Constitution and Bylaws, as already named by the Board.

7. The proposed Committee on Resolutions was approved.

8. The following resolution prepared by Paul E. Klopsteg was adopted:

> RESOLVED, that the Council of the AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, assembled at Boston on the occasion of its 120th meeting, expresses its approval and commendation of the proposal by President Eisenhower before the United Nations for international cooperation toward the beneficial utilization of nuclear energy. Many scientific and technical problems remain to be solved in such an undertaking. Scientists throughout the world will welcome the opportunity to work together on these problems as a service in the interests of peace and a contribution to the welfare of all peoples. Science is a major constructive force in the world. It knows no geographical boundaries. Hence the prospect of bringing scientists from many countries together in a collaborative research and development effort in this promising area provides great hope not only for immeasurable material benefits but especially for better understanding and goodwill among nations.

9. Approval of a motion that the Council go on record, in behalf of the Association, and convey the great appreciation of the splendid work of the Local Committees headed by Earl P. Stevenson, president of Arthur D. Little, Inc.

10. Dr. Glass expressed his hope that Council members would assume closer and more direct relationships with the editor and Editorial Board by securing suitable manuscripts and functioning as advisors and referees.

11. President Condon called attention to the suggestion of the administrative staff that, as far as possible, the affiliated societies and academies of science arrange the terms of their representatives on the AAAS Council to begin and end on a calendar year basis, since this has obvious advantages in facilitating the work of the Section Committees, in printing the Program-Directory and, in general, could mean that representatives might have a year's background in Association affairs prior to the annual meetings.

12. Approval of a motion to thank the British Association and Dr. A. V. Hill for his active participation in the Boston meeting.

13. Dr. W. Montague Cobb inquired if the Board of Directors sometime in the past had passed a ruling to the effect that the Association should meet only in localities where equal hotel accommodations would be open to all members without discrimination. Though it was impossible to give a definite answer to this question at the time, it was made clear that, in deciding on meetings, the Board and the administrative staff give serious consideration to all aspects of this matter. There was considerable discussion on the best approaches to the eventual solution of the problem of segregation at scientific meetings, where it may exist, but no action was taken by the Council.

A Report of the Boston Meeting, December 26–31, 1953

Raymond L. Taylor

Associate Administrative Secretary, AAAS

THE REPORT of a large scientific meeting serves several useful purposes. For future reference, it provides a record of those data and highlights by which a meeting can be appraised or compared, and it may call attention to events of more than transient importance. Those who have just attended are reminded of their personal impressions; those who were not there may be informed of what was missed—and may be prompted to plan to attend another time.

The 120th meeting of the AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, now with the status of "the past AAAS meeting," takes its place in the annals as one of the best in all respects. Favored by mild, pleasant weather throughout, characterized by really good programs in all principal sciences, and noteworthy for the uniformly high level of friendly cooperation on the part of the local members and friends of the Association, this Seventh Boston Meeting continued in the rich vein of hospitality and interest manifested in the six prior meetings in Boston, as described in a previous article [*Science* 118, 224, (1953)]. The local committee entertained the board of directors, officers, and administrative staff of the Association at a buffet supper; dinners and social events arranged by the sections and societies were numerous, and many resident scientists invited out-of-town speakers and colleagues to their homes. Both in paid registrations, 3315,[1] and in other measured attendance, this was the largest AAAS Boston meeting by a substantial margin.

The meeting had sessions of all types, and in good balance. No principal field of science was neglected. There were programs for specialists, arranged by large societies holding their national meetings with the Association and also by some of the AAAS sections. And there were also symposia that were in areas between, or embracing, several scientific disciplines, characteristic of meetings of the Association. There were all the features expected at AAAS meetings—outstanding general addresses by eminent leaders in science, the latest scientific films, a large-scale series of exhibits, a "Biologists' Smoker" with refreshments, open to all registrants. There were conferences on problems of the academies, on editorial matters, on scientific manpower. And there was a penetrating, able consideration of the position of scientists in American society today. All these aspects of the 120th meeting deserve more than passing attention.

