, an associate company jointly owned by Monsanto Chemical Company and American Viscose Corporation, this year brought its new Acrilan manufacturing facilities into commercial operation at Decatur, Ala. The plant will have an initial capacity of 30,000,000 pounds of staple annually when brought to peak operation. The company also has its four-unit research and development center and corporation administrative headquarters at Decatur. A 50,000,000 pound per year Chemstrand nylon filament yarn plant is under construction near Pensacola, Fla., the first wholly integrated nylon plant to be built in this country.

**The Coca-Cola Company (Booths 18 and 19).** Ice-cold Coca-Cola served through the courtesy and cooperation of the Coca-Cola Bottling Company of St. Louis and The Coca-Cola Company.

**Department of Anatomy, Duke University School of Medicine, J. E. Markee and R. F. Becker (Booth 46).** The exhibit on the autonomic nervous system consists of twenty 8" x 10" transparencies which illustrate the key scenes in the motion picture on the autonomic nervous system. The autonomic nervous system innervates smooth muscle, cardiac muscle, and glands. It is a visceral motor system in contrast to the voluntary motor system, which innervates only skeletal muscle. These transparencies illustrate the two main divisions of the autonomic nervous

system—namely, the parasympathetic and sympathetic, and include the origin and distribution of these two divisions. They illustrate the connections of the spinal nerves with sympathetic trunk and chain ganglia by white and gray rami, and show the segmental connections of spinal cord with sympathetic trunks. The innervation of the gut by parasympathetic and sympathetic fibers, the plexuses of Auerbach and Meissner, and the components of the viscerovisceral reflex arc are illustrated. Whereas a single motor fiber is required for the innervation of voluntary muscle, two neurons are always involved in visceromotor innervation. Certain peripheral structures, such as sweat glands, pilomotor muscles, and arterioles, are innervated only by the sympathetic division. The final two transparencies illustrate the cholinergic and adrenergic classification of motor fibers.

**Department of Anatomy, Saint Louis University School of Medicine, Albert Kuntz (Booth 66).** The exhibit on the autonomic nervous system will consist of illustrations based on research carried out in the Department of Anatomy, Saint Louis University School of Medicine: (1) Drawings and photographs from dissections of the human body to illustrate the anatomical relationships of the sympathetic trunk, communicating rami and interconnecting rami, and accessory sympathetic ganglia. (2) Drawings based on detailed dissections and microscopic preparations of the vertebral nerves and the perivascular plexuses on the vertebral and the basilar arteries in the cat. (3) Diagrammatic illustration of the reflex arcs that mediate visceral vasomotor responses to localized thermal stimulation of the skin. (4) Photomicrographs illustrating the cytological structure of autonomic ganglion cells, with particular reference to chromidial substance, Golgi's apparatus, and ascorbic acid. (5) Photomicrographs illustrating: (a) Histochemical alterations in autonomic ganglion cells associated with aging. (b) Accumulation of pigment and excessive growth of dendrites in human autonomic ganglion cells in advanced age. (6) Photomicrographs from sections of autonomic ganglia showing neuroglial cells undergoing amitotic division, and lysis of ganglion cells by cells derived from ganglion cell capsules. (7) Photomicrographs illustrating histochemical alterations in autonomic ganglion cells in scorbutic guinea pigs.

**Department of Pathology and Research, Saint Louis University School of Dentistry, W. H. Bauer (Booth 67).** A display of the diseases of the human salivary gland.

**Gilson Medical Electronics (Booth 20).** GME, Madison, Wis., will feature the GME spiral fraction collector. Only the test-tube table moves, turning and advancing under the stationary column. The apparatus may be time-operated, or a volumetrically activated mechanism may be used. Another new instrument will be a compact circular shaker, 17" in diameter, which accommodates at one time a 1- or 2-liter Erlenmeyer flask and six 500-cc or smaller Erlenmeyer flasks. The shaking action is continuously variable in speed, and provides mixing without excessive aeration. Also to be shown is the GME-Lardy circular Warburg Model 2 incorporating sundry improvements; and Model B of the GME 8 channel EEG and polygraph for recording pressure, temperature, muscle potentials for kinesiology, psycho-galvanic reflex, movement, and other physiological variables. It is entirely line-operated and is extremely stable even with large line voltage fluctuations. The frequency response is flat to 100 cps. The apparatus is only 19" square, an important factor in a crowded laboratory.

