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### *American Council on Education*

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### *American Standards Association*

#### *Sectional Committees on Letter Symbols and on Abbreviations for Science and Engineering (Y1 and Y10)*

Irving P. Orens, Newark College of Engineering

### *Scientific Manpower Commission*

Wallace R. Brode (1967), 3900 Connecticut Avenue, NW, Washington, D.C.

M. H. Trytten (1966), National Academy of Sciences

### *American Standards Association*

#### *Sectional Committee on*

#### *Use of the Decimalized Inch (B87)*

Carl F. Kayan, Columbia University

### *Cooperative Committee on the*

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Wayne Taylor (Academy Conference, AAAS), Michigan State University

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### *Hawaiian Botanical Gardens*

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### *U.S. National Commission for*

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## A Report of the Fourth Berkeley Meeting

Raymond L. Taylor

In retrospect, reactions from all sides to the Association's recent meeting on the Berkeley campus of the University of California have been overwhelmingly favorable. Though the three available hotels and the local motels were scattered, and limited in respect to number of rooms, most people were accommodated in Berkeley (or could have been), and everyone seemed to get to the campus, one way or another. The university's Residence Halls, new since the previous meeting in 1954, provided about half of the total housing and made this year's record-breaking meeting quite feasible. The Halls proved to be even more comfortable and convenient than some persons had anticipated.

Most of the time it rained but peo-

ple were philosophical and good-natured. Virtually all had brought raincoats so it is believed that few failed to attend at least any daytime session that had been scheduled. Several of the special or evening sessions may have suffered because of the rain but even on the stormiest night, 28 December, about 900 persons were present. In general, not only were sessions well attended, but many of them were overcrowded. Some of these instances reflected modest underestimates of the attractiveness of the programs by their arrangers, but the entire meeting became larger than most people thought it would be at the time session rooms were applied for. Finally, there were instances of session rooms marginal in size because their programs had been

scheduled so late in the year that all the larger rooms had been assigned. Altogether, some 65 large classrooms and lecture halls in 25 different university buildings were intensively and concurrently used during the four "heavy" days of 27-30 December.

In number of all types of sessions (Table 1), the grand total of 441 is by far the largest of any AAAS annual meeting. (The Berkeley meeting of 1954 had 368 sessions; the 1962 Philadelphia meeting 361; all others had fewer.) The basic explanation is the exceptional combination of certain programs: (i) the number of sessions of the zoologists—the American Society of Zoologists alone had 25 sessions for contributed papers and 18 symposium sessions in the largest meeting that that society has ever held; (ii) together, the other zoological societies and three biological societies had an additional 44 sessions for papers, invited and contributed; (iii) the 5th Berkeley Symposium on Mathematical Statistics and Probability added another 15 sessions; and (iv) the astronomers and mathematicians had extra sessions. Nearly every other national, regional, and special program tended to be fuller.

In the total number of paid registrations—7,028—this was truly not only

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the greatest general scientific meeting ever held on the Pacific Coast, but it was also the second largest meeting in the 118-year history of the Association. In sheer size the 4th Berkeley Meeting was exceeded only by the New York meeting of 1960, which had 7389 paying registrants. The New York meeting of 1949, which had an exceptional number of participating societies and a registration total of 7014, was nosed out of second place by the slender margin of fourteen. The Philadelphia meeting of 1962, which had a total of 6893, is now in fourth place. Although size is not the most important aspect of a successful meeting, it is still an important factor because it is related to the number of friends and colleagues one will meet, and the number of persons who will hear, and perhaps discuss, one's paper. Moreover, a substantial attendance assists materially with the finances of a meeting, both from registration fees and from the rental of booth-space to exhibitors.

Of paramount moment, however, are the caliber and the significance of the programs. In these respects, the 4th Berkeley Meeting excels. Looking back to last December one well might ask: When in a single scientific meeting has there been a greater combination of fundamentally significant symposia as the two on physiological control of conception and its implications, and on civil defense; the five AAAS interdisciplinary symposia (to be discussed later); the series of up-to-the-minute symposia in biology, chemistry, and medicine; and the total array of distinguished afternoon and evening addresses?

Though there were several inconveniences—delayed appearances by projectionists, or an absent screen, or the acoustics were not always perfect—the Berkeley meeting was a relatively smooth-running, pleasant, and memorable experience for most of those who attended. Those persons who took care of housing, information, registration, and meals in the Dining Commons; the staff of the Convention Bureau and Student Center; the guards; and each selected student without exception were efficient, cooperative, and friendly to a noteworthy degree. The attractive atmosphere of the campus, the interesting exhibits in many of the buildings, and the magnificent views from the surrounding hills all contributed to the pleasure and enjoyment of those who attended. Though no precise count of those who brought their families to the meeting

has been made, it is apparent from the housing data that more did attend than is usually the case. Many of those who attended had friends and relatives in California. Because the San Francisco area is a tourist center, many took an extra day or longer to visit and to sight-see.

Those who have not attended an AAAS meeting in recent years have been known to comment, "I had no idea the Association had symposia of such high quality." Similar expressions, received informally and by letters, all indicate that there is an increasing recognition that 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 asked to arrange sessions for the meeting.

This 132nd AAAS meeting had a gratifyingly large attendance from the Pacific Coast and adjacent states, the scientists of which appreciated the AAAS coming to their locale after an interval of 11 years. At the same time every other portion of the nation, nearly every province of Canada, and no fewer than 20 other countries were represented. At the meeting, the British Association for the Advancement of Science was represented by W. H. McCrea, F.R.S., president of the Physics and Mathematics Section of the British Association for 1966 and professor at the Royal Holloway College, Englefield Green, Surrey. The Venezuelan Association for the Advancement of Science was represented by Francisco Weil of Caracas.

For one notable feature of the meeting, already mentioned, the two-session symposium on the physiological control of conception and its implications, that began on the morning of 26 December, the speakers and out-of-town attendants had to leave their homes on Christmas Day or earlier to be present. A surprise session, not listed in the *General Program* and unannounced until a day or so beforehand, was the two-hour NASA program that presented the first public medical report on the Gemini 6 and 7 space projects. The speakers were medical director Charles Berry and astronaut Edward White. The event was scheduled in Harmon Gymnasium 29 December at 5 p.m. so that no other program would be affected. Other highlights and all aspects of the meeting will be included in this report.

