served on the Executive Committee and the several subcommittees of the St. Louis Reception Committee, and who, in one way or another, contributed to the success of the convention. The Association was fortunate in having as general chairman, Charles Allen Thomas, president of the Monsanto Chemical Company. He maintained an interest in all phases of the meeting and welcomed the Association to St. Louis upon the occasion of the AAAS Presidential Address of Kirtley F. Mather. To Dr. Thomas and his executive assistant, Philip R. Tarr, the Association is greatly indebted.

Annual Exposition of Science and Industry. The Annual Exposition of Science and Industry is well established as an integral and important feature of the annual meeting of the Association. As its title implies, it provides those who use the tools and materials of science and those who produce and distribute them an opportunity to meet each other. The 1952 Exposition, with 72 exhibitors and 116 booths, which filled Convention Hall of the Kiel Auditorium and overflowed into the promenade, did not fall short of the high standard of recent years. In addition to the latest and best in scientific books, instruments, and laboratory supplies, there were excellent special exhibits and a splendid series of technical exhibits of large industrial firms—which are coming to realize the advantages of showing their latest technological accomplishments to an appreciative, highly trained, professional attendance.

Potential exhibitors in the St. Louis area were approached through a vice-chairman of the St. Louis Reception Committee, and the Association is conscious of its obligation to Leslie J. Buchan, vice chancellor and dean of the faculties, Washington University, for his personal efforts and keen interest throughout. In addition to the exhibitors listed on pages 619–25 of the December 5, 1952, issue of SCIENCE, the following had booths:

Anheuser-Busch, Inc.
Denoyer-Geppert Company
Folkways Records & Service Co.
General Van & Storage Company, White Motor Company, and Fruehauf Trailer Co.
Hospital Topics and *Northwest Medicine*
E. Leitz, Inc.
Ludlow Saylor Wire Company
McDonnell Aircraft Corporation
Missouri Bureau of Public Health Engineering
Natkin & Company, Inc.
Nuclear Research & Development, Inc.
Phillips Scientific Corporation
Westinghouse Electric Corporation

Booth space was endowed by:

Nooter Corporation
Olin Industries, Inc.
Southwestern Bell Telephone Company
The Technicon Company
Union Electric Company of Missouri

Reports of Sections and Societies[1]

American Mathematical Society (A1)

The American Mathematical Society held its 59th annual meeting in conjunction with the AAAS in St. Louis. All sessions were held on the campus of Washington University. There were approximately 80 contributed papers. Marston Morse, of the Institute for Advanced Study, gave the Josiah Willard Gibbs Lecture, entitled "Topology and Geometrical Analysis," and John von Neumann, also of the institute, gave his retiring presidential address, entitled "A Logical Theory of Automata." At a joint session with Section A of the AAAS, R. L. Wilder, of the University of Michigan, gave a retiring vice-presidential address on "Origin and Growth of Mathematical Concepts." A. M. Gleason, of Harvard University, gave an invited address entitled "Natural Coordinate Systems," which was awarded the Newcomb Cleveland $1000 prize for the outstanding paper presented at the AAAS meetings.

At the annual business meeting, D. H. Lehmer was elected vice president, and the following were elected to the council of the society: F. B. Jones, E. E. Moise, B. J. Pettis, R. M. Thrall, and G. W. Whitehead.

E. G. BEGLE, *Secretary*

Association for Symbolic Logic (A2)

The annual meeting of the Association for Symbolic Logic was held at Washington University on Dec. 29. There were morning and afternoon sessions for contributed papers, and during the morning session J. Barkley Rosser gave his retiring presidential address on "Many-valued Logics."

Atwell R. Turquette presided at this meeting, at which, in addition to Professor Rosser's address, the following papers were presented: Alan Ross Anderson, "Improved Decision Procedures for Lewis's Calculus S4 and von Wright's Calculus M;" William T. Parry, "A New Symbolism for the Propositional Calculus;" and Alfred Tarski, "Some Metalogical Results Concerning the Calculus of Relations." Papers by Alfred Tarski on "A Formalization of Set Theory Without Variables," and "An Undecidable System of Sentential Calculus," and by Alan Ross Anderson on "A Consistent Extension of Fitch's *Symbolic Logic*," were read by title.

