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A Report of the Seventh Cleveland Meeting

Raymond L. Taylor

Considered collectively, the annual reports of AAAS meetings, published since the founding of the Association in 1848, provide a panorama of American science. Those persons particularly interested in the history of science find the proceedings volumes and the files of *Science* an indispensable outline of the major trends of scientific thought during the past 115 years (*1*). In these records can be noted the shifts of emphasis in research, the proliferation of societies in many scientific disciplines, the consolidation or merger in others, and the impressive progression of those individuals who lead in science.

The record of the Association's most recent meeting is necessary, therefore, to continue the traditional annals for posterity. At the same time, it may serve as a summary of the highlights for those who were there but scarcely could attend every session, and an account for those who missed a first-rate scientific meeting.

"First-rate" may not be an adequate adjective. Though the Association has had larger meetings—when on the Atlantic seaboard—there has been no meeting that surpassed the seventh Cleveland meeting in the uniformly high quality of the principal programs. "Scientifically, this is one of the most productive meetings I have attended" wrote one experienced section secretary who is not given to overstatement. He well expressed the given sentiments of others who have come to recognize that, in recent years, AAAS meetings are showing the results of the earnest thought and effort devoted to their content by the Committee on Meetings, by the section secretaries who bear the responsibility of arranging the core programs, and by others concerned with the meeting.

This 130th meeting of the AAAS was distinctive in that it included three sessions for the papers of 17 eminent members of the Science Council of Japan; John Kenneth Galbraith who delivered the Distinguished Lecture to an audience of 2500; and other featured sessions. All four speakers in the Moving Frontiers of Science series gave exceptionally interesting discussions of their specialties in terms intelligible to all. The other evening events also will be long-remembered. The five interdisciplinary symposia competed for audiences from among the entire attendance. Among the carefully chosen speakers in the scores of symposia were two Nobel laureates—W. F. Libby and Harold C. Urey; speakers from Argentina, Brazil, Chile, and Peru in the symposium, "Arid Lands of Latin America"; anthropologist Mauricio Swadesh from Mexico who spoke on linguistic evolution; and more than a dozen others from six foreign countries. The list truly indicates the growing tendency to invite authorities from any part of the world. W. E. Swinton (director, Royal Ontario Museum, Toronto) was the official representative of the British Association for the Advancement of Science.

The Annual Exposition of Science and Industry was most conveniently located in the Sheraton-Cleveland's new exhibit facilities and Whitehall Room on the mezzanine level. The splendid programs of the AAAS Science Theatre were well attended by appreciative audiences that broke into spontaneous applause on more than one occasion!

Briefly, the factors responsible for a successful AAAS meeting—from attendance and financing to press coverage—are numerous and complex. Those that are basic 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 seventh Cleveland meeting had all of these in adequate measure.

Pre-meeting Publicity

No matter how good programs may be they cannot be well attended unless they are adequately publicized well in advance. Nearly all the major programs of AAAS meetings are planned, at least tentatively, almost as soon as the previous year's program has ended. The Committee on Meetings and the section secretaries meet separately on a weekend in late January or February; the Committee considers the special sessions, and the secretaries report on their plans. Both groups then meet jointly to inform each other of their proposals. It is at this time that the interdisciplinary programs are decided.

Generally, by mid-April it is possible to prepare copy for a preliminary announcement of the current year's AAAS meeting for publication in a May issue of *Science*. Included are brief synopses, or as much information as is known, of the planned programs of the sections and participating societies. In late July, data on hotel headquarters and addi-

The author is associate administrative secretary of the AAAS.

Table 1. Analysis of sessions at the seventh Cleveland meeting.

Sessions for symposia, invited papers, panels, etc.	127
Sessions for contributed papers	47
Sessions for addresses or lectures	40
Business sessions, committee meeting	58
Meals and social functions	43
Tours and field trips	9
Sessions for motion pictures	12
Junior scientists assembly	2
Total number of sessions	338

tional program notes are released. 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 earnestly hoped that all secretaries and program chairmen responsible for symposia will make every effort to complete their arrangements by 1 June before individuals scatter for summer research or travel.

In 1963 there were two releases on the programs of the meeting, 1 and 29 November. These releases and the meeting material in the preconvention issue of 6 December were prepared by staff member Grayce A. Finger. Earlier and more frequent stories in *Science*, if possible, would have been desirable.