**Gradwohl Laboratory Supply Company (Booths 79 and 80).** This exhibit will show the various activities of the Gradwohl Laboratory Supply Company—namely, manufacture and supply of laboratory reagents, the training of laboratory technicians, the publication of a monthly journal entitled the *Laboratory Digest* which gives recent advances in laboratory procedures (the next,



the emphasis on the Papanicolaou method of cancer detection).

**The Graf-Apsco Company (Booth 7).** The newly designed Graf-Apsco microscopes are displayed for examination and use. As "America's Leading Microscope Repair House" the aim in designing these instruments was to make them as foolproof as possible. You will be pleasantly surprised to find the usual points of irritation missing—and prices unbelievably reasonable. In addition to new microscopes, we also display a wide assortment of rebuilt instruments. All our instruments, whether new or rebuilt, carry a ten-year guarantee against defective parts and workmanship. If you have any repair or obsolescence problems, bring them to us. We shall be glad to help, regardless of the make of instruments.

**Harvard Apparatus Company, Incorporated (Booth 42).** In 1888 William Townsend Porter, a young professor in the St. Louis Medical College, established the first physiological laboratory west of the Great Lakes. Later, at Harvard, he supplied from the small machine shop of Professor Bowditch's pioneer laboratory the first inexpensive but well-made instruments for the student of physiology, there and elsewhere. He thus implemented his own enthusiastic development of the new laboratory teaching. This epochal service of the "Harvard Physiological Apparatus," generally so-called fifty years ago, was soon on its own and became as a nonprofit enterprise the organization incorporated in 1934, with full recognition of a long-maintained annual research grant, now the Porter Fellowship. For the first time in the half-century of its history, the company is undertaking (as a tribute to the St. Louis birthplace of its founder's professional career) the exhibition of its entire product. The range of this showing, from the new to the old, is fairly wide. It runs from recent developments in the kymograph, respirator, stand, etc. to the numerous simple accessories long in constant demand by biological departments of schools and colleges, as well as by medical schools and institutes of research.

**Houghton Mifflin Company (Booth 5).** Houghton Mifflin Company will exhibit its extensive list of college texts in the fields of Biology, Chemistry, Economics, Mathematics, Physics, Sociology, Psychology, and General Science. Included with these college texts will be several trade books of general interest to science teachers.

**International Auxiliary Language Association (Booth 61).** The International Auxiliary Language Association wishes to bring to the attention of AAAS members attending the annual meeting information about our research and the form of international communication resulting from it—namely, Interlingua. Scientists are showing considerable interest in Interlingua as a potential tool in the exchange of information at the international level.

**International Shoe Company (Booth 71).** International Shoe Company exhibit will have as its objective an exposition of the degree to which vertical organization or integration has been developed in the company's operations. The exhibit will illustrate the extent to which the company starts its manufacture with basic raw materials, such as hides, rubber, cotton, and other natural and synthetic raw materials, and converts these for final distribution at the consumer level.

**Josiah Macy, Jr. Foundation Publications (Booth 45).** You are cordially invited to visit the display of the Transactions of the Conferences sponsored by the Josiah Macy, Jr. Foundation. This year we are presenting the transactions of two new conferences; Cold Injury and Shock and Circulatory Homeostasis, which should be of interest to those concerned with the current medical problems of the Armed Forces. Also available for your examination are our latest publications on Adrenal Cortex, Aging, Biological Antioxidants, Blood Clotting, Blood Pressure, Clinical Psychology, Connective Tissues, Consciousness, Cybernetics, Infancy and Childhood, Liver Injury, Convalescence, Metabolic Interrelations, Nerve

Impulse, Renal Function. Elizabeth Fuller and Alfred Patten will be on hand to answer questions and to explain this new approach in medical literature. These books are verbatim reports of meetings in which representatives from all professions and specialties relevant to the topic participated. The material published is unobtainable elsewhere and is the most advanced information available to investigators and practicing physicians concerning research progress and new methods and theories. The transactions offer, as well, interesting insight into the broad problem of communication and integration between disciplines, a question of importance to the advancement of the whole of science. In order to make these books available to the greatest number of those interested the foundation offers them for sale at cost.