## Reason for a Report

Yearly reports of AAAS meetings have been published since the Association's founding in 1848—as also were those of its immediate ancestor, the Association of American Geologists, organized in 1840. Such reports fulfill several useful functions. For those who were present they provide an overall account of the entire convention, only a fraction of the sessions of which any one person could have attended. Those who did not attend are informed of what they have missed while, for future reference, there is a record of those impressions and data, by which one meeting can be compared with another.

In the aggregate, the reports of AAAS meetings afford a panorama of American science. Those particularly interested in the history of science will find the proceedings volumes and the files of *Science* an indispensable outline of the major trends of scientific thought during the past century and a quarter. In these records can be noted the shifts of emphasis in research, the proliferation of scientific societies in many disciplines, the consolidation or merger on some instances, and the continued impressive progression of those individuals who lead in science.

## Premeeting Publicity

As implied in the foregoing, a number of factors are responsible for a successful AAAS meeting, and some of them are 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 and representatives of the participating societies. The 4th Berkeley Meeting had all of these features. One would hesitate to single out any one factor as absolutely critical, but the size of a program's audience is directly related not only to that program's intrinsic appeal but to how many people have heard about it, and, if attracted, whether they heard in time to plan to attend.

No matter how good programs may be, they cannot be well attended unless they are brought to the attention of their potential audiences well in advance. Nearly all the major programs of AAAS meetings are planned, at least

in broad outline, almost as soon as the previous year's program has ended. The Committee on Meetings and the section secretaries meet together on the most convenient weekend in February. The Committee considers subjects and speakers for the AAAS-sponsored special sessions, and the secretaries report on their plans. Both groups then discuss and decide upon which programs shall be labeled official "AAAS Interdisciplinary" and scheduled for "AAAS Day," and thus kept free from other sectional competition.

Generally, by mid-April, it is possible to prepare copy for a preliminary announcement of the current year's 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 mid-July, data on hotel headquarters and additional program notes are released.

Unfortunately, it is not until mid-October, usually, that more complete information can be supplied. However, the flow of hotel room reservations indicates that this is the very time when many decisions on attendance are made or confirmed.

It is always earnestly hoped that all secretaries and program chairmen responsible for symposia and sessions for invited papers will make every effort to complete their arrangements by 1 June. Speakers invited before they scatter for summer research or travel, or before they may have made other commitments, are far more likely to say "yes" than if they are asked as late as September.

Between 22 October and the Pre-convention Issue, 3 December 1965, there were six releases on the programs of the meeting. One of these was written by Ray Colvig, information officer of the University of California. The others were prepared by AAAS staff members—Grayce A. Finger, Kneeland Godfrey, William T. Kabisch, Arthur H. Livermore, and Louise Campbell.

The meeting material in the Pre-convention Issue was prepared by Grayce A. Finger. The writer is indebted to all of them for these articles. The November issue of the *AAAS Bulletin*, expanded to 12 pages by its editor Hans Nussbaum, with the borrowed assistance of Catherine Borrás, reached AAAS members in mid-November. It was a marvel of compression of program material and of publication, considering its

appearance in advance of the Pre-convention Issue of *Science*.

Announcements in other scientific journals also helped to attract people to the Berkeley meeting. The Association is particularly indebted to the *ASB Bulletin*, and to the *Proceedings* of the Federation of American Societies for Experimental Biology for space in which to call attention to the biological and medical programs of the AAAS meeting.

Societies that participate, such as the American Society of Zoologists and the Ecological Society of America, carry published abstracts of their 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* and other appropriate journals. Very probably, the meeting of no other scientific society receives more cooperation from the journals of its affiliates and colleagues.

#### Pattern of the Meeting

Another factor in the success of the Association's annual meeting is its pattern. From the time the Association's Committee on Meetings was founded, in 1955, much thought has been devoted to the best arrangement of the general events, the interdisciplinary symposia, the evening lectures, and the programs of the participating societies.

As it has evolved, the pattern now provides both an effective and efficient daily schedule and a rational plan for the timely interdisciplinary symposia. The usual 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 28 December (or "AAAS Day") and the sequence of the special sessions—in the evenings and on the afternoon of 28 December—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 had more time to work

on planning the most attractive programs possible.

The pattern has proved very satisfactory on the whole. From time to time a section secretary may wish to schedule his sessions through 28 December, or at least on the afternoon of that day, in order to prevent what may seem a break in the continuity of his entire series of sessions. It may be pointed out, however, that the interdisciplinary symposia and other features of "AAAS Day" will generally be considered worthy of an extra day of attendance by his audience. Most of the societies find it possible to keep free, for the general events, the same portions of the meeting period that the AAAS sections do.

The 4th Berkeley Meeting's total of 441 sessions (Tables 1 and 2) included programs sponsored by the Association as a whole, by the 20 AAAS sections, by six AAAS committees, by the recurrent Academy Conference, and by 46 societies that had arranged programs varying from one to 57 sessions. In addition, 40 other participating organizations officially cosponsored appropriate programs of the sections or other societies.

Since all AAAS sections and 46 organizations had programs, there were sessions of interest to specialists in nearly all the principal fields of science. There were as many as 189 sessions that were symposia, panels, or groups of invited papers centered about a particular subject—or a little more than twice as many as the 86 sessions devoted to contributed papers or shorter accounts of current research. Incidentally, it was necessary to expand the printed *General Program* to a 348-page, 13-ounce book to include all the program data. There was a desirable 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-session event especially for high school science students of the area—the 19th Junior Scientists Assembly (31 December).

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.

## Arrangements for the Meeting

Since this was a campus meeting, exceptional for the AAAS, there was no headquarters hotel of the meeting as a whole. Instead, the handsome multi-level Student Union, just within the southern side of the campus, at Telegraph Avenue and Bancroft Way, proved a most satisfactory headquarters center. On the second, or principal, level of this handsome building were located the Main Registration; supplementary registration facilities for the American Astronomical Society, the American Mathematical Society, and the science-teaching societies; a housing assistance desk; an airline service desk; a telephone message center; the AAAS membership service booth; and the Visible Directory of Registrants. Information desks manned by trained students were subdivided into tours, information, visitor information, campus information, and AAAS program information—a more elaborate arrangement necessary because the campus itself had guided tours. There was also a separate desk for the sale of meal function tickets. Behind these counters was the AAAS office, the four telephones of which were often simultaneously busy. At the end, near the stairs to the Annual Exposition of Science and Industry and the Science Theatre, was an attractive Art-in-Science Exhibit lent by the Albany Institute of History and Art. It was under the supervision of David G. Barry of SUNY at Albany.