General Symposia. Early in March, 1953, the AAAS Symposium Committee, appointed by President Condon for that year, met to decide the theme of the 120th meet-

[1] Registration data for the previous Boston meetings: 1946—2736; 1933—2351; 1922—2339; 1909—1140; 1898—903; and 1880—979.

ing, "Scientific Resources for Freedom," and to settle upon one or more general symposia, to be sponsored by the Association as a whole. Three programs and the persons to implement them were decided upon, nearly ten months before this Boston meeting. The sound judgement of the Committee was demonstrated and fulfilled when, on December 27 and 29, all three programs were received by appreciative audiences which, in general, filled, and upon occasion, overflowed, the large Paul Revere Auditorium of the Mechanics Building. The first of these general symposia presented was *Species Which Feed Mankind*. It was planned to focus attention on the relatively small number of plant and animal species that form the staple foods of the world's populations, and on some of the diverse technical problems of maintaining these species in adequate supply. Beginning on Sunday morning and before all the geneticists had arrived, it was, under the circumstances, well attended. Part I, devoted to some of the problems associated with the critical food plant, maize, was arranged by Paul C. Mangelsdorf; Part II, dealing with other problems of several animal food sources, was organized by M. R. Irwin.

The two sessions of *The Sea Frontier*, arranged by Alfred C. Redfield and Jerome C. Hunsaker, brought together in one program a most interesting diversity of papers on the geological, oceanographic, engineering, and food resources aspects of the margin or interface where land and sea meet. The speakers, all eminent authorities in their fields, complemented each others' reports so that this proved to be one of the most successful interdisciplinary general symposia in recent years.

The two parts of *The Scientist in American Society*, were independently conceived and arranged, respectively, by Section K and a subcommittee of the Symposium Committee, consisting of Charles D. Coryell, chairman, Bart J. Bok, Philip M. Morse, and Victor F. Weisskopf. Dr. Weisskopf spoke in place of Dr. Urey who, at the last minute, found that, to accept an award, he had to delay his arrival in Boston one day. The thoughtful, well-delivered papers of this program, devoted to the general area of freedom for scientific inquiry in today's troubled world, pleased the large and responsive audience. Requests to publish some or all these papers already have come from several quarters. The papers for Part II will appear in the March issue of *The Scientific Monthly*.

Other Symposia. Though several of the sections decided to have fewer and more definitive symposia at Boston, the total number of symposia and groups of invited papers on assigned subjects arranged by the sections and subsections was 41 (comprising 65 sessions, an average of 1.6 sessions each). With the 19 additional one-session symposia arranged by 12 of the participating organizations and the Association's general symposia, necessarily largely concentrated on four days, there was, as usual, an embarrassment of riches. Yet, as the appended reports of the secretaries or program chairmen of the sections and societies indicate, virtually each program attracted a satisfactory and appreciative attendance.

The general problem of how many symposia may be ideal for an AAAS meeting is uncertain. A technical symposium on a subject such as *Radio Astronomy* will not compete with another specialized program, such as *Antimetabolites and Cancer*, even if scheduled concurrently. On the other hand, all sessions of any sort are in potential and mutual conflict with any broad program planned to appeal to a large proportion of the entire attendance. The pattern of scheduling specialized symposia and sessions for contributed papers in the mornings, the broader and interdisciplinary symposia in the afternoons, and the most general events in the evening, although followed in the main, cannot be completely realized because of the logical wish of each group to hold a two- or three-session symposium on a single day, and the tendency of the participating societies to arrange their sessions so that their memberships will have a minimum number of nights for which to pay for sleeping accommodations. Experience has shown, however, that if the total attendance at the meeting is sufficient, both the specialized and the general programs will have audiences considered satisfactory by those who arranged them; in any event, each program chairman or presiding officer has the satisfaction of knowing that every nonspeaker present in the room, confronted by many alternatives, has *chosen* to attend his session. At Boston, it is believed that most symposia had an adequate attendance and, indeed, capacity audiences were common.

Conferences. Among the growing number of conferences at AAAS meetings, the Academy Conference again broke an attendance record, the Conference on Scientific Manpower III held three important sessions, and the Conference on Scientific Editorial Problems II evoked so much interest that it plans multiple sessions for 1954. An important conference on "The validation of scientific theories," sponsored by the National Science Foundation and held at the American Academy of Sciences, one session of which was listed in Section L's program, has been reported elsewhere in *Science*.

