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Wallace R. Brode (1963), 3900 Connecticut Ave., NW, Washington, D.C.

William W. Rubey (1965), University of California, Los Angeles

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National Conference on FAO

Noble Clark, University of Wisconsin

Scientific Manpower Commission

Wallace R. Brode (1965), 3900 Connecticut Ave., NW, Washington, D.C.

M. H. Trytten (1963), National Academy of Sciences

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Duane Roller, Harvey Mudd College

U.S National Commission for UNESCO

S. S. Wilks (1965), Princeton University

Eighth Philadelphia Meeting

Raymond L. Taylor

A report of any AAAS meeting is a record for posterity; an account for those who missed a stimulating occasion; and—so large and complex is the annual meeting of the Association —it is a roll call of some of the events that even those who were present may not have attended. Of all 129 national meetings of the AAAS, the eighth Philadelphia meeting was surpassed in size only by the New York meetings of 1960 and 1949 and the general consensus of opinion is that no other AAAS meeting has surpassed this one in the quality and timeliness of its programs. Members who attend regularly were heard to say, "this is a particularly fine meeting" or "this one is the best ever." Many medical scientists have made extremely favorable remarks about the tone and content of recent AAAS meetings.

Mere size is not the only criterion of a successful meeting. The eighth Philadelphia meeting was also noteworthy for the smoothness of its operation, and for the unaffectedly pleasant and hospitable attitude of the registration and hotel personnel and others with whom the visitors came in contact. The work of the local committees was outstanding, not only in effectiveness but also in the degree of warm personal interest.

The Annual Exposition of Science and Industry was better housed than it could be at last year's Denver meeting. The ceiling of the exhibit area on the concourse level of the Sheraton Hotel was higher; the pillars were smaller and more uniform; more space was available; and it was more conveniently reached. It was possible to expand the exposition by 40 percent—at Philadelphia there were 138 booths and 113 exhibitors.

The exhibitors were pleased with the number of teaching scientists who saw their displays of books, instruments, and laboratory materials. With foresight and confidence they had engaged all available booth space some months in advance of the opening day.

In summary, though the factors responsible for a successful AAAS meeting—from attendance and financing to press and network coverage—are both numerous and complex, those that are basic invariably include the excellence of the programs; advance information in *Science* and in cooperating scientific journals; adequate and convenient physical facilities; complete plans, and their execution by a devoted staff; and, not least, the effective work of truly interested local committees. The eighth Philadelphia meeting possessed all of these in full measure.

Premeeting Publicity

Meetings cannot be well attended unless program information is publicized well in advance. A preliminary announcement of the current year's AAAS meeting which appears in *Science* each May includes brief synopses of the planned programs of the sections and participating societies, as far as they are known at that time. In late July additional program notes and data on headquarters hotels are released, but usually it is not until mid-autumn that more complete information can be supplied. The flow of hotel room reservations indicates that this is when many decisions on attendance are made or confirmed. It is always hoped that all secretaries and program chairmen responsible for symposia will make every effort to complete their arrangements by 1 June before people scatter for summer research or travel.

In 1962, the series of releases on the programs of the meeting that appeared in *Science* from 9 November through the proceedings issue of 7 December benefitted greatly from the writing of staff member Grayce A. Finger. Announcements in other journals also helped to attract people to Philadelphia. The Association is indebted to the following for space in which to call attention to the AAAS meeting: the AIBS *Bulletin*, the ASB *Bulletin*, and *the Proceedings* of the Federation of American Societies for Experimental Biology. Societies that participate, such as the American Society of Zoologists and the Ecological Society of America, carry abstracts of their own papers; the Geological Society of America's *Bulletin* most cooperatively prints full details of Section E's geological sessions; and finally, the secretaries of the sections and other program arrangers send program details to *Physics Today, Chemical and*

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Table 1. Analysis of sessions at the eighth Philadelphia meeting.

Sessions for symposia, invited papers, panels, etc.	145
Sessions for contributed papers	62
Sessions for addresses or lectures	37
Business sessions, committee meetings	59
Meals and social functions	38
Tours and field trips	7
Sessions for motion pictures	12
Junior scientists assembly	1
Total number of sessions	361

Engineering News, and other appropriate journals. It seems quite safe to say that the meeting of no other scientific society receives more cooperation from the journals of its affiliates and colleagues.

Pattern of the Meeting

The pattern of the Association's annual meeting is a factor in its success. From the time the Association's Committee on Meetings was founded, it has devoted much thought to the best arrangement of the general events, the interdisciplinary symposia, and the evening lectures. The section secretaries now meet jointly with the Committee early in the year to discuss the needs and views of the participating societies. The pattern as evolved provides both an effective and efficient daily schedule and a plan for timely interdisciplinary symposia. The scheduling of the four Moving Frontiers of Science lectures on the first evening and third afternoon, the placement concurrently of the interdisciplinary symposia on the morning of "AAAS Day," 28 December, and the sequence of the special sessions have permitted the sections and societies to plan their programs in two 2-day blocks (26–27 and 29–30 December). The results have been less demand for session rooms on one or two peak days in the middle of the meeting period, fewer conflicts between programs of interest to the same potential audience, and, in general, more time for personal communication. In recent years, and with the basic pattern established, the Committee now has more time to work on still more attractive programs.