On the third floor were the Sigma Delta Epsilon Headquarters Room, the Society of Systematic Zoology Book Lounge, and two large meeting rooms. The fourth floor was entirely devoted to the Press Office, a large pressroom with typewriters and tables for a.m. and p.m. releases, rooms for press conferences, and a room with four late model Telex transmitters, a mimeograph, and a 914 Xerox copier. There were many times when all were used simultaneously. These physical arrangements for the press transcended those of all recent AAAS meetings.

Below the first level, with its snack bar, was the lowest level, nearly all the space of which had been especially prepared for the Annual Exposition of Science and Industry and the Science Theatre.

Except for the meeting of the Board of Directors and several committee meetings, which were held in the Claremont Hotel, the business sessions of the Association, the large evening

Table 1. Analysis of sessions at the 4th Berkeley Meeting.

Sessions for symposia, invited papers, panels, and so forth	189
Sessions for contributed papers	86
Meals and social functions	48
Business sessions, committee meetings	47
Sessions for addresses, lectures	45
Sessions for motion pictures	15
Workshops	6
Tours and field trips	4
Junior scientists assembly	1
Total number of sessions	441

events, and all of the general events were held on the campus. Meal functions of the sections and participating societies were mainly held in rooms of the Dining Commons and Residence Halls. However, the Claremont, Durant, and Shattuck Hotels, and several local restaurants were also used.

## Projection

Projection at any scientific meeting 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 200 to 250 sessions that require projection often must be supplied not only with equipment that can handle 2- by 2-inch and "standard" 3½- by 4-inch slides, but also with other items such as 16-mm and 8-mm motion picture equipment and opaque lanterns or vugraphs. Participants from abroad may have slides of other sizes so that adapters must be located or built.

To rent the entire variety of projectors and screens needed for an AAAS meeting from commercial sources, and to engage professional projectionists at union rates for every session would be prohibitively expensive. Actually, the number of lanterns and operators needed would not be readily available even in the largest of cities. The Association would be greatly handicapped if it were

not possible to set up a local Committee on Physical Arrangements to borrow most of the equipment, typically from a city school system or from a series of university departments. Also the AAAS would be hard pressed if either high school student members of screen clubs, or university students, engaged at relatively modest rates, were not available.

Fortunately for the very heavy demands of the Berkeley Meeting, most session rooms had screens available; most science departments had excellent-to-adequate projection and other equipment; and there were a sufficient number of university students to serve as projectionists. It was of course necessary to rent large screens and arc projectors for such large rooms as the Harmon Gymnasium and the Science Theatre. A few smaller lanterns had to be secured from other sources.

Robert C. Anthonisen, business manager of the chemistry department, accepted the heavy responsibility of serving as chairman of the Committee on Physical Arrangements. With a relatively small staff, he worked with the data sheets that could not be supplied him before early December. He catalogued, assembled, and supervised the distribution of all projection equipment. He checked on the chairing and darkening facilities of each room. In one instance (Harmon Gymnasium) darkening of the top skylights was found to be impractical; programs requiring daytime projection in that room had been kept to a minimum.

Anthonisen also recruited a sufficiently large group of students who either had had experience with specific lanterns, or who received refresher training. Inevitably, there were instances of lanterns and operators that were delayed in reaching the proper session room at the right time, but the overall performance score was high. Indeed, the magnitude of the job done by Mr. Anthonisen and his assistants must be

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	74 (392 speakers)	115 (663 speakers)	189	1055
Sessions for contributed papers*	16 (118 speakers)	70 (654 speakers)	86	772
Sessions with addresses or lectures†	26 ( 52 speakers)	19 ( 38 speakers)	45	90
Totals			320	1917

\* Each paper is assumed to have been presented by a single speaker. are included.

† Addresses at meal functions

apparent. The AAAS staff and all the speakers who requested projection are greatly indebted to him and to the departments and faculty members of the University of California who lent equipment. They made an indispensable contribution to the success of the meeting.

### Other Meeting Arrangements

As in any city where the AAAS meets, the Berkeley Chamber of Commerce operated a Housing Bureau that received all applications for sleeping accommodations at convention rates—whether hotel, motel, or Residence Halls. The one person who did virtually all of this taxing job—typing and routing the confirmation slips and deposits—was Mrs. Mary S. Wragg. As the meeting grew nearer and last-minute requests for sleeping accommodations came flooding in, she found herself working after hours and on weekends. Her patience, good humor, and efficiency never deserted her. On Christmas afternoon and for the whole next day, she was at her desk in the Student Union building. On behalf of all whom she helped and for myself, I should like to thank her most heartily.

Many more people stayed in the Residence Halls than in any other single unit. Requests for such housing were sent to the university's Office of Residence Halls and received the active supervision of Patricia J. Cove, Residence Halls Conference Coordinator. She, her assistants, and those who staffed the telephone desks in the Halls handled all arrangements with unfailing efficiency and warmth. I am much indebted to her for the time and thought she gave to the plans for the AAAS meeting throughout.

Miss Cove also worked in cooperation with Joan Raftery, who is in charge of all university food services. Not only were breakfast and lunch served in the Residence Halls to those who had arranged for them, but when all the rooms of the Dining Commons were busy with AAAS sectional and societal meal functions, the overflow had to be scheduled in the Residence Halls. Miss Raftery worked hard to meet the needs of a substantial number of groups. I appreciate greatly her cooperation, especially for the Presidential Reception.

In general, since this was a campus meeting, it was most helpful to have an overall coordinator to oversee such matters as parking, local transportation,

furniture, airline and tour desks, and other factors. The Association and I owe much to Glenn V. Vivrette, assistant business manager, who had been named Coordinator for the Berkeley Campus by the university administration.

The registration layout and all of the additional installations in the Student Center were the joint efforts of Vivrette and Forrest Tregea, executive director, and Stan Elliott, operations manager of the associated students of the University of California Student Center. For more than a year prior to the meeting the latter two had planned on the preparation of the garage on the lowest level of the Union for the Annual Exposition of Science and Industry, and the utilization of the entire building by the Association. In the final stages, Stan Elliott, his secretary Mrs. Turner, and his personnel assistant, Sandra Moore, took care of a multitude of details. Miss Moore recruited the select group of students who registered, gave out information, sold meal function tickets, posted registration slips, and assisted in the AAAS office. In particular Miss Moore supervised all aspects of registration. The debt to her and to all others named here is substantial and I am grateful.