Announcements in other journals also helped to attract people to Cleveland. The Association is indebted to the AIBS *Bulletin* (now *BioScience*), the ASB *Bulletin*, and the *Proceedings* of the Federation of American Societies for Experimental Biology for space in which to call attention to the AAAS meeting. 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 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. Perhaps, however, there should be a series of special releases sent to the editors of the journals of any affiliate whose readership or membership might be interested in the details of an appropriate program. The success of this would be contingent upon more section secretaries and other program officers sending in the details of at least their major programs a month or two earlier than the 1 October deadline.

Pattern of the Meeting

A factor in the success of the Association's annual meeting is its *pattern*. From the time the Association's Committee on Meetings was founded, it devoted much thought to the best arrangement of the general events, the interdisciplinary symposia, and the evening lectures.

The pattern, as it has evolved, now provides both an effective and efficient daily schedule and a plan for the 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). This arrangement has resulted in 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 has more time to work on the most attractive programs possible.

The pattern has proved satisfactory on the whole. From time to time a section secretary may express his wish to schedule his sessions through 28 December, or at least on the afternoon of that day, in order to retain his attendance. In rebuttal, it may be pointed out that the interdisciplinary symposia and other features of "AAAS Day" are considered worthy of an extra day of attendance. Another possible alternative, however, might be to plan diverse programs of appeal to two different groups of specialists before and after 28 December.

The Cleveland meeting's total of 338 sessions (Tables 1 and 2) included programs sponsored by the Association as a whole, by 20 AAAS sections, by four AAAS committees, by a recurrent conference, and by 33 societies that had arranged programs varying from one to 45 sessions in extent. In addition, 39 other participating organizations officially cosponsored appropriate programs of the sections or other societies.

Since all AAAS sections and 33 organizations had programs, there were sessions of interest to specialists in nearly all the principal fields of science. There were some 127 sessions that were symposia, panels, or groups of invited papers centered about a particular subject—or almost three times as many as the 47 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 a one-day event especially for high school science students, the 17th Junior Scientists Assembly, held 27 December at Case Institute of Technology.

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 an appropriate program arranged by a section or another society. At the Montreal meeting, within the same physical limits, any Canadian scientific society will be cordially welcome to participate as an organization. Most of the societies

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	69 (366 speakers)	58 (320 speakers)	127	686
Sessions for contributed papers*	10 (71 speakers)	37 (320† speakers)	47	438
Sessions with addresses or lectures‡	25 (55 speakers)	15 (32 speakers)	40	87
Totals			214	1164

* Each paper is assumed to have been presented by a single speaker. † The figure does not include 87 papers read only by title. ‡ Addresses at meal functions are included.

find it possible to keep free, for the general events, the same portions of the meeting period that the AAAS sections do.

Arrangements for the Meeting

Compliments on the arrangements of the 130th AAAS meeting have been numerous but, inevitably, there were aspects that were not ideal.

Each day there were so many concurrent sessions of interest that some programs had audiences smaller than they merited. Usually, such instances were due more to inadequate or insufficiently early publicity than to direct conflicts of content. 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 214 sessions that had speakers were adequate.

As headquarters hotel of the meeting as a whole, the Sheraton-Cleveland was the location of the Annual Exposition of Science and Industry, the Science Theatre, the AAAS Office, and the AAAS Pressrooms. The lobby and the mezzanine levels had the principal facilities for handling registration, requests for information about the AAAS and Cleveland, and for AAAS membership; a desk just outside the AAAS Office sold tickets for meal functions; ladies' headquarters were maintained in the Circus Bar on the mezzanine; and the Visible Directory of Registrants was also on the mezzanine.

The business sessions of the Association, the large evening events, and most of the general events were held in the Sheraton-Cleveland. In general, this hotel housed physics, the zoological and medical sessions, anthropology, and space science.

Each of the three other hotels used for sessions were headquarters for related sections and societies. The Statler Hilton was the base for the sections on chemistry (C), social and economic sciences (K), history and philosophy of science (L), engineering (M), agriculture (O), information and communication (T), and statistics (U). The Pick-Carter was headquarters for mathematics (A), botany (G), pharmaceutical sciences (Np), education (Q), and the science teaching societies. The Manger housed the geologists and geographers (E), the psychologists (I), and the American Meteorological Society.

The Zoologists' Library, though necessarily two floors above the mezzanine level, was an attractive and comfortable room. 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 appreciated features of the meeting.