Special Sessions. The special sessions which add so much to the meetings each year—the distinguished evening addresses sponsored by the National Geographic Society, the Scientific Research Society of America, the Society of the Sigma Xi, the United Chapters of Phi Beta Kappa, and the AAAS presidential address itself—without exception attracted large and appreciative audiences. Too late for change in the General Program-Directory, the National Geographic Society's Illustrated Lecture, instead of the speaker listed, was given by Volkmar Wentzel, a staff member; his subject was "Into the heart of free Africa." Jointly with the AAAS, the Society of the Sigma Xi sponsored the scholarly, amusingly anecdotal address, "The design and mechanism of muscle," by A. V. Hill, recent past president of the British Association. The thoughtful and timely address of AAAS retiring president, Detlev W. Bronk, "The role of scientists in the furtherance of science," appears in this issue; he was preceded by the general chairman, Earl P. Stevenson, who welcomed the AAAS to Boston with well-chosen and gracious remarks. At the fifth of the annual addresses of the Scientific Research Society of America, a great authority on suspension bridges, David B. Steinman, spoke on "Suspension bridges—the aerodynamic problem and its solution;" and it was announced that he was the recipient of the Society's William Procter Prize for 1953. The Phi Beta Kappa address of Leonard Carmichael, "Science and social conservatism," December 30, concluded this splendid series of special sessions of the 1953 AAAS Meeting.

Business Sessions. In accordance with the Constitution, the Board of Directors of the Association held one of its four regular meetings of the year at Boston, its sessions preceding the two sessions of the Council. As stated elsewhere, a gratifying number of Council members were present to elect the new officers of the Association, to hear and to accept Detlev Bronk's report of an eventful year, and to take action on committees, one of which will immediately undertake a study of the operation of the

Association under the present Constitution and Bylaws and report at the next meeting of the Council, December 1954, in Berkeley, California. With the filling of the vacancies in the enlarged administrative staff, the Association, now well into its 106th year, stands on the threshold of new opportunities to be of service to science and to society.

Analysis of sessions. In addition to the 18 sections and subsections of the Association, all of which had one or more sessions (for a total of 104), 63 societies and other organizations officially participated in the Boston meeting. Of this number, 16 societies had national meetings, their sessions totaling 102; 24 had regional meetings, with 45 sessions; and the remaining 23 organizations were official cosponsors of programs arranged by AAAS sections or other societies. An analysis of the grand total of 265 sessions follows (Tables 1 and 2).

TABLE 1. Analysis of sessions of the Boston meeting.

Number of sessions for contributed papers	71
Number of sessions of symposia	88
Number of sessions of conferences	10
Number of roundtable sessions	15
Number of business sessions	36
Number of meal functions (often with addresses)	30
Number of other sessions with addresses	15
Total number of sessions	265

TABLE 2. Comparison of sectional and societal programs.

	By AAAS sections	By the societies	Total sessions	Total no. of authors
No. of sessions for contributed papers	21 (by 8 sections) 133 authors	50 (by 15 societies) 411 authors	71	544
No. of sessions for symposia or groups of invited papers	69 (by 16 sections and AAAS as a whole) 308 authors	19 (by 12 societies) 69 authors	88	377
Papers by discussants and program chairmen	39	49		88
No. of addresses	14	12		26
		Total		1095

The total of 1095 authors does not include junior authors of many of the contributed papers, 123 papers read by title, or presiding officers, unless remarks by them were listed in the programs.

Attendance. At any annual meeting of the Association, the total number of persons who attend some session or phase of the convention, or who see the large-scale Annual Exposition of Science and Industry, typically exceeds 10,000, and this was true at the seventh Boston meeting. The total attendance, since it is *not* synonymous with paid registrations, can only be estimated from such data as the following:

Registrants who paid	3315
Science writers and other reporters	192
Exhibitor personnel	472
Adults who saw Exposition by complimentary admission tickets	7250
Total	11,229

Undoubtedly, still other persons attended one of the evening lectures or were present at one of the sessions in Harvard or M.I.T. where no registration facilities were provided.

A majority of those who register are members of the Association or of a participating society. Individually, they may wish to secure the detailed General Program-Directory, to attend the Science Theatre or the Biologists' Smoker (the two events which, strictly, are available only to registrants) but primarily, it is believed, they wish to be a real part of the meeting and to contribute to its support. As members of the participating societies, they realize that the AAAS has made all physical arrangements, has provided free session rooms, has absorbed the substantial costs of projection, and has printed all program details; and they take satisfaction in paying the moderate $2.50 registration fee.