The Chamber of Commerce and Al Correia, general manager, provided advice and information when called upon, provided the housing service, and, in addition, made a substantial contribution towards the cost of registration. On behalf of the Association I should like to acknowledge all of this here.

### Highlights of the Meeting

As suggested 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 consider-

able attention. Such a program was the special NASA report already mentioned. In chronological order the Special Sessions are summarized here.

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 Harmon Gymnasium, the only really large auditorium on the campus.

Part I consisted of two lectures, "Significant Advances in Human Evolutionary Studies," by F. Clark Howell (Sibley Professor of Anthropology, University of Chicago) and "A New Look at the Earth's Magnetic Field," by Norman F. Ness (Space Sciences Division, NASA, Goddard Space Flight Center, Greenbelt, Maryland). Laurence M. Gould, chairman, AAAS Board of Directors, presided.

Late on the afternoon of 27 December Harvey E. White, director, Lawrence Hall of Science, gave a Special Illustrated Lecture on the Lawrence Hall of Science, still under construction. He repeated this lecture on 29 December.

On the second evening, 27 December, the AAAS *Distinguished Lecture* was given by George W. Beadle, president, University of Chicago, and president of the AAAS in 1955. His subject was "Genetics and Cultural Change," which dealt only with one species, man, and emphasized both the roles of heredity and environment. H. Bentley Glass, member, AAAS Board of Directors, presided.

In the second *Moving Frontiers of Science* session, the afternoon of 28 December, Jerome Y. Lettvin (research associate, Department of Electrical Engineering, Massachusetts Institute of Technology) spoke on "The Physiological Basis of Mental Activity," and William M. Fairbank (professor of Physics, Stanford University) spoke on "Some Aspects of Low Temperature Physics." John A. Wheeler, member of the AAAS Board of Directors, presided.

After a brief intermission the 6th *George Sarton Memorial Lecture*—originally sponsored by the George Sarton Memorial Foundation but henceforth to be taken over by the History of Science Society—was given the same afternoon by Stillman Drake (municipal financing consultant, San Francisco, California). His subject was "The Accademia dei Lincei (1603), the Forerunner of Modern Academies of Science." Walter Orr Roberts, member of the AAAS Board of Directors, presided.

The AAAS Presidential Address, the evening of 28 December, will be reported separately.

The annual joint address of the Society of the Sigma Xi and the United Chapters of Phi Beta Kappa was given on the evening of 29 December by J. Bronowski (Salk Institute for Biological Studies, San Diego). His address, "The Logic of the Mind," was superbly presented without need for notes or lectern. Alfred S. Romer, president of the AAAS, presided.

The annual illustrated lecture of the National Geographic Society at Berkeley was on "The Fight to Save the Grizzly Bear." The speakers were Frank Craighead (Environmental Research Institute, Boiling Springs, Pennsylvania) and John Craighead (Montana Cooperative Wildlife Research Unit, University of Montana). Laurence M. Gould, as one of his last official acts as chairman of the AAAS Board of Directors, presided.

All of the *General Sessions* can be considered highlights and will be reported separately.

The *Academy Conference*, composed of official delegates from the 46 state and city academies of science affiliated with the AAAS, held its 37th annual meeting, 27–28 December. Included were a business meeting; a symposium on Academies of Science between Meetings, II: "Improvement of Science Teaching," with John R. Mayor (AAAS) as speaker and Ted F. Andrews (CUEBS) and Paul Klinge (Indiana University) as discussants; and an afternoon "Open Discussion Program on the Undergraduate College Curriculum." The speaker was Martin W. Schein (Commission on Undergraduate Education in the Biological Sciences) with discussion leader George E. Lindsay (California Academy of Sciences). The annual dinner, held at the Men's Faculty Club, was followed by the presidential address given by Karlem Riess (Tulane University). The next day there were two sessions for the papers of 16 junior scientists who came from eight states.

The *19th Annual Junior Scientists Assembly*, sponsored by the AAAS through its Academy Conference, is exclusively for young people interested in science and scientific careers. A program was held the morning of 31 December for selected career-minded high school science majors of the Bay Area. The Association and the Conference are indebted to Robert A. Rice, Lawrence Hall of Science, University of California,

Berkeley, who served as program chairman of this annual event.

Thirteen of the 20 AAAS sections scheduled vice-presidential addresses. It is hoped that at least some of these, such as "Physics in the Last Twenty Years" by Emilio Segrè, may be published.

Presidential and other important addresses, given under the auspices of the participating societies, in most cases probably will be mentioned in the separate reports which appear elsewhere in this issue. Notable among the societal addresses were the address of the president of the American Society of Naturalists, "The Naturalist—Changes in Outlook over Three Centuries," by H. Bentley Glass (Academic Vice President and Distinguished Professor of Biology, State University of New York at Stony Brook); the Helen B. Warner Prize Lecture of the American Astronomical Society, "Studies of Stellar Magnetism: Past, Present, and Future," by George W. Preston (Lick Observatory); Section Np's Distinguished Lecture, "Biochemical Aspects of Mental Disease," by Bernard B. Brodie (chief, Laboratory of Chemical Pharmacology, National Heart Institute); and the Special Invited Address, "The Classical Problem—Goodness of Fit," given by Oscar Kempthorne (Iowa State University) at a joint session of AAAS Section U-Statistics and the 5th Berkeley Symposium on Mathematical Statistics and Probability.

A major event of any year's meeting is the AAAS Presidential Address.

#### AAAS Presidential Address

The address of the retiring (117th) president of the Association, Laurence M. Gould, was given on the customary evening, 28 December, before a large audience (that would have been still larger if the rain had been less) in Harmon Gymnasium. President Henry Eyring presided and, after identifying other persons on the platform, introduced Donald H. McLaughlin, vice chairman of the Regents of the University of California and general chairman of the Berkeley meeting. Speaking not only as the vice chairman of the Regents of the University of California, but also as a long-time resident of Berkeley (with some interruptions, as an undergraduate, faculty member, as dean of engineering, and as dean of mining) Dr. McLaughlin then graciously welcomed all to the campus and the

community. John Papaconstantinou (University of Connecticut), winner of the Association's Newcomb Cleveland prize for 1964, was next to be introduced. Finally, in appropriately eloquent words, the retiring president was introduced.