Projection

At any scientific meeting projection is always of critical importance. Very few other meetings, if any, have demands as heavy and as various as the heterogeneous sessions of the AAAS. Many of the usually 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 other items such as 16-mm motion picture equipment, opaque lanterns, or vu-graphs. In addition, foreign participants 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 numbers 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 Cleveland meeting had 153 sessions that required one or more types of lanterns and an operator. Except for the Science Theatre, and for two pieces of equipment necessitated by last-minute requests, all equipment was borrowed from the Bureau of Visual Education, Board of Education, Cleveland. A total of 83 pieces of equipment, much of it brand new, was used.

Projection operation also was the responsibility of the local committee. All members but one were colleagues of Committee Chairman John Borza, Chief of the Bureau. The 20 projectionists, twelve of whom were carefully selected students, did an excellent job. It was possible to meet all but one last-minute request 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 both projectionists and equipment. Many speakers and chairmen, however, have no idea how difficult it may be to meet last-minute requirements. Every program chairman should query his speakers about their projection needs well in advance of the meeting—and make sure that he has their answers.

The magnitude of the debt of all participants to 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 Cleveland Convention and Visitors Bureau. I am much indebted to the head of these departments, Mrs. Mary J. O'Donnell, and to Beatrice M. Amersbach, who supervised the activities of the registration clerks. I am also greatly indebted to Edward C. Brennan, and George W. Demarest, executive vice president, and convention manager, respectively, of the Cleveland Bureau, for their helpful advice and assistance before and during the meeting.

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.

Registration slips were collected from five 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

As mentioned earlier, the Committee on Meetings has the primary responsibility for selecting the speakers for the four Moving Frontiers of Science lectures, for 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 a program was the two-session symposium, "Space Biology," arranged by a committee whose chairman was Dale W. Jenkins (NASA), jointly sponsored by the American Physiological Society and NASA, and cosponsored by the Ecological Society (29 December), another complementary two-session symposium, was "Bioastronautics" (30 December), arranged by Major W. C. Kaufman (Aerospace Medical Research Labs., Wright-Patterson AFB, Ohio) for the American Astronautical Society.

An outstanding highlight was the three-session symposium, "The Sciences in Japan," jointly sponsored by the Science Council of Japan and the AAAS. It was a privilege to have together 17 eminent scientists from Japan chosen for their achievements in science to read representative papers in their disciplines. To facilitate complete fluency in speaking and for discussion, the session room was wired for two-channel, radio-transmitted simultaneous translation. Interpreters were in booths at one side and each person in the audience, as well as the speaker, could speak or listen in either Japanese or English. The 18 papers fell into the following categories: General or organizational, 2; mathematics, 1; physics, 2; chemistry, 2; ecology, 2; physiology, 1; botany, 1; psychology, 1; engineering, 3; medicine, 1; and industrial microbiology, 1. The program was made possible by NSF support. The papers will appear in a AAAS symposium volume.

The AAAS Committee on Desert and Arid Zones Research had a valuable two-session symposium, "Arid Lands of Latin America: Their Problems and Approaches to Solution," (27 December). This is reported upon by its arranger W. G. McGinnies (University of Arizona).

The Academy Conference, composed of official delegates from the 46 state and city academies of science affiliated with the AAAS, held its 35th annual meeting (26–27 December). Included were a session for papers of junior scientists, a business meeting, a symposium on "Academy Activities and the Role of the NSF," and the annual dinner and presidential address, given by Gerald Acker (Bowling Green University).

The 17th Annual Junior Scientists Assembly, sponsored by the AAAS through its Academy Conference, is exclusively for young people interested in science and scientific careers. The Association and the Conference are indebted to the committee under the cochairmanship of Alfred Linscheid (Biology Department, Shaker Heights High School), and Russell F. Hansen (Cleveland Natural Science Museum), which made this event so successful. As reported by Linscheid, ". . . the Assembly Program was very well attended. Case Institute of Technology's Strosacker Auditorium was filled to its 600-seat capacity with eager young boys and girls who had been carefully selected by their science teachers in the greater Cleveland area. Laurence M. Gould made a brilliant and stimulating presentation, the impact of which will long be felt by those who had the privilege of attending. Other phases of the day's program were student reports, and visits to the Natural Science Museum and research laboratories at Western Reserve University and Case Institute of Technology."

The AAAS Cooperative Committee on the Teaching of Science and Mathematics sponsored a panel of five speakers on reports of the Commissions on College Science (29 December). They outlined the development, current status, and plans for each group.