**Mallinckrodt Institute of Radiology, Washington University School of Medicine (Booths 97, 98, and 99).** The exhibit will feature diagnostic roentgenology with opaque contrast media. (Space endowed by the Mallinckrodt Chemical Works.)

**G. & C. Merriam Company (Booth 60).** The Exhibit will display copies of the Merriam-Webster publications listed below: *Webster's New International Dictionary*, Second Edition—the unabridged work containing 600,000 entries, including thousands of encyclopedic articles, many of them recording a wealth of information in the field of science. *Webster's New Collegiate Dictionary*—our largest abridged work, completely up to date—copyright 1951. *Webster's Dictionary of Synonyms*—listing Synonyms, Antonyms, and Analogous and Contrasted Words, explaining the difference in their shades of meaning and illustrating their use. *Webster's Biographical Dictionary*—entering 40,000 biographies of noted men and women of all countries, with name pronunciations. *Webster's Geographical Dictionary*—records information on all the world's important places, with name pronunciations. There will also be shown pamphlets illustrating and explaining the use of the above publications.

**Midwest Rubber Reclaiming Company (Booth 62).** The exhibit consists of diagrammatic flow sheets of the two major processes used in the East St. Louis plant of the company, starting with the raw material—i.e., scrap tires—and guiding the observer through the various stages of the processes to the final products obtained therefrom. Transparencies of factory equipment are built into the flow sheets to give a better understanding of the process and machinery involved. One of the side panels gives statistical data of production capacities and consumption of reclaim over several decades, as well as its position in relation to the total consumption of natural and synthetic rubber in the United States. Another side panel shows the consumption of reclaim as related to its use in consumer goods such as tires, battery cases, automotive and mechanical goods, etc.

**Missouri Geological Survey (Booths 85 and 86).** The exhibit has been designed to highlight the occurrence and distribution of mineral raw materials in Missouri. A panorama shows in cross section this occurrence and distribution. Mineral and rock samples of each material will be available for close examination by all visitors.

**Monsanto Chemical Company (Booths 27, 28, 29, and 30).** Monsanto will have a display of over 500 Monsanto products. Particular emphasis will be placed on the part research plays in our organization.

**Philip Morris & Co. Ltd., Inc. (Booth 53).** Physiologic and pharmacologic methods are used for the evaluation of the irritants in cigarette smoke.

**The C. V. Mosby Company (Booth 52).** The C. V. Mosby Company extends a most cordial invitation to visit Booth No. 52, where books designed for teaching and reference will be available for examination. New books and new editions to be displayed will include Beaver's *The Science of Biology* and *Biological Science in Laboratory and Field*, Zoethout and Tuttle's *Textbook of Physiology*, Lindsey's *Principles of Organic Evolution*, Krajian and Gradwohl's *Histopathological Technique*, Anderson's

*Synopsis of Pathology*, Harrison's *Dissection of the Cat*, Walling's *Laboratory Manual for Elementary Physiology*, and Schaub and Foley's *Diagnostic Bacteriology*. Our representatives will welcome an opportunity to discuss book needs.

**National Bureau of Standards (Booths 35, 36, 37, 38, 39, and 40).** The NBS exhibit will cover three areas: (1) Fundamental measurement of standards of science; (2) instrumentation; and (3) publications. The section on standards presents the following topics: Length, mass, optical, temperature, frequency and time, and electrical standards. The importance of instrumentation in science and industry is presented in panels and embraces mechanical electronics, atomic and radiation, aeronautic, optical, and textile fields. The publications unit illustrates a variety of research and development projects in the physical sciences carried at NBS.