Laurence M. Gould's speech, "Antarctica—Continent of International Science," delivered with a few inimitable asides, was most appreciatively received. In his address, besides making Antarctica more familiar to his listeners, he pointed out the very beginnings of international scientific cooperation before the IGY program, outlined the many developments in science in that area, and said that the spirit of the Antarctica Treaty of 1958 is spreading. His address has already appeared in *Science* [150, 1775 (1965)]. Following the address there was a short reception at the rear of the seating area, where simple refreshments were served. For those in the receiving line it was, as always, a pleasure to be able to greet so many members and friends of the Association.

#### AAAS General Sessions

The first of these, in chronological order, was the symposium on the Physiological Control of Conception and Its Implications, on the morning and afternoon of 26 December. The program, arranged by a committee consisting of Margaret Mead (American Museum of Natural History), *chairman*; Walter Modell (Cornell University Medical College); and Gregory Pincus (Worcester Foundation for Experimental Biology) was sponsored by the Committee on Science in the Promotion of Human Welfare. In the morning, after an introduction by Walter Modell, there were two full-length papers, "The control of conception by hormonal steroids," by Gregory Pincus, and "Public health implications," by Stephen Plank (Harvard School of Public Health). In Part II there were papers on "Changes in sexual technology and social structure—A sociologic assessment" by Martin Loeb (University of Wisconsin); "Psychological factors in choice and utilization of contraception" by George Pollock (Institute for Psychoanalysis, Chicago); "Cultural implications of modern methods of control of conception" by Rhoda Métraux (American Museum of Natural History); and a summary given by René Dubos (Rockefeller University). Discussion periods af-



ter each session added to the value of the program heard by about 400.

As requested by a vote of the AAAS Council a year ago, the Committee on Council Affairs, on 27 December, sponsored a symposium on Civil Defense, arranged by a committee consisting of Henry Eyring, *chairman*; T. C. Byerly (U.S. Department of Agriculture); Barry Commoner (Washington University); and H. Bentley Glass (State University of New York, Stony Brook). Papers presented were "The basic case for civil defense" by Fred A. Payne (Marquardt Corporation, Van Nuys, Calif.); "Civil defense as insurance and as military strategy" by Wolfgang K. H. Panofsky (Stanford University); "The effect of civil defense on strategic planning" by Owen Chamberlain (University of California, Berkeley); "The possible effectiveness of civil defense" by Eugene P. Wigner (Princeton University); "Medical aspects of civil defense" by Victor W. Sidel (Massachusetts General Hospital); "The agricultural problems of civil defense" by John Howard Rust (University of Chicago); and "The factors affecting biological recovery from nuclear attack" by Barry Commoner (Washington University). Henry Eyring presided until the speakers formed a panel with Anatol Rapoport (University of Michigan) as moderator. Discussion was lively because some contrasting points of view were presented.

Beginning on the morning and afternoon of 27 December but primarily, concurrently, on the morning of 28 December, "AAAS Day," there were five interdisciplinary symposia. All of these distinguished programs showed careful planning and appealed to their several audiences. They were as follows: an interdisciplinary symposium in the biological-behavioral sciences, "Behavior, Brain, and Biochemistry," a joint program of the Committee on Meetings, AAAS Section I-Psychology, and the Western Psychological Association, arranged by David Krech (Department of Psychology, University of California, Berkeley). The first session on RNA the morning of 27 December attracted an overflow attendance of well over a thousand in Wheeler Auditorium. Part II, the morning of 28 December, was concerned with "Behavior, Brain Anatomy, ACh, and Other Mediators." Since this symposium is reported elsewhere, the titles and authors of the papers of the 20 speakers will not be listed here.

A second AAAS interdisciplinary symposium, one in the biological-chemical sciences, "Recent Advances in Nu-

cleic Acid and Protein Chemistry," began on the afternoon of 27 December. This was a joint program of the Committee on Meetings, AAAS Section C-Chemistry, and the California Section of the American Chemical Society, cosponsored by AAAS Section N-Medical Sciences. It was arranged by a committee, Wendell M. Stanley, *chairman*; Michael J. Chamberlin, R. C. Cole, Charles A. Dekker, and C. Arthur Knight (all from University of California, Berkeley). Papers and speakers of Part I, at which R. D. Cole and Charles A. Dekker presided, were "Techniques in studying the primary structure of proteins" by George Stark (Stanford University); "Relations of structure to function in enzyme action" by Daniel Koshland (University of California, Berkeley); "Ribonucleic acids: structures and optical properties" by Ignacio Tinoco, Jr. (University of California, Berkeley); and "Repair replication of damaged nucleic acids in vivo" by Philip Hanawalt (Stanford University). Papers and speakers, Part II, morning 28 December, at which Wendell M. Stanley presided, were "Structure and function of the DNA from bacteriophage  $\lambda$ " by David Hogness (Stanford University); "Subunit structures of proteins and their importance for control processes" by John Gerhart (University of California, Berkeley); "Hereditary human gamma globulin groups—biological and biochemical aspects" by Hugh Fudenberg (University of California Medical Center, San Francisco); and "Evolutionary and taxonomic studies with enzymes" by Allan Wilson (University of California, Berkeley). At the end of this session there was a presentation by Wendell M. Stanley of a John Scott Award of the City of Philadelphia Board of Directors of City Trusts to Alexander Kolin (professor of Biophysics, University of California Medical School, Los Angeles) for his invention of the Electro Magnetic Flow Meter.

The interdisciplinary symposium in the mathematical-social-economic sciences was "The Mathematical Bases of Economic Planning," a joint program of the Committee on Meetings and AAAS Section A-Mathematics and K-Social and Economic Sciences, arranged by Ithiel De Sola Pool (Center for International Studies, Massachusetts Institute of Technology).

The section on Agriculture (O) sponsored a well-conceived, seven-session program on Ground Level Climatology, arranged by Robert H. Shaw (Iowa State University of Science and Tech-

nology). Cosponsors were the sections on Zoological Sciences (F) and Botanical Sciences (G) and the American Meteorological Society, Ecological Society of America, and Society of American Foresters. Part III, "Implications of Weather Modification on Ground Level Climatology," had the status of a AAAS interdisciplinary symposium and is discussed elsewhere.

The 5th interdisciplinary symposium, "Materials Science in Dentistry, Medicine, and Pharmacy," was a joint program of AAAS Sections on Dentistry (Nd) and Pharmaceutical Sciences (Np), cosponsored by the section on Medical Sciences (N) and by a series of affiliated societies in these sections. The arrangers were John Autian (University of Texas College of Pharmacy) and Col. Peter M. Margetis (Walter Reed Army Medical Center).