Registration totals for all earlier Boston meetings have already been mentioned. The seventh Boston meeting exceeded the sixth Boston meeting of 1946 by 579, or 21 percent. Though 53 percent of the attendance came from the six New England states, it was a truly national meeting, like its predecessors. There were registrants from all but three states of the nation (Idaho, Nevada, Wyoming), as the table on geographical distribution shows. More than at any meeting in recent years, there was a substantial number of distinguished foreign scientists in attendance. In addition to 29 speakers and presiding officers from all parts of Canada, there were 21 scientists from 8 foreign countries who actively participated in the program. Dr. H. P. A. de Boom officially represented the South African AAS and, as noted, Dr. A. V. Hill, recent past president of the British Association, gave an address cosponsored by the AAAS and the Society of the Sigma Xi.

Members of the sections and of the participating societies, and exhibitors who are interested in making contact with them, alike, are interested in how many scientists in a given field may have attended. It is for this reason that the registration slips include Item 5, "Field of Interest." A statistical breakdown of the 3315 registration slips, grouping narrow specialties, is supplied in Table 4. Of the 7250 adults who deposited cards of complimentary admission to the Exposition, about half, or 3501, supplied their fields of interest. These data will be found in another column in Table 4.

The Biologists' Smoker. The Biologists' Smoker—which all registrants, biologists or otherwise, are cordially invited to attend—was sponsored jointly by the American Society of Naturalists, traditionally its original sponsor, and the AAAS, on Tuesday evening, December 29, from 8:30 until 11:30 P.M., in the Grand Hall of Mechanics Building. The starting hour, which overlapped the closing time of the Exposition by thirty minutes, was fixed to permit attendance following the dinners of the chem-

TABLE 3. Distribution of registrants by states and countries.

Alabama	6	Oklahoma	6
Arizona	1	Oregon	1
Arkansas	2	Pennsylvania	148
California	46	Rhode Island	86
Colorado	4	South Carolina	7
Connecticut	177	South Dakota	2
Delaware	10	Tennessee	32
District of Columbia	99	Texas	24
Florida	22	Utah	5
Georgia	11	Vermont	22
Illinois	76	Virginia	44
Indiana	41	Washington	4
Iowa	21	West Virginia	8
Kansas	6	Wisconsin	13
Kentucky	7	Total, U.S.	3252
Louisiana	14		
Maine	58	Alaska	2
Maryland	99	Argentina	1
Massachusetts	1354	Australia	1
Michigan	55	Brazil	1
Minnesota	17	British West Indies	1
Mississippi	2	Canada	43
Missouri	20	Ceylon	1
Montana	4	Colombia	1
Nebraska	12	Cuba	2
New Hampshire	49	England	4
New Jersey	130	Hawaii	2
New Mexico	3	Mexico	1
New York	424	Pakistan	1
North Carolina	21	Scotland	2
North Dakota	1		
Ohio	58	Total Registration	3315

ists, geneticists, and zoologists, and the two special evening events, the RESA Address and *The Scientist in American Society*, Part II. About 2500 enjoyed the opportunity to renew contacts with their colleagues. Cigarettes were provided through the courtesy of Philip Morris & Co. Ltd., Inc.; the beer was donated by Haffenroffer & Co., Inc. of Boston; the Coca-Cola and several products of the National Biscuit Company, in each instance, were generously supplied by their manufacturers with the cooperation of local distributors. The Association acknowledges with much appreciation these generous contributions.

Physical Arrangements. Mechanics Building, the site of the exhibits of all large conventions in Boston, was the logical focus of the Association's 120th meeting. Here were located the AAAS office, Main Registration-Information Center, Visible Directory of Registrants, AAAS Science Theatre, and the Annual Exposition of Science and Industry, in close proximity to the large Grand Hall, used for the Lecture of the National Geographic Society and the Biologists' Smoker, and four regular session rooms. Four more session rooms were improvised so that not only all the general symposia but most of the sectional symposia could be held in close relationship to the Exposition and the Science Theatre.