The program of the Committee on Science in the Promotion of Human Welfare (29 December) was a symposium, "The Scientist Looks at Air Conservation." Three points of view were presented—the biologist's, the physical scientist's, and the social scientist's, respectively, by John R. Goldsmith (California State Department of Public Health, Berkeley), Francois N. Frenkiel (David Taylor Model Basin and University of Minnesota), and Howard Higman (University of Colorado). James P. Dixon, Jr., president of Antioch College, and chairman of the AAAS Air Conservation Commission, presided.

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-Cleveland Hotel.

Part 1 consisted of two lectures, "The Evolution of an Active Mathematical Theory" by Andrew M. Gleason (Harvard University) and "The Deep Structure of Continents" by Gordon J. F. MacDonald (University of California, Los Angeles). Mina S. Rees, member, AAAS Board of Directors, presided.

In the second session, Arthur L. Schawlow (Stanford University) spoke on "Infrared and Optical Masers," and Vincent G. Dethier (University of Pennsylvania) spoke on microscopic brains. Bentley Glass, member, AAAS Board of Directors, presided.

On the second evening, 27 December, the AAAS Distinguished Lecture was given by John Kenneth Galbraith (the Paul M. Warburg professor of economics, Harvard University, and recent U.S. Ambassador to India). His subject, "Ideology and Income," dealt with the desirability of stressing cultural values as well as material matters or mere economics. Don K. Price, member, AAAS Board of Directors, presided.

The 4th George Sarton Memorial Lecture, sponsored by the George Sarton Memorial Foundation, was given by Hudson Hoagland (executive director, Worcester Foundation for Experimental Biology and president, American Academy of Arts and Sciences) on the afternoon of 28 December. His subject was "Science and The New Humanism." He attributed changes in Russia to the liberalizing effects of scientific thinking. Chauncey D. Leake (University of California, San Francisco) and past president, 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 Paul B. Sears (Yale University). He was introduced by Sigma Xi president, Frederick D. Rossini, and his address, "Telltale Dust," was enjoyed by a capacity audience. He made the important point that when the dust is wind-blown top soil, it can mean unwise agricultural practices.

The annual illustrated lecture of the National Geographic Society, "Mozambique, the Land of the Good People," was presented on 30 December by Volkmar Wentzel (foreign editorial staff, National Geographic Society) and concluded the week's impressive list of special sessions. Laurence M. Gould, president-elect, AAAS, presided.

On the morning of 28 December, "AAAS Day," there were five inter-

disciplinary symposia, to be reported later. All of them were outstanding.

Sixteen of the 20 AAAS sections had scheduled vice-presidential addresses. This includes the paper by Kingsley Davis in the symposium, which he organized, on human reproduction control. Unfortunately, the vice president for Section F was unable to be present to give his address.

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. Another highlight of this year's meeting was the AAAS Presidential Address.

AAAS Presidential Address

The address of the retiring (115th) president of the Association, Paul M. Gross, was given on the customary evening, 28 December, before a large audience in the grand ballroom of the Sheraton-Cleveland Hotel. President Alan T. Waterman presided and introduced Ralph S. Locher (mayor, City of Cleveland) and Charles E. Spahr (president, Standard Oil Company of Ohio), general chairman of the seventh Cleveland meeting, both of whom graciously welcomed all registrants to the scientific community of the city and the region. A special guest, W. E. Swinton (official representative of the British Association) was introduced, and the 1962 winners of the Newcomb Cleveland prize were introduced. Announcement was made, also, of the AAAS Socio-Psychological Prize.

Paul Gross's address as retiring president on "The fifth estate in the seventh decade," was concerned with the status of science and scientists in the 1960's. It has already appeared in *Science* [**143**, 13 (1964)]. Following the address there was a brief reception.

Other AAAS General Sessions

Again, 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. These distinguished programs were as follows: An interdisciplinary symposium of interest to all, "The Federal Government, Science and the Universities," was arranged by John T. Wilson (deputy director, National Science Foundation) who also presided. The scheduled speakers were A. Hunter Dupree (professor of history, University of California), Delphis C. Goldberg (staff director, Intergovernmental Relations Subcommittee, U.S. House of Representatives), AAAS retiring President Paul M. Gross (professor of chemistry, Duke University), and William D. Carey (executive assistant director, Bureau of the Budget). Because Carey was unable to be present, the chairman spoke in his place.