The Philadelphia meeting's total of 361 sessions (Tables 1 and 2) included programs sponsored by the Association as a whole, by 20 AAAS sections, by four AAAS committees, by two recurrent conferences, and by 48 societies that had arranged programs varying from one to 40 sessions in length. In addition, 39 other participating organizations officially cosponsored appropriate programs of the sections or other societies.

Since all AAAS sections and 48 organizations had programs, there were sessions of interest to specialists in nearly all the principal fields of science. There were some 145 sessions that were symposia, panels, or groups of invited papers centered about a particular subject—or nearly 2½ times as many as the 62 sessions devoted to contributed papers or shorter accounts of current research.

There was balance between programs of concern to specialists, programs in interdisciplinary areas, and programs concerned with matters of import for all scientists. In addition, there were sessions for the science-minded public, and there was an afternoon event especially for high school science students, the 16th Junior Scientists Assembly, which was held 27 December in the Auditorium of the Benjamin Franklin High School. For this event, sponsored by the Association's Academy Conference, the AAAS is indebted to arranger Kenneth W. Prescott (Academy of Natural Sciences of Philadelphia) and to speakers Daniel P. Mannix and Stewart Way (Westinghouse Corp.).

Within the limits of the available physical facilities, societies affiliated with the AAAS are welcome to meet with the Association on any scale they wish—in a full national meeting, in a special or regional meeting, or simply as cosponsors of a program arranged by a section or another society. There is a tendency for more societies to participate each year, but, typically, no one society's meeting requires an excessively large number of session rooms at one time, nor does any large block of societies within one discipline take up a disproportionate part of the entire program. Most of the societies find it possible to keep free, for the general events, the same portions of the meeting period that the sections do.

Arrangements of the Meeting

There have been numerous compliments on the arrangements of the 129th AAAS meeting but, inevitably, there were some disappointing aspects.

Large though the attendance was, each day there were so many concurrent sessions of interest that, inevitably, some programs had audiences smaller than they merited. Commonly, however, such instances were due more to inadequate or insufficiently early publicity than to direct conflicts of content. (There were, however, three programs on "communication" the same day which could not be rescheduled because, in two instances, they had been completed too late.) Conversely, other session rooms were crowded to the point of having standees, and proved too small for the anticipated attendance of the programs assigned to them. In general, however, the facilities of the 244 sessions that had speakers were adequate.

As headquarters hotel, the Sheraton was the location of the Annual Exposition of Science and Industry, the Science Theatre, the AAAS Office, and the AAAS Pressroom. The lobby had the principal facilities for handling registration, requests for information about the AAAS and Philadelphia, and

Table 2. Comparison of AAAS-sectional programs and society programs.

Session	AAAS, its sections, committees, and conferences	Participating societies	Total number of sessions with papers	Total number of speakers
Sessions for symposia, invited papers, panels	76 (426 speakers)	69 (372 speakers)	145	798
Sessions for contributed papers*	21 (154 speakers)	41 (338† speakers)	62	492
Sessions with addresses or lectures ‡	22 (47 speakers)	15 (32 speakers)	37	79
Totals			244	1369

* Each paper is assumed to have been presented by a single speaker. † The figure does not include 68 papers read only by title. ‡ Addresses at meal functions are included.

for AAAS membership; the AAAS office sold tickets for meal functions; ladies' headquarters were maintained on the fifth floor; and the Visible Directory of Registrants was on the second floor.

The business sessions of the Association, the large evening events, and most of the general events were held in the Sheraton. In general, this hotel housed the biological and medical groups.

The Bellevue Stratford was the headquarters for the sections on mathematics (A), geology and geography (E), anthropology (H), social and economic sciences (K), history and philosophy of science (L), engineering (M), pharmaceutical sciences (Np), education (Q), and the science teaching societies. A few related sessions were held in the nearby Sylvania Hotel. The chemists, botanists, and psychologists were based at the Warwick.

In addition to the use of the hotels mentioned, nearby institutions kindly lent their facilities. Sections B, D, the American Astronautical Society, the American Geophysical Union, the American Meteorological Society and the Society for the History of Technology had one or more sessions at the Franklin Institute. The American Rocket Society had two sessions in the auditorium of the Board of Education. The Academy of Natural Sciences of Philadelphia was host to important symposia on animal behavior, biological oceanography, and speleology. Also, it was the location of the Biologists' Smoker (27 December).

Again, as in 1960, heavy snows in Illinois prevented the trailer containing the Zoologists' Library from reaching the meeting, but the room where it would have been located did serve as a meeting place and lounge. In general, the headquarters room of Sigma Delta Epsilon, and other society headquarters rooms where business meetings, conferences, or spontaneous discussions could be held were welcome features of the meeting.