**National Cancer Institute, USPHS, W. C. Hueper (Booths 88 and 89).** The environmental respiratory cancer: The exhibit shows the various recognized and suspected environmental agents implicated in the production of cancer of the respiratory organs, and the different physical-chemical states of contact, as well as their relation to the sites of the resulting cancer. Special graphs demonstrate the simultaneous rise of lung cancers, and of the production and consumption of industrial products for potential causal relations to cancer of the lung during the past 30 years. A map of the U. S. illustrates the distinct regional differences in lung and larynx cancer morbidity in eight metropolitan areas surveyed in 1938 and again in 1948, as well as the uniform rise in lung cancer morbidity in the eight areas during this decade.

**National Geographic Society (Booths 83 and 84).** The exhibit of the National Geographic Society will feature the *National Geographic Magazine* and the *Geographic School Bulletins*. Also on display will be maps, books, pictures, and other special educational materials of the society. An automatic projector will screen a continuous selection of natural color slides. The slides cover National Geographic field assignments and expeditions and were selected from illustrations by staff photographers of the *National Geographic Magazine*.

**National Society for Medical Research (Booth 44).** The exhibit of the National Society for Medical Research will endeavor to show the essential role animals play in the advancement of the biological sciences. Featured in the exhibit will be a number of animals that are actually being used in chronic studies. These will include dogs, rats, and guinea pigs. With the animals will be displayed some of the scientific equipment used in these same chronic experiments. An effort will be made to show that this costly equipment, valuable as it is, would be of no worth without animal subjects upon which to conduct the experimental studies. Also included in NSMR's exhibit will be a one-panel mounted board display, explaining the importance of backing the National Society for Medical Research. There will be someone in constant attendance at the exhibit, and a quantity of NSMR literature.

**Naval Ordnance Laboratory (Booth 82).** The Naval Ordnance Laboratory, the primary research and development activity of the Bureau of Ordnance, will feature a display on the processing of Bismanol, one of its newest developments. Bismanol is a magnetic material which exhibits a coercive force of 3000 oersteds, the highest recorded coercive force of any known permanent magnetic material. It has been named Bismanol from its composition of bismuth and manganese and NOL, where it was prepared. The Naval Ordnance Laboratory exhibit will also show in panel form some of its other major fields of research, its over-all mission, and the layout of its 873-acre tract at White Oak, Silver Spring, Md.

**Naval Research Laboratory (Booth 81).** "Crystals for Commerce" and "Crystals for Defense" will be featured in the exhibit of the Naval Research Laboratory of the Office of Naval Research. Crystal research, one

of the research and development programs at NRL, has led to numerous discoveries that are useful in both peace and war. From crystal research has come hearing aids and gun sights, apparatus for locating fish and submarines, instruments for seeing at night, improved radio performance, picture tubes for television sets, light meters for photographers, instruments for measuring atomic radiations, equipment for testing the quality of gasoline, improvements in telephones, fluorescent lights, jewels for watches, and many more.

**Nuclear Instrument & Chemical Corporation (Booth 76).** The Nuclear Instrument & Chemical Corporation exhibit contains various electronic instruments for the detection and measurement of nuclear radiations. Scalers and count rate meters, together with portable monitoring instruments of interest to civil defense people, are on exhibit. Several new instruments of special interest to radioisotope laboratory personnel are on public display for the first time. Representatives of the company in attendance at the exhibit will be glad to assist anyone attending the meeting.

**A. J. Nystrom & Co. (Booth 8).** A. J. Nystrom & Co. is featuring an improved series of biological and anatomical models made of vinyl plastic, which have these unusual features:

1. Lifelike flexibility
2. No shrinkage or warping
3. Nonfading colors
4. Authentic anatomy
5. Unaffected by climate
6. Extraordinary durability

These unique qualities make our vinyl plastic models the finest specimens available from any source. Ask or write for an illustrated catalog. Among our fine chart publications we have the *Jurica Biology Charts*, *Frohse Life-sized Anatomical Charts*, and *Davis-Smith Science Charts*.

**Philosophical Library (Booth 72).** The Philosophical Library will feature the following new titles: *Harwell: The British Atomic Energy Research Establishment 1946-1951*; *The New Dictionary of American History*; *Dead Cities and Forgotten Tribes*; *The Hebrew Impact on Western Civilization*; *Ancient Sparta*; *The Tree of Human History*; *The Infirmities of Genius*; *The Story of Watches*; *Water*; *Little Ship Astro-Navigation*; *Fleas, Flukes and Cuckoos*; *The Organ*; and *The Development of the Guided Missile*.