At the afternoon session, J. Barkley Rosser presided, and the following papers were presented: S. C. Kleene, "Arithmetical Predicates and Function Quantifiers;" John R. Myhill, "A Stumblingblock in Constructive Mathematics;" Robert L. Stanley, "Simplified Foundations for Mathematical Logic;" John R. Myhill, "On the Logical Paradoxes" (by title); and Hao Wang, "Predicative Foundations of Mathematics" (by title).

At the council meeting, the following elections were announced—each for a period of three years: W. V. Quine, president; Leon Henkin, vice-president; A. Robinson and J. C. Cooley, members of the Executive Committee; Robert Feys and Paulette Destouches-Fevrier, members of the council. Stephen C. Kleene was named for another three-year term as editor of the *Journal of Symbolic Logic.*

The next annual meeting of the association will be held

[1] Key symbols correspond to those in the General Program.

in conjunction with the meetings of the American Philosophical Association, Dec. 28–30.

JOSHUA BARLAZ, *Secretary*

Mathematical Association of America (A3)

The 36th annual meeting of the Mathematical Association of America was held at Washington University on Tuesday, Dec. 30. About 500 persons were registered, including 281 members of the association. The following scientific program was presented: "The Mathematical Work of Jacques Hadamard," by Szolem Mandelbrojt, Rice Institute and Collège de France; "Recent Applications of Convex Functions," by J. W. Green, UCLA (presented by title); "The Scientific Research Program of the Office of Ordnance Research," by A. H. Diamond, U. S. Army; and "Mathematics and the Educational Octopus," by S. S. Cairns, University of Illinois.

A symposium on The Teaching of Service Courses in Mathematics included papers on "Engineering Mathematics at Mid-Century," by S. H. Caldwell, Electrical Engineering, MIT; "What Shall We Teach in Service Courses?" by F. E. Hohn, University of Illinois; "Mathematics for Physicists, Pure or Applied?" by J. W. Buchta, University of Minnesota; and "Abstract Mathematics for Scientists," by W. L. Duren, Jr., Tulane University and the National Science Foundation.

At its business meeting, the following officers were elected: president: E. J. McShane, University of Virginia, for a two-year term; second vice president: W. L. Duren, Tulane University, for a two-year term; members of the Board of Governors: S. S. Cairns, and A. W. Tucker, Princeton University, for a three-year term. Continuing in office from last year are First Vice-President F. L. Griffin, of Wesleyan University, and Secretary-Treasurer H. M. Gehman, of the University of Buffalo.

The thirty-fourth summer meeting of the association will be held Aug. 31–Sept. 1 at Queen's University and the Royal Military College, Kingston, Ontario, in conjunction with meetings of the American Mathematical Society and the Canadian Mathematical Congress. At this meeting P. R. Halmos, of the University of Chicago, will deliver the second series of Earle Raymond Hedrick Lectures on "Axiomatic Set Theory."

HARRY M. GEHMAN, *Secretary-Treasurer*

Section on Physics (B)

On Monday, Dec. 29, Section B cosponsored two interesting sessions that were arranged by Ralph Overman, of the Oak Ridge Institute of Nuclear Studies—one on "Nuclear Science in Industry" and one on "Research Applications of Carbon 14." (These are reported under B2.)

Monday evening, at a Physicists' Dinner sponsored jointly by Section B and Sigma Pi Sigma, Edward O. Hulburt, chairman of Section B, was the toastmaster, and Arthur H. Compton, retiring chairman, gave a stimulating address on "The Human Value of Physical Science." Dr. Compton discussed the rapid progress of science as the basis of the economic and military strength of the nation. He emphasized that continued growth is essential to this strength and that the greatest possible freedom for international exchange of scientists and scientific ideas is an important factor in scientific progress.

At the Tuesday morning symposium on Magnetic Resonance, arranged by Arthur L. Hughes, of the Physics Department, Washington University, the speakers were G. E. Pake, J. Townsend, S. T. Weissman, and B. Commoner, of Washington University; L. H. Meyer, of the University of Illinois; and G. M. Temmer, National Bureau of Standards. Dr. Pake opened the symposium with a discussion of the basic principles of magnetic resonance and how it can be used to give information about the magnetic moments of nuclei and unpaired electrons and molecules. Magnetic resonance offers a new approach to the solution of many problems in molecular structure. Dr. Townsend discussed instrumentation in magnetic resonance and how technical problems in this field are met and solved. Dr. Weissman described experiments on free radical molecules. These are chemical "freaks" in that they have, contrary to most molecules, an odd number of electrons. Magnetic resonance gives information as to the location of the unpaired electron in the free radical molecule. Dr. Meyer described methods employing magnetic resonance to determine certain structural details of molecules. Dr. Commoner reported on the progress made in applying magnetic resonance as a new technique to observe free radicals in living systems. Dr. Temmer gave an account of a proposed experiment whereby the magnetic moments of radioactive nuclei could be determined by magnetic resonance experiments at very low temperatures.