Projection

Projection at any scientific meeting is always a critically important matter. Probably few other meetings, if any, have demands as heavy and as various as the heterogeneous sessions of the AAAS. Many of the more than 200 sessions that require projection often must be supplied not only with equipment that can handle 2- by 2-inch and "standard" slides (3¼- by 4-inch), but also with equipment such as 16-mm sound motion equipment, opaque lanterns, or a vu-graph. In addition, foreign visitors may have slides of three or four other sizes.

To rent the variety of projectors and screens needed for a AAAS meeting from commercial sources, and to engage professional projectionists at union rates for every session would be prohibitively expensive. Also, the number of lanterns and operators needed would not be readily available even in the largest of cities. Thus the local Committee on Physical Arrangements always has one of the most taxing assignments. The Philadelphia meeting had well over 200 sessions that required one or more types of lanterns and an operator. Except for the Science Theatre, the 35-mm equipment for the "House of Science" film showing, and a few extra machines and screens, all equipment was borrowed from the University of Pennsylvania.

Projection operation also was the responsibility of the local committee, all members of whom were from the University of Pennsylvania. David R. Goddard (provost) was chairman and Edward F. Lane (assistant to the vice president for Development and Public Relations) was secretary. The supervisors, all faculty members, were Charles F. Farrell, Frank L. Hopkins, and Henry G. Sparks. Professional projectionists serviced the Science Theatre, the "House of Science" showings, and the National Geographic Society session, but the other operation was handled by graduate students in the sciences who had received training and had been briefed for their projection assignments.

The demand for projection facilities in Philadelphia was the heaviest in years, but it was possible to meet even last-minute requests because the Committee on Physical Arrangements wisely had provided extra equipment and not only had scheduled an operator for every session that had originally requested lanterns but also had a reserve supply of projectionists and equipment.

Despite these careful and detailed plans, however, there occurred two unfortunate failures, and since audiences were seriously affected, it seems desirable to report them here.

On the first evening, 26 December, slides of the second speaker in the Moving Frontiers of Science program were shown with great difficulty. An early slide exploded while in front of the lamp; other slides then went through haltingly; only the last slides went through well. The pain of the speaker, the sympathy of the audience, and the unhappiness of the projectionist were almost palpable.

An investigation was conducted as soon as possible thereafter. It was found that there had been no trouble with the first speaker's slides; the same projector had worked the preceding afternoon, and the same operator had performed well earlier. Some of the slides, however, had a foil frame which melted when placed in the projector, and proceeded to gum the carrier. The frames fell apart and the slides fell out of the frame. Thereafter, until near the end of the run, the remaining slides went through with difficulty.

A second unfortunate failure occurred the third evening, when the Division of Animal Behavior and Sociobiology of the American Society of Zoologists and the Section of Animal Behavior and Sociobiology of the Ecological Society of America had scheduled a joint film program for 9:15 P.M., 28 December, immediately following the AAAS Presidential Address. An audience of about 300 was present. The motion picture projector had a safety catch that would not release so that the sprockets could continue turning. Other projectors and operators were soon found but, unfortunately, all the other 16-mm machines were the same make with the same safety catch and none of the five or six graduate student projectionists nor several volunteers from the audience were able to solve the mechanism. The chairman cancelled the session and, though a make-up period the following evening or at some other time was suggested to him, this possibility was not accepted.

It is ironical that these projection machines were brand new and, together with good screens, had been borrowed from the University's new Annenberg School of Communication.

In general, projection assignments were handled adequately to splendidly and the magnitude of the debt of these participants to all members of the Committee on Physical Arrangements and their projectionists is substantial. At this point, I wish to express the deep appreciation of the staff of the Association for the work of the Committee.

Other Arrangements

Housing and registration were ably handled by experienced staff members of the Philadelphia Convention and Visitors Bureau. I am much indebted to the head of these departments, Mrs. Mae Heenan and to Mrs. Anne McNally, who supervised the activities of the registration clerks. I am also greatly indebted to James A. Morrison and Edward D. Barrett, manager and convention manager, respectively, of the Philadelphia Bureau, for their helpful advice and assistance before and during the meeting.

The security service was handled by agents of the Sheraton Hotel. The AAAS office, the information center, and the AAAS booth were manned principally by AAAS staff members and personnel engaged from the Convention and Visitors Bureau and from placement agencies.

Registration slips were collected from four registration points at intervals throughout the day, then were arranged in alphabetical order, and posted in the Visible Directory of Registrants. A group of workers handled the posting, answered the directory telephone, and also assisted registrants in locating names or adding hotel room data to their slips.