**Publishers' Authorized Binding Service (Booth 41).** PABS, sponsored by many leading scientific societies and publishers of scientific and technical journals, both American and foreign, offers a service as modern as atomic energy. PABS is distinctively designed, durably crafted to rigid specifications, sensibly priced. PABS "facsimiled" bindings render competent service to men and women in science. PABS also conserves valuable space. Inspection of the product will demonstrate an effective, economical method of preserving journals for rapid reference and research.

**The Rayoscope (Booth 1).** At the Rayoscope booth will be shown what good microprojection practice can do for anyone ordinarily using a microscope. With especially developed optics an entirely new field has been opened. Specimens both living and prepared will be projected under extremely high power in the brightly lighted auditorium.

**Saint Louis University School of Dentistry (Booth 90).** The Saint Louis University School of Dentistry will have two exhibits, one on cleft palate cases, and the other on tumors of the jaw. *Cleft Palate Cases*: Many cleft palate cases showing conditions before surgery or prosthetic appliances were applied and also the same cases after treatment. These cases cover a wide age range. *Tumors of the Jaw*: This display shows a great variety of tumorlike growths and neoplasms occurring in the jaws. Roentgenograms and color microphotographs of

the so-called ossifying fibroma (preferably called ossifying fibrosis) and various types of ameloblastomas.

**Schwarz Laboratories, Inc. (Booth 56).** Schwarz Laboratories, Inc., of Mount Vernon, N. Y., are consulting chemists and engineers to the food and allied industries, and manufacturers of amino acids and other fine chemicals, chemotherapeutic agents, and radioactive biochemicals. Available at the exhibit of Schwarz products and services will be samples of such basic metabolites as yeast ribonucleic acids, nucleosides, nucleotides, phosphorylated carbohydrates and related materials, and recent additions to the Schwarz list—e.g., optically standardized amino acids, nitrogen heterocycles, etc. Schwarz representatives will be glad to explain the firm's products and services and to discuss individual requirements.

**The Science Library (Booths 105, 106, and 107).** The Science Library is administered by the AAAS as an additional service to publishers of books, both exhibitors and nonexhibitors. It has become an integral part of each year's Annual Exposition of Science and Industry. In the Science Library, books of all publishers participating are *grouped by fields of science*—a convenience both to the visitor who is restricting his inspection of books to a single category, and to the one who wishes to browse. Among the publishers represented in the Science Library are:

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

ACADEMIC PRESS, INC.

ADDISON-WESLEY PRESS, INC.

AMERICAN BOOK COMPANY

ANNUAL REVIEWS, INC.

APPLETON-CENTURY-CROFTS, INC.

COLUMBIA UNIVERSITY PRESS

CRANBROOK INSTITUTE OF SCIENCE

THOMAS Y. CROWELL COMPANY

E. P. DUTTON & Co., INC.

ELSEVIER PRESS INC.

EMERSON BOOKS, INC.

EXPOSITION PRESS INC.

W. H. FREEMAN AND COMPANY

HARVARD UNIVERSITY PRESS

D. C. HEATH & COMPANY

ISLAND PRESS CO-OPERATIVE, INC.

LEA & FEBIGER

J. B. LIPPINCOTT COMPANY

MCGRAW-HILL BOOK COMPANY

THE MACMILLAN COMPANY

RAND McNALLY & COMPANY

REINHOLD PUBLISHING CORPORATION

RINEHART & Co., INC.

W. B. SAUNDERS COMPANY

SILVER BURDETT COMPANY

STANFORD UNIVERSITY PRESS

CHARLES C THOMAS, PUBLISHER

UNIVERSITY OF KANSAS PRESS

UNIVERSITY OF MIAMI PRESS

UNIVERSITY OF MICHIGAN PRESS

UNIVERSITY OF MINNESOTA PRESS

UNIVERSITY OF PENNSYLVANIA PRESS

JOHN WILEY & SONS, INC.