The geneticists and botanists were based in the Copley Square hotels two short blocks east of Mechanics Building; four blocks further east the zoologists and medical groups were in the Statler, which was also AAAS headquarters hotel. The science teachers filled the Hotel Bradford on Tremont Street, and the economic and industrial science groups held their sessions at the Somerset.

Projection and Other Equipment Requirements. Projection and other equipment requirements were heavy but were most efficiently handled by the service committee which had complete responsibility for the complex logistical problem of assembling lanterns, screens, 16 mm projectors, tape recorders, and special equipment (in one instance, of making special slides for a speaker); of labeling, assigning, and distributing all equipment; of making all arrangements with projectionists, professionals and others; of supervising all operations from early till late; and of collecting and returning all equipment. The Association is greatly indebted to all who contributed their time and effort, and especially to this committee's indefatigable chairman, Carl Peterson.

Work of the Local Committees. As must be apparent to all members of the Association, it would be quite impossible successfully to arrange a large and complex AAAS meeting, to carry it through to a satisfactory conclusion, and, indeed, to finance it, were it not for the genuine interest and effective personal services of local members and friends of the Association. Thus, in a very real sense, the success of the seventh Boston meeting is attributable to the sound advice and substantial personal attention of the general chairman, Earl P. Stevenson, president, Arthur D. Little, Inc., and of those whom he asked to serve. It is noteworthy that Dr. Stevenson accepted this responsibility in the fall of 1952, attended and studied the operation of

TABLE 4. Subject fields of attendance.

	3315: Registrants	3501: Complimentary admissions	Total
Mathematics	28	23	51
Physical Sciences			
Physics	191	863	1054
Meteorology	24	21	45
Chemistry	228	264	492
Astronomy	33	21	54
Geology and Geography	110	73	183
Geophysics	37	10	47
Engineering	83	533	616
Biological Sciences			
Botany and Plant Physiology	163	20	183
Genetics	236	5	241
Zoological Sciences	465	22	487
Other Biology	299	54	353
Agriculture	41	35	76
Medical Sciences			
Biochemistry and Nutrition	130	28	158
Physiology	121	16	137
Dental Research	29	9	38
Pharmacy	75	10	85
Other Medicine	262	217	479
Psychology	164	53	217
Anthropology and Archaeology	63	18	81
Economic and Social Sciences	49	34	83
History and Philosophy of Science	28	9	37
Science Teaching and Education	177	103	280
General	279	1060	1339
Total	3315	3501	6816

the St. Louis Meeting, appointed his committees early in 1953, and maintained close touch with all developments until the books of the meeting were closed last month. On behalf of the officers and members of the Association, and for himself, the writer expresses deep appreciation and thanks to Dr. Stevenson; and also to vice chairman Walter S. Baird, president, Baird Associates, Inc., who headed the Exhibits Committee; Carlton P. Fuller, vice president, Polaroid Corporation, chairman of the finance committee; Wallace Dickson, director of public relations, The New England Council, chairman of the public relations committee; Carl M. F. Peterson, superintendent of buildings and power, M.I.T., who accepted the resonsibility of directing the service committee; and to each member of all local committees. An expression of grateful appreciation is particularly due Warren S. Berg, Arthur D. Little, Inc., who served as executive secretary of the local committees with unfailing enthusiasm and efficiency throughout the year; and Donald D. Hathaway, Baird Associates, Inc., who served so effectively as secretary of the exhibits committee.

Housing and Registration. Housing and registration were efficiently handled by the experienced staff of the Convention Bureau of the Boston Chamber of Commerce, headed by James A. Morrison. His help throughout the year is gratefully acknowledged.

AAAS Public Information Service. Those who attended the Boston Meeting and visited the AAAS press room on the Mezzanine of the Hotel Statler gained some impression of the efficient way the science writers and other reporters were provided with releases during the meeting by Sidney S. Negus and his staff. Typically, the press room opens five or six days before the meeting begins and remains open for long hours thereafter until the meeting is over. In the months preceding the meeting, Dr. Negus, the Association's director of public information, who is chairman of the Department of Biochemistry, Medical College of Virginia, is increasingly busy preparing for it; and for months after a meeting—while the supply may last—he provides copies of papers to those who request them. The Association is indebted to Arthur D. Little, Inc., Monsanto Chemical Company, American Tobacco Company, and U.S. Steel, which provided luncheons for representatives of the press, radio, and television during the meeting.