One interdisciplinary symposium in the physical sciences, "The Uses of Lasers and Masers," was arranged by R. J. Collins (University of Minnesota) who also presided. The papers and their authors were: "Frequency mixing and other nonlinear optical effects," Robert W. Terhune (Ford Motor Company, Dearborn, Mich.); "Lasers, fiber optics and their applications," N. S. Kapany (Optics Technology Inc., Belmont, Calif.); "Ring laser rotation sensing," George R. White (Sperry-Gyroscope Corporation, Great Neck, N.Y.); and "Satellite experiments using lasers," Henry H. Plotkin (Goddard Space Flight Center, NASA, Greenbelt, Md.).

Another in the physical-philosophical sciences, "Philosophical Aspects of Cosmology and Cosmogony," was a joint program of AAAS sections on History and Philosophy of Science (L), Physics (B), and Astronomy (D), arranged by Adolf Grünbaum (Andrew Mellon professor of philosophy, University of Pittsburgh). The presiding officer was Grover Maxwell (University of Minnesota). The invited speakers were Otto Heckmann (director, Southern European Observatory, Hamburg, Germany) whose topic was "Aspects of modern cosmology," and G. C. McVittie (director, University of Illinois Observatory) who spoke on "The analysis of observations in cosmology." Discussants were Norwood Russell Hanson (Yale University), E. L. Hill (University of Minnesota), and P. K. Feyerabend (University of California, Berkeley).

An interdisciplinary symposium in the biological-medical sciences, "Developmental Aspects of Immunity," was arranged by David W. Bishop (Carnegie Institution of Washington, Baltimore), and Jonathan W. Uhr (New York University Medical Center), and was sponsored by AAAS section on Zoological Sciences (F) and cosponsored by the section on Medical Sciences (N) and the American Society of Zoologists. After an introduction by James D. Ebert (Carnegie Institution of Washington, Baltimore), who presided, the 45-minute papers and their authors were: "The heterogeneity of the immune response," Jonathan W. Uhr; "The relationship of the thymus to the development of immunologic responsiveness," J. F. A. P. Miller (Chester Beatty Research Institute, London, England); "Phylogeny of the immune response," Robert A. Good (Variety Club Heart Hospital, Minneapolis); and "Ontogeny of the immune response," Arthur M. Silverstein (Armed Forces Institute of Pathology).

The interdisciplinary symposium in the social sciences, "Biological and Sociological Research on the Effects of Human Reproduction Control," a program of AAAS section on Social and Economic Sciences (K), had been arranged by its chairman, Kingsley Davis (University of California). M. Jean Bourgeois-Pinchat (directeur, Institut National d'Etudes Demographiques, Paris) spoke on "Demographic consequences"; W. Lee Hansen (University of California, Los Angeles) on "Economic effects"; Christopher Tietze (National Committee on Maternal Health, New York, N.Y.) on "Medical effects," and Kingsley Davis on the "Sociological consequencies."

AAAS Business Sessions

As required by the constitution, the Association's Board of Directors 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 when their regular representatives could not attend. In part, this record attendance showed the effects of early and careful correspondence of Nancy Little, in the writer's office, but there is a growing realization among many AAAS affiliates that they should be represented at the meeting where AAAS policies are determined.

The AAAS section officers' luncheon and business meeting was held on 28 December at the Statler Hilton. It afforded opportunities to thank the officers for their work on their respective programs, for several new officers to be introduced, and to consider briefly the plans for the AAAS Montreal meeting.

The Attendance

The 130th meeting was well attended—for Cleveland! The number of paid registrants, 3660, was 56 percent greater than the registration at the previous Cleveland meeting of 1950. The registration total of 3660 does not include guests, 288 individuals connected with the exhibits, and 165 press representatives.

Table 3 shows that 1172 registrants (32 percent) came from Ohio. The figures for registrants from Cleveland and from 36 suburbs within a 30-mile radius (Painesville to Avon) were 386 (10.5 percent) and 274 (7.5 percent), respectively. Comparable figures from the year before were 1093 (16 percent) and 819 (12 percent) for the convention city and its suburbs, respectively. On the other hand, all the rest of Ohio with 512 registrants (14 percent) was proportionally better represented than the balance of Pennsylvania in 1962 (546 registrants, 8 percent).