Highlights of the Meeting

The Committee on Meetings has the primary responsibility for selecting the speakers for the four Moving Frontiers of Sciences lectures and the invited speaker for the AAAS Distinguished Lecture (the second evening) and for general supervision of the pattern of the meeting. The Committee, meeting jointly with the section secretaries, also selects the several interdisciplinary symposia and the program chairmen who will develop them. These events, the other special sessions, the vice-presidential addresses, and the invited addresses of the participating societies constitute the anticipated highlights of the meeting. Not infrequently, there are additional programs, sometimes arranged at the last minute, that also attract considerable attention. Such programs were the symposium, Recent Results of Space Research, arranged by the Committee on Meetings for the afternoon of 26 December, and the two sessions of the symposium, The Integrity of Science, arranged late in the year by the Association's Committee on Science in the Promotion of Human Welfare.

Speakers in the first program, not announced until the day of the meeting, and their papers were: John Lindsay (Goddard Space Flight Center), "Scientific results from the first orbiting solar observatory"; John Chapman (Defence Research Telecommunications Establishment in Canada), "The nature of the top side of the ionosphere as deduced from Alouette results"; and Paul C. Coleman (University of California, Los Angeles), "Preliminary magnetic field results of the Mariner II Venus probe." John F. Clark (NASA) presided.

In the program of the Committee on Science in the Promotion of Human Welfare, The Integrity of Science (30 December), T. C. Byerly and the committee's chairman, Barry Commoner, presided and contributed introductory remarks. There were papers on "The scientific consequences of large-scale experimentation in space," by James A. Van Allen (State University of Iowa) and James W. Warwick (University Corporation for Atmospheric Research); "Synthetic detergents and water pollution," by Waldo C. Ault (U.S. Department of Agriculture) and Charles Beultman (Soap and Detergent Association); and "Hazards associated with new drugs," by Walter Modell (Cornell University Medical School). There was also a panel discussion on the state of the nation's scientific establishment, with Richard Bolt (National Science Foundation), Hugh L. Dryden (NASA), David R. Goddard (University of Pennsylvania), J. Herbert Hollomon (U.S. Department of Commerce), Howard K. Nason (Monsanto Research Corporation), John H. Rubel (assistant secretary of defence; Office of Defence Research and Engineering), and William J. Sweeney (Esso Research and Engineering Development Company).

The AAAS Committee on Desert and Arid Zones Research had an interesting two-session symposium on advances in arid land research (27 December).

The AAAS Cooperative Committee on the Teaching of Science and Mathematics had three programs during the week, Elementary Science: Reports from Projects on the Improvement of Instruction in Elementary and Junior High School Science, A Report on NASDTEC-AAAS Studies, and invited papers, Interdisciplinary Considerations in the New Science Programs.

The Association's Moving Frontiers of Science, presented at each meeting, was held the evening of 26 December and the afternoon of 28 December in the grand ballroom of the Sheraton Hotel.

Part 1 consisted of two lectures, "Space science: past, present and future," by Homer E. Newell (NASA); and "Biological timing," by Sterling B. Hendricks (U.S. Department of Agriculture). Henry Eyring (Board of Directors, AAAS) presided. In the second session William O. Baker (Bell Telephone Laboratories) spoke on "Coupling of independent industrial research and modern science," and Sydney Brenner (Medical Research Council, Molecular Biology Unit, Cambridge University, England) spoke on "Perspectives in molecular biology." William W. Rubey (Board of Directors, AAAS) presided.

On the second evening, 27 December, the AAAS Distinguished Lecture was given by McGeorge Bundy (special assistant to the President for national security affairs). He discussed the role of the scientist in government, particularly in connection with matters of national security, and he foresaw the time when scientists would enlarge their professional contributions to the government. Alan T. Waterman (president-elect, AAAS) presided.

An innovation was the combination of the Third George Sarton Memorial Lecture, sponsored by the George Sarton Memorial Foundation, and the vice-presidential address of AAAS section on History and Philosophy of Science (L). The lecture was given by Gerald L. Holton (Harvard; vice president of Section L) on the afternoon of 28 December. His subject was "The three types of scientific hypothesis: toward a program of thematic analysis." Mina S. Rees (Board of Directors, AAAS) presided.

On Honor Societies Night, 29 December, the annual joint address of the Society of the Sigma Xi and the United Chapters of Phi Beta Kappa was given by Loren C. Eiseley (University of Pennsylvania). He was introduced by Bentley Glass, and his address, "Man: the lethal factor," was heard by a capacity audience.

After a very brief interval, the annual address of the Tau Beta Pi Association "Organizing complexity—the role of the engineer and the scientist" was given by C. C. Furnas (University of Buffalo). Paul A. Sherer (treasurer, AAAS) presided.

The annual illustrated lecture of the National Geographic Society, "Wintering on the roof of the world," presented on 30 December by Barry C. Bishop (National Geographic Society) concluded the week's impressive list of special sessions. Margaret Mead presided.

On the morning of 28 December, "AAAS Day," the three interdisciplinary symposia, Dynamics of Planetary Atmospheres, The Transfer of Genetic Information, and Diffusion of Technical Knowledge as an Instrument of Economic Development were presented concurrently. Reports on the first two of these programs will be published in future issues of *Science*.