Pre-meeting publicity in the local press and magazines, for example in *The New Englander*, the dissemination of releases in Greater Boston, and the coverage of the meeting by local newspapers while it is in progress, were the responsibility of the local committee, the chairman of which was Wallace Dickson of The New England Council. This assignment was very well done and thanks are due all members of the committee. Miss June Lord of the United Community Service was most helpful in handling the radio and television arrangements. The 192 science writers and reporters who requested releases exceeded the 178 at St. Louis and 162 in Philadelphia in 1952 and 1951, respectively.

AAAS Science Theatre. Beginning Sunday afternoon, in seven programs, each four hours long, 40 of the latest foreign and domestic films were presented to appreciative audiences that consistently filled the improvised room of 300 capacity in Mechanics Building. Most titles, nearly all in color and with sound, were shown twice. The Association again expresses its appreciation to those who so kindly lent such excellent films.

Annual Exposition of Science and Industry. In addition to some 3300 registrants, 7250 science-minded adults deposited complimentary cards of admission and saw one of the best expositions ever sponsored by the Association. The 1953 Annual Exposition of Science and Industry—with 95 exhibitors and 153 booths exhibiting the latest in scientific books, instruments, and materials used by scientists—occupied some 30,000 square feet in the Main Exhibition Hall of the venerable Mechanics Building. In addition, there were individual industrial exhibits ranging from transistors to a great jet engine, and others from water fleas to live chimpanzees. On an experimental basis, nearly half of the exhibit area was developed as a "New England Section" with special decorations in prismatic colors (which were financed by premium rentals and special contributions). The New England exhibits which featured the latest technological developments in this local area both enriched the Show and assisted materially in financing the meeting.

Industrial firms with booth space in the Annual Exposition of Science and Industry not mentioned in either the 1953 General Program-Directory or in the Preconvention Issue of *Science* were:

Air Reduction Sales Corporation
Alden Products
Cambridge Corporation
Hood Rubber Company
F. C. Meichsner Company
Transistor Products, Inc.

As planned originally, the New England Section, in particular, included a most interesting series of exhibits of nonprofit organizations. The booths these occupied were sponsored principally by local companies who did not find it convenient to exhibit but who wished to support the meeting, but there were three exhibitors among those who endowed booth space or made outright contributions. Organizations with sponsored booth space in the Annual Exposition of Science and Industry not mentioned in either the 1953 General Program-Directory or in the Preconvention Issue of *Science* were:

Air Force Cambridge Research Center
Amateur Telescope Makers of Boston
American Academy of Arts and Sciences
Arnold Arboretum
Boston Public Library
Boston Symphony Orchestra
Boston University
Christian Science Monitor
Federation of American Scientists
Harvard University Medical School
Harvard University School of Public Health (specifically endowed by the Kendall Company)
Massachusetts Institute of Technology
New England Council
Tufts College
U. S. Army, Watertown Arsenal
Weston College
Woods Hole Oceanographic Institution

Companies contributing to the Boston Meeting of the Association were:

Godfrey L. Cabot, Inc. (exhibitor also)
Comstock & Westcott, Inc.
Dennison Manufacturing Company
Dewey and Almy Chemical Company
Draper Corporation
The Foxboro Company
Gamewell Company
John Hancock Mutual Life Insurance Company
Carl Heinrich Company
Howe & French, Inc.
Jarrel-Ash Company

Jenney Manufacturing Co.
Kendall Company, Bauer & Black Division
Arthur D. Little, Inc. (exhibitor also)
Chas. T. Main, Inc.
Monsanto Chemical Company (exhibitor also)
New England Gas and Electric System
Norton Company
Pitney-Bowes, Inc.
Saco-Lowell Shops
Sprague Electric Company
United Aircraft Corporation
United-Carr Fastener Corporation
United Shoe Machinery Corp.
Whitin Machine Works

Their generous contributions are gratefully acknowledged.

Reports of Sections and Societies, Boston Meeting

Section on Mathematics (A)

Section A met Dec. 28. On this occasion W. T. Martin delivered his retiring address as vice president. The title of the address was "Some probability distributions arising in the mathematical theory of Brownian motion." The session was presided over by the secretary. The attendance was 40.