The AAAS Southwestern and Rocky Mountain Division Committee on Desert and Arid Zones Research sponsored a two-part symposium, "Evolving Water Law: The Growing Conflict between Federal and State Governments," arranged by Joel E. Fletcher (Utah State University), who presided. The papers and speakers—consultants on water problems and governmental authorities—in this program, held on 29 December, were "The growing need for large interstate and international projects such as NAWAPA" by George D. Clyde (Salt Lake City); "Physical aspects of state water rights administration" by Wayne D. Criddle (Salt Lake City); "Water rights in a state water plan" by Harvey O. Banks (San Francisco); "Physical problems associated with water rights on interstate projects" by Harold T. Nelson (U.S. Bureau of Reclamation, Boise, Idaho); "The federal viewpoint regarding western water rights" by Frank J. Barry (solicitor, U.S. Department of the Interior); "Proposed legislation affecting federal-state water rights" by Frank E. Moss (U.S. Senator, Utah); and a summary by Wendell B. Anderson (Utah State University).

#### 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. For the first time in many years, the date was 28 December since the Council Meeting is now a single day, 30 December, and the meeting of the Committee on Coun-

cil Affairs was set for 27 December. The Council session was 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 Susan Landes Berman, 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 were held on 28 December in the Men's Faculty Club. It afforded opportunities to thank the officers for their work on their respective programs, and to consider very briefly the plans for the AAAS Washington meeting, which will be discussed in Washington, 25-26 February.

### The Attendance

The 132nd AAAS meeting was very well attended. Indeed, in the long annals of the 118-year-old Association only one AAAS meeting has ever been larger! That this might be a very large meeting was indicated as the advance registrations climbed during the fall months beyond that of any other year. Prior to the meeting opening on 26 December, 2580 persons had registered in advance.

The total number of paid registrations at Berkeley, 7028, has been surpassed only by the New York meeting of 1960, which had an attendance of 7389. Not included in this year's registration total were the registered exhibitor personnel (463), the press (201), and guests (11).

Moreover, it is always true that the total attendance at any national meeting of the Association is greater than the number of registrants, since all programs and most events are open to everyone. As usual, nearly all professional scientists, teachers, and students register. Also, there are several thousand science-minded members of the general public who may attend an evening lecture or some other event and not register. It is a long-standing policy of the AAAS that all programs, but especially the semipopular evening addresses, should be open to all interested persons.

Members of the American Astronomical Society and of the American Mathematical Society paid a "double registration"—the regular AAAS regis-

Table 3. Distribution of registrants by states and countries.

Alabama	10	Utah	45
Alaska	12	Vermont	1
Arizona	87	Virginia	58
Arkansas	5	Washington	148
California	4164	West Virginia	7
Colorado	75	Wisconsin	74
Connecticut	53	Wyoming	9
Delaware	9	Total U.S.	6842
District of Columbia	110	Canada	
Florida	39	Alberta	31
Georgia	14	British Columbia	55
Hawaii	31	Manitoba	3
Idaho	14	New Brunswick	1
Illinois	227	Nova Scotia	2
Indiana	64	Ontario	34
Iowa	39	Quebec	17
Kansas	38	Saskatchewan	5
Kentucky	13	Total Canada	148
Louisiana	24	Other countries	
Maine	10	Argentina	2
Maryland	105	Australia	5
Massachusetts	123	Brazil	1
Michigan	121	Chile	1
Minnesota	42	Ecuador	2
Mississippi	9	France	1
Missouri	63	Germany	2
Montana	20	India	2
Nebraska	19	Iran	2
Nevada	27	Israel	1
New Hampshire	5	Japan	2
New Jersey	75	Mexico	6
New Mexico	33	Netherlands	1
New York	246	Nigeria	1
North Carolina	26	Panama	1
North Dakota	7	South Africa	2
Ohio	98	Sweden	1
Oklahoma	24	Taiwan	1
Oregon	180	United Kingdom	3
Pennsylvania	110	Venezuela	1
Puerto Rico	4	Total other countries	38
Rhode Island	11	Grand total paid	
South Carolina	3	registrations	7028
South Dakota	15		
Tennessee	23		
Texas	73		

tration of \$5 plus a second fee of \$3 and \$1, respectively, for the society. The American Society of Criminology had a separate registration. Most of the members of the science-teaching societies registered with the AAAS but were separately tallied.

In the previous Berkeley meeting of 1954 the registration total was 3856—considered excellent for a far western meeting yet still the Association's 13th meeting in size. (Incidentally, to date only 20 of the Association's 132 national meetings have gone over the 3000 mark; 14 of these have been in the past 17 years). Table 3 shows that more than half of the registrants came from the nation's largest state, California. It also shows that all parts of the United States were well represented and that not a single state was unrepresented. It is noteworthy that eight provinces of Canada were represented by 148 persons and 20 other countries had 38 registrants.

The scientific population of California impressively supports a AAAS meeting within its extensive border. At

the previous Berkeley meeting of 1954, of the 3856 registrants, 2904, or just 75 percent, were Californians. Last December, of the 7028 registrants, the 4164 from California comprised 59 percent of the total. With an increase of 1260 over 1954, this is not interpreted as a proportionate decrease in local state attendance but rather that more people can afford to cross a continent to attend a meeting as attractive scientifically as this Berkeley meeting was.

The attendance came not merely from Berkeley, the Bay Area, and nearby San Francisco, but from all parts of California. Actually, as shown in Table 4, the 4164 California registrants came from 369 different communities. Berkeley, the 12 other East Bay cities, San Francisco and environs, not including the Palo Alto area, had a grand total of 1809. The territory including Los Angeles, southward to San Diego, and eastward to Riverside had a grand total of 865. That still leaves 1490 registrants from 231 other communities.

An analysis of the 7028 registrants by subject fields is given in Table 5.



Table 4. Analysis of California attendants.

Berkeley	933
Other East Bay cities (12)	483
San Francisco	262
Other West Bay cities (29)	131
Palo Alto	154
Stanford University	80
Menlo Park	60
Remaining Palo Alto area (40)	118
San Jose and nearby (8)	166
Davis	143
Sacramento	67
Goleta and Santa Barbara	69
La Jolla	41
Los Angeles	256
Pasadena	53
Remaining Los Angeles area (91)	461
San Diego	54
All other communities (175)	633
Total California attendance	4164

There were relatively few cases where the "field of interest" line on the registration slip was left blank. Probably some 600 wives attended the meeting. While many of them listed scientific interests, 114 did not. No attempt was made to tally administrators of research, secretaries of associations, and other executives separately because most of them named their scientific specialties.