The four speakers of the last symposium, The Diffusion of Technical Information as an Instrument of Economic Development, arranged by Bert F. Hoselitz (University of Chicago), were carefully selected, eminent specialists. These men and their papers were: William N. Parker (Yale), "Mechanisms of transfer of knowledge between nations"; Paul Strassman (Michigan State), "The diffusion of technical information through industrialization"; E. A. Wilkening (University of Wisconsin), "The diffusion of technical knowledge in agriculture"; and Robert S. Merrill (University of Rochester), "Scientific communities and technological adaptation." Their papers, without exception, were thought provoking and scholarly, but the attendance was not as large as the papers merited. The primary reason that more people did not attend, it is believed, is that there was insufficient publicity in journals of the economic and social sciences prior to the meeting. It is hoped that these papers will be published.

Fifteen of the 20 AAAS sections sponsored vice-presidential addresses. Presidential and other important addresses, given under the auspices of the participating societies, are mentioned in the separate reports which appear elsewhere in this issue. Other highlights of this year's meeting were the AAAS Presidential Address and Reception.

AAAS Presidential Address

The address of the retiring (114th) president of the Association, Thomas Park, was given on the customary evening, 28 December, before a large and responsive audience in the grand ballroom of the Sheraton Hotel. President Paul M. Gross presided and introduced Henderson Supplee, Jr. (president, Atlantic Refining Co.), general chairman of the eighth Philadelphia meeting, who graciously welcomed all registrants to the scientific community of the city and the region. A special guest, J. M. Robertson, deputy secretary of the British Association and its official representative, was introduced. Richard D. Alexander was announced as the 1961 winner of the Newcomb Cleveland prize for his paper, "The role of behavioral study in cricket classification," which was read before a session of the Society of Systematic Zoology.

Announcement was made, also, of the winners of the AAAS Socio-Psychological Prize and of the AAAS-Campbell Award for Vegetable Research. Recipients of these awards were, respectively, William A. Gamson (University of Michigan) for his two-part essay "A theory of coalition formation," which was published in the *American Sociological Review* during 1961, and jointly to R. N. Campbell and Raymond G. Grogan (University of California, Davis) for their fundamental studies on the intrinsic interrelationship of a vegetable crop fungal vector and a virus.

Thomas Park's address as retiring president was concerned with "Beetles, competition, and populations." It has already appeared in *Science* [**138**, 3548 (1962)]. Following the address there was an informal reception.

Other AAAS General Sessions

For the third time, as decided by the Committee on Meetings and the section secretaries, the morning of 28 December, "AAAS Day," was reserved for interdisciplinary symposia which were held concurrently. The interdisciplinary symposium in the physical sciences, Dynamics of Planetary Atmospheres, was a joint program of the AAAS sections on Physics (B) and on Astronomy (D), co-sponsored by the American Geophysical Union, the American Meteorological Society, and Sigma Pi Sigma. It was arranged by Julius London (University of Colorado) who also presided. The speakers were Philip D. Thompson (National Center for Atmospheric Research), Arnt Eliassen (University of Oslo), Colin O. Hines (University of Chicago), and Seymour L. Hess (Florida State University).

An interdisciplinary symposium in the chemical and biological-medical sciences, The Transfer of Genetic Information, was a joint program of AAAS Sections on Chemistry (C), Zoological Sciences (F), Botanical Sciences (G), and Medical Sciences (N). It was arranged by Severo Ochoa (New York University) and Philip H. Abelson (Carnegie Institution of Washington) who presided. The speakers were William Jones and Marshall W. Nirenberg (National Institutes of Health); Joseph Speyer, Peter Lengyel, Carlos Basilio, and Albert Wahba (New York University); Sol Spiegelman (University of Illinois); and Richard B. Roberts (Carnegie Institution of Washington).

The interdisciplinary symposium in the social sciences was Diffusion of Technical Knowledge as an Instrument of Economic Development. It was a joint program of AAAS Sections on Social and Economic Sciences (K), Agriculture (O), Industrial Science (P), Education (Q), and Information and Communication (T). It has been discussed earlier in this report.

A two-part symposium entitled Advances in Arid Land Research was given on the morning and afternoon of 27 December. This program of the AAAS Committee on Desert and Arid Zones Research was arranged by Harold E. Dregne (New Mexico State University) who also presided. The speakers for part I were Terah L. Smiley (University of Arizona), R. V. Ruhe (U.S. Soil Conservation Service, Ames, Iowa), L. H. Gile, Jr. (U.S. Soil Conservation Service, University Park, New Mexico), F. F. Peterson (University of California, Riverside), R. B. Grossman (U.S. Soil Conservation Service, Lincoln, Neb.), Richard B. Woodbury (University of Arizona), and Douglas H. K. Lee (U.S. Public Health Service). J. A. Schufle (New Mexico Institute of Mining and Technology) presided at the second session at which the speakers were Edward C. Stone (University of California, Berke-

ley), M. Martinelli, Jr. (U.S. Forest Service), Howard Scott Gentry and Quentin Jones (U.S. Agricultural Research Service, Beltsville, Md.), and Stanley M. Alcorn (U.S. Agricultural Research Service, Tucson, Ariz.).