RUDOLPH E. LANGER, *Secretary*

Section on Physics (B)

A symposium on *Physics of the upper atmosphere* was arranged by Walter Baginsky of the Air Force Cambridge Research Center (AFCRC) and was presented in two sessions, Dec. 28.

Ludwig Katz, AFCRC, discussed the theoretical relations expected to exist between magnetic fluctuations and currents in the ionosphere. D. G. Knapp, Coast and Geodetic Survey, discussed the magnetic measurements, and T. N. Gautier of the National Bureau of Standards described experimental measurements of ionospheric winds based on ionospheric reflection of radio waves.

F. S. Johnson, J. D. Purcell, and R. Tousey of the Naval Research Laboratory presented the final results of the NRL programs of spectroscopic observations from rockets. These results were analyzed to derive the spectral distribution of solar radiation outside the earth's atmosphere in the ultraviolet. Soft x-rays make an important contribution to the ionizing radiation.

A. C. Faire, A. L. Aden (AFCRC), and O. T. Fundingsland, Electronic Defense Laboratories, described laboratory experiments on the recombination coefficients of atmospheric gases using microwave technics.

An important contribution to the symposium was the address of the retiring chairman of Section B, E. O. Hulburt of the Naval Research Laboratory, "Magnetic storms, aurorae, ionosphere, and zodiacal light." He gave a comprehensive survey of the current status of the observations and theories of these phenomena.

M. O'Day (AFCRC) described the broad program of research of his laboratory, in which rockets have been used to obtain upper-air measurements. S. N. Ghosh of Wentworth Institute discussed the theoretical interrelations of these measurements. R. A. Minzner (AFCRC) summarized the current status of upper-air temperature as a function of altitude. J. Pressman (AFCRC) covered variations of atmospheric temperature in the ozone layer.

The program, as a whole, gave an excellent summary of the important new developments in research on upper air phenomena.

A symposium on *Physics in biology,* arranged by Richard S. Bear of MIT, was held in two sessions Dec. 29. A very wide range of applications of physics to biological phenomena was covered. Only a few of the interesting contributions will be listed.

A paper by Alexander Hollaender of the Oak Ridge National Laboratory on the reversal of biological effects of radiation under continued irradiation showed that this surprising effect occurs in many organisms. A paper by Barbara W. Low of Harvard Medical School on three-dimensional features of protein structures was beautifully illustrated with large scale models, which made her presentation of this subject very effective. Gordon L. Brownell of Massachusetts General Hospital and MIT described important developments on the localization of tumors by radioisotopic tracers. The circumstance that certain radioisotopes concentrate in tumors makes it possible by modern crystal counter technics to localize deep lying tumors. The technic has been useful in locating brain tumors.

Section B was cosponsor of two symposia arranged by Section D on *Radio astronomy* and on the *Origin of meteorites.* The American Meteorological Society arranged symposia on *Cloud physics* and *Synoptic meteorology.*

A physicists' dinner, Dec. 28, was arranged by Sigma Pi Sigma and cosponsored by Section B. Dr. Waterman gave a talk on the program of the National Science Foundation.

FRED L. MOHLER, *Secretary*

Section on Chemistry (C)

Those who had the opportunity of attending the sessions of Section C enjoyed a number of both informative and interesting papers. About 66 attended the dinner meeting, at which Randolph T. Major gave an unusually good talk on the topic, "Of food, feed, and drugs."

The Section C program consisted of one session of submitted papers, and six sessions of symposia of somewhat general interest. A contributed paper by Earl B. Working, on the measurement of shrinkage in woolens, arrived too late for inclusion in the printed program.

The symposia sessions were devoted to topics such as: *Comparative nutrition requirements of animal species,* Part I, arranged by Robert S. Harris, and Part II, arranged by Fredrick J. Stare; *Chemicals in food,* arranged by Charles N. Frey; *Recent advances in food technology,* arranged by Bernard E. Proctor; *Growth and nutrition of plants,* arranged by P. W. Zimmerman; and *Chemistry of the sea as related to food problems,* arranged by Harden F. Taylor. One came away with the feeling that he had been well indoctrinated with respect to what the plants, animals, and fish must eat in order that he himself may eat properly.

It is not too early to begin to plan for the meetings of Section C to be held in San Francisco during the holiday season, 1954, and it is not too early to begin to prepare a tip-top paper for presentation at that meeting. One thousand dollars will be awarded for the best origi-