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. However, science teachers who stressed disciplines were tallied accordingly. Those who listed education for the most part were teachers of elementary and secondary science teachers, administrators, and curriculum planners.

Since the zoologists were so numerous—there were at least 1039—they were further subdivided. There were 103 who stated "animal biology" for instance; it is impossible to say how many others in this increasingly active field were listed under ecology or zoology. Conversely, more than 10 protozoologists very probably did not name their subdisciplinary research field.

If the data on disciplines are grouped under still broader headings than those of Table 5, the registered attendance may be categorized as follows: Physical sciences and applications, 1838 (26.2 percent); biological sciences, 2423 (34.5 percent); medical sciences, 1258 (17.9 percent); social and economic sciences, 744 (10.6 percent); science teaching and education, including information and communication, 382 (5.4 percent), and general interest and other, 383 (5.4 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 Berkeley, however, the biological sciences took first place over the physical sciences. The visiting naturalists, botanists, zoologists, animal behaviorists, and ecologists swelled the biological grouping.

The strong series of programs in the social and economic fields, including criminology, again brought the percentage for social science registrants up to 10.6 percent. The percentage for science teaching would have been considerably higher if many more than the 286 science teachers and educators had not indicated their teaching specialties first.

#### Annual Exposition of Science and Industry

At the previous Berkeley Meeting the Annual Exposition of Science and Industry was housed in the Harmon Gymnasium for Men. However, this year Harmon was needed for the larger special sessions, and the Annual Exposition of Science and Industry for 1965 was located in a building not available in 1954—the Student Union. The garage on the lowest level of this building was the only feasible site on the campus for the anticipated large number of exhibits. The garage required considerable work to make it ready—the removal of car stops, steam cleaning to remove oil and grease, and extensive screening. Besides conventional drapes, an extensive canvas wall was installed to border the excavation for a new auditorium to be added to the Student Center. It was necessary to bring in several kerosene-burning heaters of a blower type to counteract the chilly blasts of wind that leaked in around the canvas. The heat from the blowers was uneven but the exhibitors understood that everything possible was being done. The 113 exhibitors in their 133 booths were pleased, however, because booth traffic was good.

The Exposition, attractively laid out in gold bengaline, was below the center of AAAS activities in the same ASUC Building and convenient to most of the session rooms on the campus. This meant that short visits, and repeated visits, could be made to the exhibits with a minimum of time and steps. The overhead illumination was ample for most displays. To facilitate guarding

and to ensure equal exposure to booth traffic, as usual, there was only one entrance and exit.

The Exposition was a particularly well-balanced one—composed of publishers, the major supply houses, instrument companies, laboratory equipment firms, and representative industrial concerns such as the Northern Electric Company Ltd. of Canada. The Combined Book Exhibit, an improvement over the AAAS-operated Science Library of former years, especially in that a printed book list of the displayed volumes was available, was larger than at the previous three AAAS meetings. Finally, there was an impressive series of special governmental exhibits, some especially built for this AAAS meeting.

The original floor plan of the booths was "sold out" months before the meeting but the unanticipated widening of one aisle (by the removal of more car stops) made it possible at the very last minute to accommodate three local firms. Not listed in the *General Program*, these were Ansitron, Inc.; Berkeley Instruments Corporation; and Holden-Day, Inc.

David Packard (Chairman of the Board, Hewlett-Packard Company, Palo Alto) and the local Committee on Exhibits, which he headed, enlisted the interest and support of a number of large firms in the Bay Area. Grateful acknowledgement of the work of the Exhibits Committee is made on behalf of the Association.

Again we are most grateful to Earl J. Scherago and Winn Nance from the advertising office of *Science* for their devoted and most helpful services in connection with the floor management of the exhibits.

#### AAAS Science Theatre

The AAAS Science Theatre has been a popular and well established feature of the annual meeting of the Association since the 1947 meeting in Chicago. It seeks to present a selection of the latest foreign and domestic scientific films. At the Berkeley Meeting, 41 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* [150, 3701 (1965)]. Most films were shown twice, and some a third time. The cooperation of the lending agencies is greatly appreciated.

Most films that had been requested were 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. Several films, later added to bring programs to full length and not previously listed in the *General Program or Science*, were: "Surface Tension," produced by the National Committee for Fluid Mechanics Films, Education Services Incorporated; "Frog Development—Fertilization to Hatching," produced by the Elementary Science Study of Educational Services Incorporated; "Basic Mechanics in Neurophysiology," produced by Stichting Film en Wetenschap, Utrecht, Netherlands; and "The Automobile-Pedestrian Collision," produced by the University of California Institute of Transportation and Traffic Engineering. Inquiries about any of the 41 films should be directed to the producers.

Usually 1-hour films are not shown unless they are truly exceptional but in Berkeley, two such films were shown, "The Mystery of Stonehenge" and "Strangeness Minus Three." Also through the cooperation of Dean Naumov, Faculty of the Biological Sciences, Moscow State University, and Donald M. Reynolds, University of California, Davis, two Russian films were scheduled for the Theatre. However, due to one arriving in 35-mm, only "Secrets of Life" was shown; it was accompanied by an English translation on tape.

For this year's 133rd AAAS meeting in Washington, it is hoped that, with the interest and assistance of the foreign embassies, there may be opportunities to preview still more films from other countries.

### Work of the Local Committees

For some registrants, Association members, and new staff members, the recent Berkeley 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 who in turn appoint the balance of their committees. This was the plan followed last year.

All who attended the Berkeley meeting, and the officers and staff of the Association, are indebted to Donald H. McLaughlin (Chairman of the Board, Homestake Mining Company, San Francisco and for many years a member, and currently vice chairman of the Regents of the University of California) who, as general chairman, made distinguished appointments of heads of the local committees, and kept in touch with all phases of the meeting. He also graciously welcomed members and friends of the Association at the AAAS retiring presidential address on the evening of 28 December.

Alan W. Searcy, vice chancellor of the University of California, early in the year agreed to serve as executive

secretary of the local committees. His post was both an advisory and an active one and he gave unsparingly of his time during the 11 months preceding the meeting. Roger W. Heyns, who became chancellor of the University of California at Berkeley in October, accepted the vice chairmanship of the meeting. On behalf of the Association, grateful acknowledgment of the indebtedness of all of us is made here to those just mentioned.