Each of the 50 states in the nation and Puerto Rico was represented, though Wyoming had only a single registrant. There were 52 registrants from Canada and 35 scientists from 13 other countries. In this respect, the larger Philadelphia meeting was distinctly surpassed. No recent AAAS meeting has had as many speakers from abroad as did this Cleveland meeting. Some of these were visiting scholars at American institutions, but the total included a majority of foreign scientists who came expressly to attend the meeting or to present papers at it. Among these were the eminent Japanese scientists in the symposium on the sciences in Japan, the South American experts in the program on arid lands of Latin America, those mentioned as participants in the interdisciplinary symposia, and invited speakers from five European countries in such fields as astronomy, chemistry, criminology, ecology, endocrinology, immunology, sociology, and zoology.

An analysis of the 3660 registrants by subject fields is given in Table 4. There were relatively few cases where the "field of interest" line on the registration slip was left blank. Perhaps 300 wives attended the meeting. While many of them listed scientific interests, about 79 did not. The "sciences in general" category is composed mainly of administrators of research, secretaries of associations, and other executives.

Table 3. Distribution of registrants by states and countries.

Alabama	6	Oklahoma	15
Alaska	4	Oregon	8
Arizona	10	Pennsylvania	207
Arkansas	2	Puerto Rico	3
California	118	Rhode Island	16
Colorado	23	South Carolina	3
Connecticut	40	South Dakota	5
Delaware	11	Tennessee	26
District of Columbia	145	Texas	42
Florida	29	Utah	8
Georgia	12	Vermont	3
Hawaii	3	Virginia	61
Idaho	2	Washington	13
Illinois	229	West Virginia	12
Indiana	101	Wisconsin	84
Iowa	30	Wyoming	1
Kansas	32		
Kentucky	39	Total U.S.	3573
Louisiana	28		
Maine	3		
Maryland	133	Argentina	1
Massachusetts	123	Australia	1
Michigan	252	Brazil	1
Minnesota	35	Canada	52
Mississippi	2	Chile	1
Missouri	43	Egypt	1
Montana	2	England	2
Nebraska	17	France	2
Nevada	2	Germany	2
New Hampshire	9	Jamaica	1
New Jersey	73	Japan	18
New Mexico	10	Mexico	2
New York	287	Peru	1
North Carolina	33	West Africa	2
North Dakota	6	Total foreign	87
Ohio			
Cleveland	386		
Suburbs	274		
Rest of state	512	Total paid registration	3660

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 4, the registered attendance may be categorized as follows: Physical sciences and applications, 787 (21.5 percent); biological sciences, 1207 (33 percent); medical sciences, 651 (18 percent); psychology, social and economic sciences, and statistics, 454 (12.4 percent); science teaching and education, including information and communication, 327 (9 percent); general interest and other, 234 (6 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 Cleveland, however, the biological sciences took first place over the physical sciences. The programs in physics, space sciences, chemistry, and geology obviously appealed to the local scientists and engineers working in these fields, as well as to others from outside the field, while the visiting zoologists and ecologists swelled the biological grouping.

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 12.4 percent. The percentage for science teaching would have been higher if many more than 223 science teachers and educators had not indicated their teaching specialities first.

Annual Exposition of Science and Industry

The Annual Exposition of Science and Industry for 1963 was one of the most convenient ever presented. The 100 exhibitors in 125 booth spaces were in the new Exhibit Hall of the Sheraton-Cleveland, in the Whitehall Room, and in the connecting corridor —all on the mezzanine level and in close proximity to the larger session rooms. The ceiling was conveniently

high and the overhead illuminating ample for most displays. To facilitate guarding and equal exposure to booth traffic, there was, as usual, only one entrance and exit.

The Combined Book Exhibit, an improvement over the AAAS-operated Science Library of former years, especially in that a printed booklist of the displayed volumes was available, was larger than the one at the Philadelphia meeting.

There may have been more publishers in the Exposition than ever before, but they did not overwhelm the excellent series of exhibits of supply houses, instrument companies, and laboratory equipment firms. Finally, there was an impressive series of special governmental and large-scale industrial exhibits, some especially built for this AAAS meeting.

A striking display, completed only a few days before the meeting, was the premier showing of an exhibit designed for showing at the New York World's Fair. This display was the model of the radio astronomy telescope installation at Green Bank, West Virginia, sponsored by NSF. Because of its novelty and general attractiveness it was accommodated at the last minute, necessarily in a make-shift area. This exhibit, the table exhibits of AIBS and of the Earth Science Curriculum Project, and the special display in the lobby of a scale model of the Apollo capsule (constructed for NASA by North American Aviation) were not listed in the *General Program* or preconvention issue of *Science* [**142**, 1328, (1963)].