Section B was also cosponsor of a general session for invited papers on geophysics arranged by Ross R. Heinrich, Saint Louis University, and a Symposium on Tornadoes and Tornado Forecasting, arranged by Edward M. Brooks, Saint Louis University.

At a meeting of the AAAS Council George R. Harrison, MIT, was elected a vice president of AAAS and chairman of Section B for 1953. Gladys Anslow, of Smith College, has been elected a member of the Section Committee for a four-year term.

FRED L. MOHLER, *Secretary*

Oak Ridge Institute of Nuclear Studies (B2)

The one-day program of the Oak Ridge Institute of Nuclear Studies consisted of two parts. The morning session, "Nuclear Science in Industry," was presided over by William L. Davidson, director of the AEC office of Industrial Development. Papers were given by Irving P. Orens, professor of physics and chairman of the Graduate Division, Newark College of Engineering, on "Industrial Applications of Radioisotopes;" H. R. Spedden, head of the Minerals Research Department, Union Carbide and Carbon Corporation Research Laboratories at Niagara Falls, on "Radioisotopes in Metallurgy;" John Grebe, research counselor, Dow Chemical Company, on "Problems of Industrial Nuclear Power;" C. Rogers McCullough, director of the Atomic Electric Project of Monsanto Chemical Company, Union Electric Company, and the AEC, on "Nuclear Power for Industry;" and William L. Davidson, "Industrial Participation in the Nuclear Programs of the AEC."

The afternoon session, "Research Applications of Carbon 14," was presided over by Paul C. Aebersold, chief of the AEC Isotopes Division. Presentations were given by Laurence J. Kulp, Lamont Geological Observatory, Columbia University, on "Radiocarbon Dating;" John G. Burr, Organic Chemistry Section, Oak Ridge National Laboratory, on "The Use of Carbon 14 in the Determination of Reaction Mechanisms in Organic Chemistry;" Sidney Udenfriend, National Heart Institute, National Institutes of Health, on "Problems in the Use of Carbon 14 in Biochemistry;" and S. Aronoff, Insti-

tute for Atomic Research and the Department of Botany, Iowa State College, on "Applications of Carbon 14 to Plant Physiological Chemistry and Studies in Photosynthesis."

The institute was joined in presenting the program by Section B, Section M, and Section P of the AAAS as cosponsors.

In addition to the morning and afternoon sessions of the program, a luncheon was given at the Jefferson Hotel for the speakers, former participants in the training courses given by the Institute Special Training Division, and others who attended the meeting.

RALPH T. OVERMAN, *Program Chairman*

Section on Chemistry (C)

A Christmas bonus in the form of 70 good previews of the chemistry of tomorrow was enjoyed by all who attended the program of Section C at St. Louis. Symposia, with both competent moderators and capable speakers, covered topics such as The New Synthetic Fibers, Contributions of Chemistry in the Field of Human and Animal Nutrition, Contributions of Chemistry to Medicine, Chemistry and Dentistry Team up for Progress, Contributions of Chemistry to the Cancer Problem, Liquid Fuel Supplies of the Future and the Impact on the Chemical Industry by Chemicals Available as Coproducts from Synthetic Fuel Processes, and Contributions of Chemistry to Agriculture.

The symposia were arranged and moderated by such scientists as Barbara K. Campbell, Kenneth N. Campbell, L. L. Hirst, Frances Krasnow, Barrett L. Scallet, Lloyd V. Sherwood, and Frank J. Soday. Speakers on the several programs came from widely scattered geographic points —for example, John R. Whinfield, Imperial Chemical Industries, Ltd., Hertfordshire, England, and Sofronio Balce, Araneta Institute of Agriculture, Malabang, Rizal, P. I. Variety was obtained in the program at Washington University with papers presented by former graduates of the institution and with the dedication of Louderman Hall marking the centennial of the university.