AAAS Business Sessions

The Association's Board of Directors, as required by the constitution, held its fourth regular meeting of the year at the annual meeting. The session, as usual, preceded the two sessions of the Council (27 and 30 December). Council sessions were very well attended; many societies found it possible to appoint alternates in the event their regular representatives could not attend. The AAAS section officers' luncheon and business meeting, was held on 28 December.

The Attendance

In number of registrants (6893), the eighth Philadelphia meeting was the third largest in the 115-year annals of the Association. The number of paid registrations exceeded those of all other meetings except those in New York in 1960 and 1949. In general, AAAS meetings are getting larger. To date, though, only 17 of the 129 AAAS meetings have had more than 3000 registrants; 11 of these 17 have been meetings held in the past 14 years. With its present pattern of high quality and timely interdisciplinary topics, the Association is now able to count on its meetings being well attended wherever they are held.

Moreover, it is always true that the total attendance at any national meeting of the Association is substantially greater than the number of registrants, since all programs and most events are open to everyone. As usual, nearly 100 percent of the professional scientists and teachers registered. Incidentally, members of the American Astronautical Society and of the Society for the History of Technology paid a "double registration"—the regular AAAS registration of $3 plus a second fee of $1 for the society.

In addition, however, there are always several thousands of science-minded members of the general public who attend the evening lectures or some other event who do not register at all. Even a technical program for specialists may be attended by several times the number of individuals registered for that discipline (see Table 3). It is probable that at the Philadelphia meeting at least an additional 5000 individuals attended one or more of the 361 sessions. Finally, the registration total of 6893 does not include 22 guests, 531 individuals connected with the exhibits, and 261 press representatives.

Table 3 is an analysis of the 6893 registrants by subject fields, except for 400 cases where the "field of interest" line on the registration slip was left blank. Of the remainder, 203 were wives of registrants. Between 400 and 500 wives attended the meeting; many of them listed scientific interests. The "sciences in general" category is composed mainly of administrators of research, secretaries of associations, and other executives.

In this analysis of subject fields, an effort was made to record each individual's primary interest. For example, high school science teachers who indicated their major interest as teaching or science education were not classified as biologists or chemists, and conversely, science teachers who stressed disciplines were tallied accordingly. If the data on disciplines are grouped under still broader headings than those of Table 3, the registered attendance may be categorized as follows: Physical sciences and applications, 1602 (23 percent); biological sciences, 1753 (25 percent); medical sciences, 1421 (21 percent); psychology and social and economic sciences, including information-communication and statistics, 1060 (15 percent); science teaching and education, 367 (5 percent); general interest and other, 690 (10 percent).

The percentages for these groups have remained much the same in recent years, except for instances when the physical sciences would take first place by a slight margin—as in 1952 in St. Louis and in 1957 in Indianapolis. Again at Philadelphia, however, the biological sciences took first place over the physical sciences. The programs in physics, space sciences, chemistry, and geology obviously appealed to the many local scientists and engineers working in these fields, as well as to others from outside the field.

The strong emphasis on statistics in various fields and a series of programs in the social and economic fields, including criminology, brought the percentage for social science registrants up to 15 percent as compared to the usual 9 percent of the total registration. The percentage for science teaching would have been higher if many more than 366 science teachers and educators had not indicated their teaching specialties first.

As Table 4 shows, 2458 registrants, or almost exactly 36 percent, came from Pennsylvania. The figures for registrants from the city of Philadelphia and its suburbs, were 1093 (16 percent) and 819 (12 percent), respectively.

Each of the 50 states in the nation was represented, though Idaho and Nevada each by only a single registrant. There were 48 registrants from Canada and 22 scientists from 15 other countries. A number of these were visiting

Table 3. Registrants by subject fields.

Mathematics and computers	172
Physical sciences	
Physics	229
Astronomy	34
Space sciences and rocketry	210
Meteorology	24
Chemistry (other than medical)	495
Geology	170
Geography	52
Oceanography	37
Biological Sciences	
Botanical sciences	196
Genetics	97
Ecology	192
Animal behavior	49
Embryology, developmental biology	67
Herpetology	24
Zoological sciences (all other)	451
Biology (in general, and other)	555
Medical sciences	
Anatomy	16
Biophysics	20
Biochemistry (including nutrition)	210
Clinical chemistry	24
Dental research	76
Physiology and endocrinology	128
Pharmaceutical sciences	157
Psychiatry and psychoanalysis	164
Microbiology and virology	132
Medicine (in general, and other)	494
Psychology	288
Anthropology and archeology	123
Social and economic sciences	
Criminology	38
Economics	57
Sociology and political science	32
Industrial science	85
Management science	37
History and philosophy of science	95
Agriculture	122
Engineering	179
Education	138
Science teaching	229
Information and communication	170
Statistics (including biometry)	135
Science in general and administrative	148
Students	142
Wives (fields unspecified)	203
No field indicated	197
Total	6893

scholars at American institutions, but every year sees an increasing number of foreign scientists who come from abroad expressly to attend and present papers at the meeting.