**Scott Aviation Corporation (Booth 9).** Scott Aviation Corporation will display several industrial breathing devices, developed and sold since World War II to an imposing list of companies for production as well as laboratory service. This company since 1943 has been the largest producer of self-contained portable demand breathing apparatus, used for military and civilian purposes. Displayed will be the Scott Air-Pak, widely used to protect personnel in breathing hazards. Approved by the Bureau of Mines, it permits active work in hot or toxic atmospheres, often encountered throughout industry, including work relating to the atomic program. Its use of pure breathing air, not oxygen, assures the utmost in safety and comfort, even in atmospheres of petroleum

vapors. It is designed to operate in extreme temperature conditions, as is illustrated by its long record of service with oil producers in the heat of Saudi Arabia and in the extreme cold of Alberta, Canada. Also displayed will be Scott oxygen inhalator equipment, accepted by the American Medical Association and used wherever oxygen administration is required.

**Ivan Sorvall, Inc. (Booths 2 and 3).** Ivan Sorvall, Inc., pioneers of the angle type centrifuges in the U. S., is located in the main exhibit hall just inside the registration and information center. The Servall exhibit features most models of the Servall angle centrifuges, as well as other special instruments for routine or research laboratory work. Shown in connection with the centrifuges are newly developed accessories, which further add to the convenience of working with the Servall angle centrifuges. For the first time the new Servall refrigerated centrifuge is proudly presented to the AAAS. On the market less than a year, it has already proved to be a most valuable instrument for many research projects in the medical and other scientific fields. Not less than seven different Servall centrifuge rotors, ranging from large capacity to high speeds, can be operated interchangeably in this unit without the need of costly adapter accessories. The 400cc Type SS-1 rotor, run for an hour at 14,000 rpm, will maintain material temperatures below 0° C. Convention participants are cordially invited to stop at the Servall exhibit to discuss centrifugation problems with the attendants, who will be happy to offer suggestions and advice.

**Special Libraries Association, Greater St. Louis Chapter (Booth 108).** The Greater St. Louis Chapter of the Special Libraries Association will exhibit a typical Technical Reference Library. Information on the activities of the chapter will be distributed.

**The Technicon Company (Booths 49, 50, and 51).**

**U. S. Naval Dental School (Booth 33).** The U. S. Naval Dental School's method for preparing auricular prosthesis. This exhibit depicts by means of Kodachrome transparencies and models the step-by-step procedures used in the preparation of auricular prosthesis by the Naval Dental School, U. S. Naval Medical Center, Bethesda, Md.

**U. S. Naval Hospital, Yokosuka, Japan (Booth 32).** Electroencephalography in combat head injuries. In February 1951 a Department of Neurology that included a Laboratory of Electroencephalography was established at the Naval Hospital in Yokosuka, Japan. From the outset, serial EEG tracings proved to be a valuable adjunct in the evaluation of acute head injuries. With the rapid changes seen in some, it was evident that the earlier the series could be started, the more meaningful they would be. The extension of these observations to the immediate combat zone became possible in December 1951 when the hospital ship U. S. S. *Consolation* was placed above the 38th parallel off the east coast of Korea. Equipped with an EEG machine, and a helicopter flight deck that facilitated the reception of patients, initial tracings were secured within a few hours of the time of injury. Subsequent tracings were obtained aboard ship and, with the transfer of patients, at the base hospital in Japan.

**W. M. Welch Manufacturing Company (Booths 47 and 48).** The W. M. Welch Manufacturing Company will exhibit high vacuum pumps; balances; electric meters; electronics teaching devices; scientific charts; sets of charts for biology, physics, and physiology; hemoglobinometer; paper chromatography instruments; Densichron (densitometer); and other instruments for physics, chemistry, and biology teaching and research.

**Western Union Telegraph Co. (Corridor).** Western Union Telegraph Co. will have a display of their latest facsimile equipment designed for customer use.