The dinner meeting of Section C was well attended, and an address on "The Impact of Chemistry on the Advancement of Science" was given by Carroll A. Hochwalt, chairman of Section C and vice president of Monsanto Chemical Company.

Whether or not you were present in St. Louis, now is the time to plan for the Boston meeting of Section C, to be held during the closing week of 1953. It is not too early to start on the preparation of the paper you may wish to present at the submitted papers session in Boston.

ED. F. DEGERING, *Secretary*

Section on Astronomy (D)

The program of Section D, held at the Hotel Jefferson on Dec. 29, consisted of six professional and three amateur papers, followed by a short round-table discussion of the "Contributions of the Amateur to the Advancement of Astronomy." The address of the retiring vice president and chairman of Section D, Harold L. Alden, was given at the end of the afternoon session. Approximately 40 people heard his talk on "Our Stellar Neighbors."

FRANK K. EDMONDSON, *Secretary*

Astronomical League (D1)

The Astronomical League participated actively in the sessions of Section D, and especially in the round-table discussion on "Contributions of the Amateur Astronomer to the Advancement of Astronomy," arranged by Russell C. Maag. Papers were presented by Rolland R. La Pelle on "The Amateur in Astronomy," by David Rosebrugh on "Activities of the American Association of Variable Star Observers," and by R. C. Maag and Grace Scholz on "Future Plans and Activities of the Astronomical League."

RUSSELL C. MAAG, *Program Chairman*

Section on Geology and Geography (E)

The sessions of Section E were held at Kiel Municipal Auditorium and Wilson Hall, Washington University, Dec. 29 and 30. Approximately 150 individuals participated. The program included: a symposium on Modern Research of State Geological Surveys and its Economic Values, 2 sessions, 6 papers, 6 planned discussions; General Geology: Stratigraphy and Sedimentology, 1 session, 10 papers; General Geology: Pleistocene and Physical Geology, 1 session, 11 papers; Geography Panel, "Impact of the Missouri Basin Program," 1 session, 4 papers; Section E Smoker; and the vice-presidential address by George W. White. The State Geological Survey program was organized by M. M. Leighton and was appropriate to the Association theme, "The Common Ground of Science, Engineering, and Industry." H. H. McCarty organized the geography panel. The vice-presidential address and smoker were held at Washington University, where the Department of Geology acted as host. Arrangements were made by Carl Tolman, and about 75 attended.

The following officers were elected for 1953: vice president and chairman, Wilmot H. Bradley; retiring vice president, A. C. Trowbridge; and elected section committee member, Carl Tolman.

LELAND HORBERG, *Secretary*

National Geographic Society (E2)

The National Geographic Society lecture in the Kiel Auditorium on Monday, Dec. 29, was in all respects a successful affair, with 3100 present to hear the lecture of W. Robert Moore on Nigeria and the Sudan. Special interest centered on the portion of the lecture pertaining to the eclipse observation in Khartoum. Kirtley F. Mather greatly strengthened the program with his gracious introduction of the speaker.

From the point of view of the society's exhibit I was also satisfied. The results slightly surpassed last year's, as a matter of fact.

My colleagues and I found everyone with whom we had to do convention business very cooperative and friendly.

RALPH GRAY, *Editorial Staff*

National Speleological Society (E3)

At the meeting of the National Speleological Society Charles E. Mohr, president, gave the first paper, on cave animals of the Ozarks with particular reference to Marvel Cave near Branson, Mo. Reference was made to the unpigmented crayfish, salamanders, fish, and planaria, and President Mohr pointed out that a distinction must be made between native cave forms and transient animals, that merely use the cave for shelter. The number of bats found in Marvel Cave has been greatly reduced in recent years as a result of the collecting activities of an animal dealer. This affects other organisms, because the smaller cave animals, such as isopods and planaria, abound where the water flows over deposits of bat guano, and certain

molds grow on the feces of bats. Algae and liverworts are found wherever light can enter, even though for only a small length of time daily.

Jacob A. Rinker, professor of mathematics at Eureka College, Illinois, demonstrated methods used in surveying Marvel Cave. The first room measures 250 feet high and 400 feet long, making it one of the largest in Missouri.

Brother G. Nicholas, of La Salle High School, Cumberland, Md., described the opening of a new portion of the Cumberland Bone Cave, in which large deposits of Pleistocene vertebrate remains have been found. The fossils discovered include 45 species, 28 of which are now extinct. Types represented vary from mastodons to bats, and include such animals as tapirs, peccaries, bears, wolverines, and smaller species. This diversity suggests a gradual accumulation under a succession of climatic conditions. Excavations are continuing, and it is hoped eventually to locate complete skeletons of the species found thus far.