Annual Exposition of Science and Industry

The Annual Exposition of Science and Industry for 1962, 40 percent larger than in recent years, was one of the most attractive ever presented. The Combined Book Exhibit was an improvement over the AAAS-operated Science Library of former years, especially in that copies of a printed book list of the volumes present were available in large quantity. Never before have there been more publishers in the Exposition, but they did not overwhelm the extensive and splendid series of exhibits of supply houses, instrument companies, and laboratory equipment firms. Finally, there was a most impressive series of special governmental and large-scale industrial exhibits, some especially built for this AAAS meeting.

All booths (131), which had been originally planned, were sold by October. Because of the many requests, for additional boothspace seven more were added later. The names of all but three of the 113 exhibitors and descriptions of their exhibits appeared both in the General Program and in the preconvention issue of *Science* [**138**, 1545 (1962)]. (The three additional exhibitors were Excerpta Medica Foundation, Miles Reproducer Co., Inc., and the Wadsworth Publishing Co.)

In summary, those who attended were very pleased with the variety and attractiveness of the exhibits; and, subsequently, the exhibitors have expressed satisfaction with the booth arrangement and "booth traffic."

John C. Haas (executive vice president, Rohm & Haas Company) and the local Committee on Exhibits which he headed enlisted the interest and support of several large firms in the Philadelphia area. Among these were the handsome exhibits of Pennsalt Chemicals Corporation, Atlantic Refining Company, American Viscose Corporation, and the Sun Oil Company. Grateful acknowledgment of the work of the Exhibits Committee is made on behalf of the Association and of all those who enjoyed the Exposition.

We are also grateful to Earl Scherago and Dick Callis from the advertising office of *Science* for their devoted and most helpful services in the exhibit area.

AAAS Science Theatre

The AAAS Science Theatre, a popular and well-established feature of the annual meeting of the Association since the 1947 Chicago meeting, presents a selection of the latest foreign and domestic scientific films. At the eighth Philadelphia meeting, 16-mm films were shown in seven 4-hour programs and in an abbreviated eighth session. The film titles and producers appeared in the preconvention issue of *Science* [**138**, 3545 (1962)]. Most films were shown twice, and some a third time. The cooperation of the lending agencies is much appreciated.

Inevitably, there were a few changes from the scheduled program. We were unable to obtain the three films we had requested from Japan, and three other films failed to arrive in Philadelphia. The following films were therefore shown instead: "Fuel Cells—Power for the Future," produced by Allis Chalmers Manufacturing Company; "La Grande Oreille," distributed by the French Cultural Center, New York; "The Physical Chemistry of Polymers," produced by Bell Telephone Laboratories; "The Research on Controlled Fusion at Oak Ridge National Laboratory," produced by the Union Carbide Corporation and the Atomic Energy Commission; and "The 'Four-Mile Laboratory'," produced by the General Electric Company. Any inquiries about these films should be directed to the producers.

Work of the Local Committees

Each year there are new registrants, new AAAS members, and even new staff members who come to realize that a scientific meeting of such proportions as the annual meeting of the AAAS does not just happen. It cannot take place, nor can it succeed, without the cooperation and assistance of a great many agencies and persons. Of critical importance among these are the local committees. The general chairman appoints the chairmen of the several

Table 4. Distribution of registrants by states and countries.

Alabama	14	Pennsylvania	
Alaska	3	Philadelphia and suburbs	1912
Arizona	10	Other	546
Arkansas	5	Ruerto Rico	13
California	143	Rhode Island	39
Colorado	36	South Carolina	8
Connecticut	120	South Dakota	8
Delaware	105	Tennessee	34
District of Columbia	318	Texas	33
Florida	61	Utah	16
Georgia	19	Vermont	18
Hawaii	2	Virginia	152
Idaho	1	Washington	15
Illinois	195	West Virginia	24
Indiana	83	Wisconsin	42
Iowa	33	Wyoming	2
Kansas	28		
Kentucky	27	Total U.S.	6823
Louisiana	31		
Maine	17	Australia	2
Maryland	414	Brazil	2
Massachusetts	230	Canada	48
Michigan	135	Denmark	1
Minnesota	29	Ecuador	1
Mississippi	9	England	3
Missouri	43	France	1
Montana	3	Germany	2
Nebraska	13	Indonesia	1
Nevada	1	Israel	2
New Hampshire	17	Jamaica	1
New Jersey	649	Japan	1
New Mexico	11	Netherlands	1
New York	907	Nicaragua	1
North Carolina	61	Norway	2
North Dakota	4	Syria	1
Ohio	161		
Oklahoma	8	Total foreign	70
Oregon	15		
		Total paid registration	6893

committees; the balance of each committee is then appointed by its own chairman. This was the plan followed last December.