The arrangements made for projection and the contribution of the Committee on Exhibits have been acknowledged. Another committee also contributed greatly to the meeting. The Committee on Public Information, which was headed by Richard P. Hafner, Jr., Public Affairs Officer, University of California, furnished expert advice and assistance in securing local premeeting publicity and in providing exceptional local coverage during the meeting. The special help of Raymond Colvig has already been cited. The Association expresses its grateful appreciation to every member of this committee for his contributions.

The Honorary Reception Committee included the heads of public and private institutions concerned with science and education throughout the Bay Area.

### Other Acknowledgments

In addition to 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 William E. Morris, manager, Durant; William Shannon and Mrs. Jean Winsor, sales managers, Claremont; and Forrest L. McAbee, manager, Faculty Club. Their cooperation and courtesy were essential for the success of the meeting.

The secretaries and program chairmen of the sections and participating organizations cooperated ably, especially in supplying copy and galley proof for the 348-page *General Program*, published by the Horn-Shafer Company of Baltimore. The perennial debt to W. Gilbert Horn, Jr., of the firm, for his able and sympathetic cooperation in seeing the program through the press is more than nominal. Finally, we are grateful to a AAAS staff member from Washington, not previously mentioned—Christine Keller, who did most of the editorial assistance with the pro-

Table 5. Registrants by subject fields.

Mathematics	250
Computers	35
Statistics	72
Physical sciences	
Physics	275
Astronomy	300
Astronautics and space sciences	67
Meteorology	26
Chemistry (other than medical)	368
Geology	111
Geography	61
Biological sciences	
Zoological sciences	
Animal behavior	103
Comparative endocrinology	122
Comparative physiology	107
Developmental biology	128
Entomology	48
Herpetology	31
Invertebrate zoology	56
Parasitology	29
Protozoology	10
Systematic zoology	31
Vertebrate morphology	13
Zoology (all other)	361
Botanical sciences	263
Genetics	113
Ecology	282
Marine biology, oceanography	87
Biology (in general, and other)	537
Medical sciences	
Biophysics	61
Biochemistry	366
Dental research	35
Pharmaceutical sciences	92
Physiology and neurophysiology	193
Psychiatry	79
Microbiology and virology	113
Medicine (in general, and other)	319
Psychology	455
Anthropology and archeology	144
Social and economic sciences	
Criminology	23
Economics, political science	59
Sociology	63
Industrial science, research admin.	50
Philosophy, general systems research	109
Agriculture, forestry, climatology	102
Engineering	114
Education	161
Science teaching, nature study	125
Information and communication	96
Science in general	92
Students (fields unspecified)	75
Wives (fields unspecified)	114
No fields indicated	102
Total	7028

gram copy and who also worked long, hard, and cheerfully in the AAAS Office.

### Prizes and Awards

The following is a listing of prizes and awards presented during the 132nd AAAS annual meeting.

*Newcomb Cleveland Prize*—John Papaconstantinou, Institute of Cellular Biology, University of Connecticut, for his paper, "Protein and nucleic acid changes in the differentiation of lens cells" read before the section on Medical Sciences (N), 29 December 1964, as a part of the symposium, "Biochemical Differentiation."

*AAAS-Westinghouse Science Writing Awards*—William Hines, science writer, *Washington Evening Star*, for a series of articles on the Mariner IV flight to Mars; and Lawrence Lessing, associate editor, *Fortune*, for his story, "Solving the riddle of the shuddering earth" in the February 1965 issue [*Science* 150, 3703 (1965)].

(No *AAAS Socio-Psychological Prize* was given in 1965.)

*Industrial Science Achievement Award*—Presented by the AAAS Industrial Science Section (P) to Stanford University.

*William Procter Prize*—To Col. W. H. Pickering, director, Jet Propulsion Lab, California Institute of Technology, in recognition of his notable accomplishment in space science 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.

### Conclusion

The 132nd meeting of the Association officially ended with the adjournment of the last session—the annual illustrated lecture of the National Geographic Society—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 retrospect, it will be seen that the Fourth Berkeley 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, began to publish reports about the meeting, throughout the year. *Summarized Proceedings*, covering several consecutive meetings and including a current directory of members, appeared at intervals from 1910 through 1948. After that centennial year, *Science* has had an annual proceedings issue in mid-February.

## Reports of Sections and Societies

### General Sessions

#### Behavior, Brain, and Biochemistry

The two-day, "3-B" symposium on Behavior, Brain and Biochemistry (27-28 December 1965) brought together one of the widest scientific representations of the AAAS meetings with geneticists, anatomists, biochemists, physiologists, pharmacologists, neurologists, and psychologists from 22 institutions. The sessions were attended by an audience of approximately 2000.

The papers described some striking achievements of this new interdisciplinary science of behavior and brain. Among these were experiments suggest-

ing that drugs may already be available to control memory and learning; that brain RNA may be intimately involved in the biochemical substrate of mental life; and that the anatomy and chemistry of the brain, and the learning ability of the individual can be changed by the psychological richness of the environment.

As illustrative of the first theme were the papers read by B. W. Agranoff (University of Michigan), A. J. Glasky and N. Plotnikoff (Abbott Laboratories), and L. Petrinovich (State University of New York at Stony Brook). Agranoff noted that puromycin and other agents inhibiting protein synthesis could effectively "erase" recently acquired experience (in goldfish), and thus

prevent the consolidation of short-term memories into enduring ones. Glasky and Plotnikoff presented two papers. One gave an account of the biochemical effects and the other described the behavioral effects of a magnesium salt of 2 imino-5-phenyl-4-oxazolidinone. This drug, registered under the trade name of "Cylert," increases brain RNA synthesis and improves memory for an acquired avoidance response in rats. (Discussion at the meeting brought out the further information that this agent is already being clinically tested with hospitalized senility patients in the hope of alleviating memory loss typical of such patients.) Finally, Petrinovich reviewed his and McGaugh's experiments and presented additional data in support of their conclusions that strychnine, when given in proper dosages, can improve the learning performance of rats.

The second theme was not only apparent in the Abbott papers, but was also exemplified in the work of J. Zemp, J. Wilson, K. Schlesinger, and E. Glassman (University of North Carolina) where large and significant increases in brain RNA were observed after conditioned avoidance training in the mouse.

E. L. Bennett reported on the work of the Berkeley group—one of the first