The 1953 annual convention of the National Speleological Society will be held in Louisville, Kentucky, during the third week of April.

BROTHER G. NICHOLAS, *National Speleological Society*

Section on Zoological Sciences (F)

The Section F program consisted of a number of cosponsored symposia, panel discussions of books, and sessions for contributed papers dealing with physiology, general biology and behavior, and embryology and anatomy.

The panel discussions of selected texts, sponsored by the Society of Systematic Zoology and successfully carried out for the first time, proved to be of especial interest to those in attendance at the meeting, as well as to the general public, as evidenced by near-capacity audiences. This new adventure in the zoological programs adapted from TV proved to be both worth while and attractive, as judged by the favorable responses received from all who participated.

At the annual business meeting of the section several matters of interest to the members were discussed. Affiliated organizations and societies were urged to qualify all eligible members for the rank of Fellow in the AAAS. Many more members are eminently worthy of this honor than have ever been nominated for it.

The biologists' smoker, held in the convention hall of Kiel Auditorium was the pleasant and well-attended event that it always is. The zoologists' dinner, breaking with tradition, was held in the very attractive and unique Bevo Mill. "Applied Systematics," the address of Waldo L. Schmitt, retiring chairman of the section, concluded the evening's program.

J. H. BODINE, *Secretary*

Herpetologists League (F1)

Only eleven persons attended the Conference on Common Names, but all were enthusiastically and unhesitatingly cooperative and helpful in furthering progress toward stabilization of common names. They carefully considered the aims and objectives the project should have, the principles of name selection, and (with the privilege of examination at their leisure for 5 days) the actual names so far approved unanimously by the members of the committee who expressed their opinions.

The course of action for the future was unanimously approved, with a request for submission to the annual meeting in Boston in 1953 of new materials approved in the interim by the Committee on Common Names.

HOBART M. SMITH, *President*

Society of Systematic Zoology (F2)

The fifth annual meeting of the Society of Systematic Zoology was by far the most elaborate and extensive in its brief history. Not only did its sessions include the customary kinds—symposia, addresses, paper-reading sessions, a smoker, and a dinner—but also a special program of informal anecdotal talks, a motion picture, and four meet-the-author type of book-discussion panels. The latter were unprecedented in such meetings. Attendance was unusually high, the special features drawing 100–200 persons.

Officers for 1953 are: president, H. B. Hungerford, of Lawrence, Kan., by automatic succession; president-elect, H. W. Stunkard, of New York; secretary-treasurer, R. E. Blackwelder, of Washington, D. C. (serving the second year of a two-year term); and new councillors, Hobart M. Smith, of Urbana, Ill., and J. Speed Rogers, of Ann Arbor, Mich.

It was decided to hold the 1953 meeting in Boston with the AAAS at Christmastime and similarly, the 1954 meeting in Berkeley. The newly established Pacific Section will probably act as host at the latter meeting.

An ideal arrangement of the society's headquarters lounge and book exhibit was reflected in their popularity and constant use. The exhibit, the property of the society, was much larger than heretofore, including 342 commercial zoological books of 56 publishers, and many monographs and journals. A 48-page mimeographed list of the books was available to all who desired it, and several hundred were distributed.

Membership in the SSZ continues to climb steadily. It has now passed 1200, maintaining the 200-per-year increase since its founding. Subscriptions to the journal *Systematic Zoology* have passed 800 in its first year.

The successful symposium on The Relation of Life History Studies to Systematics included talks by H. W. Stunkard on parasitic worms, by Grace Orton on fishes and amphibians, and by C. D. Michener on insects. It is expected that these papers will be published in *Systematic Zoology*.

The Sunday afternoon session on famous zoologists was unusually interesting and entertaining. The talks were informal and anecdotal, giving personal glimpses of five famous zoologists and also of the speakers. Because of his doctor's orders, H. A. Pilsbry was not able to attend, but his remarks on Charles Darwin as a barnacle specialist were read by the secretary. F. G. Brooks spoke on Charles Wardell Stiles; A. S. Romer, on E. D. Cope and O. C. Marsh; C. L. Hubbs, on David Starr Jordan; and Alexander Petrunkevitch, who presided at the session, spoke on August Weismann. It is hoped that this fascinating program can be published as a unit.