J. N. Bauman (president, White Motor Company) and the local Committee on Exhibits, which he headed, enlisted the interest and support of several large firms in the Cleveland area.

Among these were the handsome exhibits of Cleveland Electric Illuminating Company, Glidden Company, Thompson Ramo Wooldridge Inc., and the Greater Cleveland Growth Board. Grateful acknowledgment of the work of the Exhibits Committee is made on behalf of the Association and of all those who enjoyed the Exposition.

Again, we are particularly grateful to Earl J. Scherago and Herbert Burklund from the advertising office of *Science* for their devoted and most helpful services in connection with the exhibits.

AAAS Science Theatre

Since the 1947 Chicago meeting, the AAAS Science Theatre has been a popular and well-established feature of the annual meeting of the Association. It seeks to present a selection of the latest foreign and domestic scientific films. At the seventh Cleveland meeting, 55 16-mm films were shown in seven 4-hour programs and in a slightly abbreviated eighth session. The film titles and producers appeared in the preconvention issue of *Science* [**142**, 1328 (1963)]. Most films were shown twice, and some a third time. The cooperation of the lending agencies is greatly appreciated.

For the first time, every film that had been requested was on hand and in good season. This, and the choice of titles, in large part, reflected the diligence and dedication of Marlyn Jean Lippard, in my office. The running time of a few films was less than stated, but every other aspect of the Science Theatre, which had excellent professional operation, went well. Several films, later added to bring programs to full length and not previously listed in the *General Program* or *Science*, were: "Tiny Pond Animals," produced by Shuzitu Oda, St. Paul's University, Tokyo; "Kidney Function: Factors Influencing the Formation of Urine," produced by the State University of Iowa; and "A Documentary of the Botanical Expedition to the Heart of the Aegilops Distribution," produced by Kosuke Yamashita, Kyoto University, Japan. Inquiries about any of the 55 films should be directed to the producers.

For this year's 131st AAAS meeting in Montreal, all films for the Science Theatre, except Canadian ones, will be gathered at the Association's headquarters in Washington and shipped across the border as a bonded unit consignment. It is hoped that this may afford an opportunity to preview each film.

Work of the Local Committees

For some registrants, AAAS members, and even new staff members, the recent Cleveland meeting was their first AAAS meeting. Prior to this, they may not have realized that a scientific meeting of the size and complexity of 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 committees; the balance of each committee is then appointed by its own chairman. This was the plan followed last year.

All who attended the seventh Cleveland meeting, and the officers and staff of the Association, are indebted to Charles E. Spahr who, as general chairman, made distinguished appointments of chairmen of the local committees, kept in touch with all phases of the meeting, and graciously welcomed members and friends of the Association on the evening of 28 December. On behalf of the Association, grateful acknowledgement of the indebtedness of all of us to Charles Spahr is made here.

The critically important and strenu-

Table 4. Registrants by subject fields.

Mathematics and computers	90
Physical sciences	
Physics	146
Astronomy	37
Space sciences	41
Meteorology	36
Chemistry (other than medical)	233
Geology and Geography	111
Biological sciences	
Botanical sciences	101
Genetics	60
Ecology	170
Animal behavior	43
Embryology, developmental biology	69
Vertebrate morphology	20
Endocrinology	40
Herpetology	22
Zoological sciences (all other)	343
Biology (in general, and other)	339
Medical sciences	
Anatomy	17
Biochemistry (including nutrition)	103
Clinical chemistry	17
Physiology	153
Psychiatry	14
Microbiology and virology	29
Medicine (in general, and other)	174
Dental research	53
Pharmaceutical sciences	91
Psychology	99
Anthropology and archeology	77
Social and economic sciences	
Criminology	38
Economics	23
Political science	12
Sociology	35
Industrial science	20
History and philosophy of science	68
Agriculture	58
Engineering	73
Education	127
Science teaching	96
Information and communication	104
Statistics	44
Science in general and administrative	56
Students	42
Wives (fields unspecified)	79
No field indicated	57
Total	3660

ous work of the Committee on Physical Arrangements and the contribution of the Committee on Exhibits have been acknowledged. The two other committees, in their respective fields, also contributed greatly to the meeting.