**Wood and Metal Products (Booth 31).** Wood and Metal Products will exhibit Bouyoucos Apparatus for Soil Moisture Determination. The resistance method of

determining the amount of water in the soil was developed during the 1930s by George John Bouyoucos, research professor in soils science, Michigan State College. Apparatus for use with this method was developed with the cooperation of Wood and Metal Products, of Bloomfield Hills, Mich., and came into use in 1940. Apparatus: (1) Bouyoucos Model C Bridge: combines rugged, compact construction with a high degree of sensitivity, for field and laboratory use; (2) Bouyoucos Moisture Meter: a practical, scientific guide to irrigation practices; (3) Plaster Resistance Unit: buried in the soil, this sensitive element gives a measure of soil moisture when used with

the bridge or the meter; (4) Nylon Resistance Unit: two pieces of fine stainless steel screen, acting as electrodes, are separated by wrappings of nylon and contained in a perforated metal case which affords extensive exposure to the soil. Used only with the Model C bridge. After a decade of field use by large commercial outfits and laboratory use by agricultural and other scientific research organizations in many parts of the world, the Bouyoucos method of soil moisture determination is considered first in its field. As is true of any scientific apparatus, field use and laboratory experiment constantly suggest improvements.



## News and Notes

### Autumn Meeting, American Physiological Society

THE American Physiological Society holds two meetings annually—one each spring with the Federation of American Societies for Experimental Biology, and one each autumn more informally on a university campus. This autumn the society met Sept. 4-6 in New Orleans at Tulane University, with half a day at Louisiana State University Medical Center. The Tulane campus provided outdoor beauty, dormitory accommodations, a cafeteria, and an air-conditioned building for sessions. Arrangements were made entirely by the local committee, of which H. S. Mayer-son was chairman. Some 230 papers were presented and discussed during four half-days of sessions, usually in six simultaneous programs. There were 390 registered attendants. President E. M. Landis presided at the business sessions of the society and at the meetings of the council. Past President R. W. Gerard spoke on "Becoming an Elder Statesman" at the society dinner.

The council enlarged the standing Committee on the Use and Care of Animals. Its object is to re-emphasize the responsibilities of physiologists in procurement, in humane treatment, in training of workers with respect to animal care, and in publication of the results of the experiments. It will receive and consider suggestions concerning animal care. H. E. Essex, Mayo Foundation, Rochester, Minn., is chairman.

The Porter Fellowship of the society was redefined in terms of its usefulness for training candidates in research and in teaching. It may be either postdoctoral or predoctoral and carries a \$3000 annual stipend. Applications are received from nonmembers as well as from members. H. W. Davenport, University of Utah, is chairman of the committee.

The society is seeking varied methods of improving both formal and informal communication at its meetings. Panels, debates, and *conversazioni* are planned. F. A. Hitchcock, Ohio State University, is chairman of this committee. General problems of programming are also being explored by a committee whose chairman is A. B. Hertzman, St. Louis University School of Medicine.

The survey of physiological science (SCIENCE, 115, 3, June 20 [1952]), being made with the support of the National Science Foundation, is in full swing, with headquarters at the Washington office of the society, 2101 Constitution Ave. It has collected and organized an array of questions and is devising methods of securing sound data to answer them. It is concerned with trends, institutions, personnel, finances, education, research, and communications in physiological science. R. W. Gerard, University of Illinois, is chairman of the Central Committee, and Orr E. Reynolds is director of the first phase of the survey.

Adherence to the International Union of Physiological Science, now in process of organization, has been voted by the society. Mechanisms of adherence and specific proposals to the International Union of Physiological Science are being considered. M. B. Vis-scher, University of Minnesota, is chairman of the American delegates.

The president-elect, E. F. Adolph, University of Rochester, will visit five institutions this fall. The area selected on the basis of invitations received includes North Carolina, Tennessee, and Kentucky. The purpose is to explore problems that face physiologists in teaching, research, and education, and incidentally to present similar discussions on a selected topic.

The society, now 65 years old, has as its objective the advancement of physiology as one of the biological sciences. At present, new avenues of interest are opening. The society publishes three journals, the *American Journal of Physiology*, *Physiological Reviews*, and the *Journal of Applied Physiology*. It depends on the voluntary work of its 1300 members and on its central office for all its organized efforts.

The spring meeting will be held April 6-10, 1953, in Chicago. The 1953 autumn meeting will be omitted, since the triennial International Congress on Physiology will meet in Montreal Aug. 31-Sept. 4, under the presidency of C. H. Best.

EDWARD F. ADOLPH

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