The Association and all who attended the eighth Philadelphia meeting are deeply indebted to Henderson Supplee, Jr., who, as general chairman, made distinguished appointments of chairmen of the local committees, kept in close touch with all phases of the meeting, and graciously welcomed members and friends of the Association on the evening of 28 December. His remarks included an interesting comparison, based upon old files of the local newspapers, between this meeting and earlier ones in Philadelphia. On behalf of the Association, grateful acknowledgment of the indebtedness of all of us to Henderson Supplee is made here. We are also much indebted to James W. Johnstone, Jr., assistant to Mr. Supplee, for considerable time spent and interest shown.

The strenuous work of the Committee on Physical Arrangements and the contribution of the Committee on Exhibits are acknowledged above. The other committees, in their respective fields, also contributed greatly to the meeting.

The Committee on Public Information, which was headed by Harry A. Batten (chairman of the board, N. W. Ayer & Son, Inc.) provided expert advice and assistance in securing local publicity and in providing excellent local coverage. The Association expresses its grateful appreciation to every member of this committee for his or her contributions. Additional details on this, and on the splendid national coverage during the meeting, both in the press and on radio and television, will be found in the report, "Public information service," by Sydney S. Negus in this issue.

The Association is greatly indebted to the local Committee on Women's Events, headed by Carolyn Ancker, recent past president of the Philadelphia branch of the American Association of University Women. Wives were welcomed in a special room of their own in the Sheraton throughout the entire week. Special trips to the U. S. Mint, colonial homes, the Art Museum, and the historical area of the city were arranged, and some wives visited the AAUW headquarters.

The Association acknowledges with deep appreciation the work of the Finance Committee, which, headed by its chairman, William P. Drake (president, Pennsalt Chemicals Corporation) undertook to raise funds to eliminate the deficit. The firms and individuals who have made contributions, and to whom the Association expresses its grateful thanks, include the following:

Atlas Chemical Industries Inc.
Auerbach Corporation
Electric Storage Battery Company
Heinz Division—Kelsey-Hayes Company
Hercules Powder Company
IBM—Philadelphia Branch
International Resistance Co.
McNeil Laboratories Inc.
Albert J. Nesbitt
Philadelphia Electric Company
Radio Corporation of America
Scott Paper Company
Thiokol Chemical Corporation
United Gas Improvement Company
Yarnall-Waring Company
York Corporation

The Honorary Reception Committee included the heads of public and private agencies concerned with science and education.

Other Acknowledgments

Besides thanking all members of the local committees, this report expresses appreciation to the key executives of the hotels which provided assistance and friendly help throughout—especially William A. Nurthen of the Sheraton, Paul G. Foley of the Bellevue Stratford, and their counterparts at the Warwick, Sylvania, and Robert Morris. Their cooperation and courtesy were essential for the success of the meeting.

The Association and its staff are grateful for the cooperation of Robert W. Neathery and others on the staff of the Franklin Institute for the use of session rooms throughout that week and courtesies of many sorts. The Academy of Natural Sciences of Philadelphia was similarly cooperative in the use of its physical facilities and the writer is also much indebted for the helpful advice and active assistance of H. Radclyffe Roberts, director, and staff members Kenneth Prescott, Ruth Patrick, and C. Willard Hart.

The secretaries and program chairmen of the sections and participating organizations cooperated ably, especially in providing copy and galley proof for the 312-page *General Program,* published by the Horn-Shafer Company of Baltimore. The perennial debt to W. Gilbert Horn, Jr., of that firm for his able and sympathetic cooperation in seeing the program through the press is more than nominal. Finally, we are grateful to the AAAS staff members from Washington who worked long, hard, and cheerfully.

Prizes and Awards

The AAAS-Westinghouse Science Writing awards for 1962 were presented to Howard Simons, science writer of the *Washington Post,* and John L. Chapman, editor of *Technical Digest.* Simons won the top newspaper award for a story on the structure of matter, entitled "There is dichotomy among neutrinos", which appeared in the *Washington Post* on 8 July 1962; Chapman's prize-winning magazine article, "The uncanny world of plasma physics," appeared in the October 1961 issue of *Harper's Magazine.* The awards, made possible by a grant from the Westinghouse Educational Foundation, were established to give recognition and encouragement to outstanding science writing, to stimulate public interest in science, and to foster a deeper understanding of science by the public. This year's winner of the Industrial Science Achievement award was E. I. duPont deNemours & Company for its researches and product development in the field of fluorcarbon polymers. This award is presented annually by the Industrial Section (P) to a company in recognition of achievements during the previous year which have helped significantly in the advancement of knowledge and practical application of science in industry; for the furthering of the interests and status of scientists in industry; and for promotion of public understanding and appreciation of the importace of industrial science. Mention has already been made of the winners of the AAAS Socio-Psychological Prize and the AAAS-Campbell Award for Vegetable Research under the section, "AAAS Presidential Address."