The Committee on Public Information, which was headed by Bill M. Sansing (executive vice-president, McCann-Marschalk Company), provided expert advice and assistance in securing local publicity and in providing local coverage. The Association expresses its grateful appreciation to every member of this committee for his or her contributions.

The local Committee on Women's Events was headed by Mrs. John S. Millis. She and her committee members, wives of faculty members of Western Reserve University, graciously welcomed wives of attending scientists in a special room of their own in the Sheraton-Cleveland throughout the entire meeting period. The Association acknowledges with deep appreciation the work of this committee.

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, I should like to express my personal appreciation to the key executives of the hotels which provided assistance and friendly help throughout—especially Allen J. Lowe, general manager, and John Connelly, assistant sales manager, of the Sheraton-Cleveland; George Kilcoyne, sales manager of the Statler Hilton; Jim Sabrey of the Pick-Carter; and Betty Lewis of the Manger. Their cooperation and courtesy were essential for the success of the meeting.

The Association and its staff are grateful for the cooperation of William E. Scheele, director, and staff member Russell F. Hansen, of the National Science Museum, for use of the museum facilities for the science teachers, and for the Biologists' Smoker, both on the evening of 27 December; and for the great assistance of Russell Hansen for making the arrangements.

The secretaries and program chairmen of the sections and participating organizations cooperated ably, especially in providing copy and galley proof for the 292-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 —in that, often "hot spot," the AAAS Office, at the Information Center, or in the AAAS booths.

Prizes and Awards

The following is a listing of prizes and awards presented during the 130th AAAS annual meeting.

Newcomb Cleveland Prize—To J. F. Evernden and Garniss Curtis, both of the University of California (Berkeley) for their paper, "The dating of early man and his cultures by the potassium-argon method," which was presented at the AAAS meeting in 1962 [*Science* **143**, 30 (1964)], in a joint program of the sections on anthropology (H) and geology and geography (E).

AAAS-Westinghouse Science Writing Award—To Walter Sullivan, science news editor of the New York *Times*, and to Dean E. Wooldridge, former president of Thompson Ramo Wooldridge, Inc., and now a research associate at California Institute of Technology. Sullivan won the newspaper writing award and Wooldridge won the magazine writing award [*Science* **142**, 1640 (1963)].

AAAS Socio-Psychological Prize—To Morris Rosenberg, social science analyst at the National Institute of Mental Health, and to William J. McGuire, Columbia University. Rosenberg won the award for his paper, "Society and the adolescent self-image," and McGuire was awarded the prize for his study on "Immunization against persuasion" [*Science* **143**, 30 (1964)].

Industrial Science Achievement Award—To Case Institute of Technology, Cleveland, Ohio, for the manner in which Case has, through its program of undergraduate and graduate instruction, research, and consultation, been a major force in bringing American industry to new and high levels of productivity through science and applied science.

William Procter Prize—To Edwin H. Land, president of the Polaroid Company, Cambridge, Massachusetts, "in recognition of notable accomplishment in scientific research." The award was presented at a combined luncheon meeting of the Society of the Sigma Xi and the Scientific Research Society of America. The award was made by the latter.

August Vollmer Award for 1963—To Austin MacCormick, executive director, The Osborne Association, New York, N. Y.

Edwin Sutherland Awards for 1963—To Walter C. Reckless, Ohio State University, and Herbert Wechsler, Columbia University Law School.

The Vollmer and Sutherland awards were presented by the American Society of Criminology.

Conclusion

The Association's 130th meeting officially ended with the adjournment of the last session, but in other ways its termination is delayed for weeks. Even the payment of the last bill, the writing of the last letter connected with it, the appearance of the reports about it —none of these entirely ends the meeting. Scattered inquiries about specific papers will come in from all parts of the world for years to come. (To all such requests, we must say please write the author directly, because the press-room files are exhausted.)

The greatest impact of the meeting is on the young men and women who are stimulated to continue their work. In some cases, the direction of their research may be changed as the result of hearing a symposium paper or discussing a problem with a colleague in a hotel room. In retrospect, it will be seen that the seventh Cleveland meeting has made its contribution toward the general advancement of science.

Note

1. Detailed proceedings were discontinued after 1909 when *Science*, the official journal of the AAAS, started publishing reports about the meeting. These reports appeared throughout the year. *Summarized Proceedings*, covering several consecutive meetings and including a current directory of members, were published from 1910 through 1948. Since that centennial year, *Science* has had an annual postconvention or proceedings issue.