Two of the book panels discussed recent books on evolution. The first dealt with *Time's Arrow and Evolution*, by H. F. Blum, with the author and four discussants: G. G. Simpson, Wendell Latimer, Edgar Anderson, and U. N. Lanham. The second panel discussed *The Meaning of Evolution*, by G. G. Simpson, with the author and four discussants: H. F. Blum, G. L. Jepsen, E. T. Smith, and T. C. Schneirla.

Two other book panels were concerned with biology and zoology textbooks. In each, three textbooks were discussed as examples of three approaches—in biology, principles, systematic, and humanistic; and in zoology, principles, systematic, and ecological. Keen interest was displayed in these sessions.

The motion picture *The New Frontier* was a beautiful record in full color of life in the depths of the sea and

of the operation of the marine laboratory ship of the Hancock Foundation at the University of Southern California. It was narrated by John S. Garth.

R. E. BLACKWELDER, *Secretary*

The National Association of Biology Teachers (FG4)

The 15th annual meeting of the society was devoted to practical problems of biology teaching, reports on the status of health education in the high schools, reports of the various Conservation Education Committees working in all parts of the country under project leader R. L. Weaver, a field trip, and exhibits by high school pupils of experimental and museum work. The session held jointly with the National Association for Research in Science Teaching was devoted to content of general science courses, training and professional opportunities for women in the natural sciences, use of visual aids, and biology clubs. Among many papers stimulating wide interest may be mentioned "Flightless Birds of New Zealand, Extinct and Near-Extinct" (Katherine V. W. Palmer), and "College Science Teaching: Its Present Status and its Improvement" (Harry J. Fuller).

On Sunday, 135 members participated in a joint field trip with the American Nature Study Society to the Mississippi and Missouri river flood plains and to the August A. Busch Wildlife Area.

At the luncheon of the society E. C. Stakman delivered an address, generally acclaimed as a masterpiece, on "The Need for Depth of Insight and Breadth of Vision in Biology." Three meetings were held jointly with the American Nature Study Society and the National Association of Science Teachers. The joint buffet supper with these societies on Saturday night was followed by a report by Roger Tory Peterson, of the American Nature Study Society, on his recent study in Europe, illustrated with superb motion pictures of European bird life.

One business session was given over to the Editorial Board of the *American Biology Teacher*. The journal is undergoing improvements in a number of its departments and has appeared with a new attractive cover. The modernized journal will stand as a monument to the many years of untiring effort of the editor-in-chief, John Breukelman, whose retirement from this post, effective in October, was accepted with reluctance on the part of the Executive Board. The assistant editor, B. Bernarr Vance, was named his successor, and Muriel Beuschlein continues as managing editor.

Officers for 1953 are: Leo F. Hadsall, president; John J. Harrold, secretary-treasurer; Lydia Elzey, first vice president; Brother H. Charles; second vice president.

HARVEY E. STORK, *President*

Phi Sigma, National Biological Honorary Society (FG5)

Biennially, delegates from some 30 active chapters of Phi Sigma convene in a national meeting to chart the future of this organization. The past tradition of joining the AAAS was revived this year.

Most attention was directed to the development of means for stimulating research interest in young scholars. Toward this end, elaboration of the current system of scholarship awards was planned, and expansion and strengthening of the society were implemented.

The following officers were elected to the council to serve four-year terms: Fred Orcutt, Virginia Polytechnic Institute, executive secretary; and Karl F. Lagler, University of Michigan, chancellor. The next meeting is set for 1954, place undecided. Institutions awarding graduate degrees in biological sciences are invited to communicate with the secretary for representation of Phi Sigma and/or its awards on their campuses.

Resolutions were adopted to convey to Harley J. van Cleave best wishes for speedy recovery of good health, and to the AAAS for effective meeting arrangements. (Regrettably, Dr. van Cleave passed away in Urbana on Jan. 2, 1953.)

KARL F. LAGLER, *National Chancellor*

Section on Botanical Sciences (G)

Section G held a four-day program at St. Louis with ten sessions. Except for two sessions at the Museum Building of the Missouri Botanical Garden and the dinner meeting at the Hotel Statler, all meetings were held at the Kiel Auditorium. Seven sessions were devoted to symposia, two to contributed papers, and one to the address of Vice President Lincoln Constance, of the University of California, who spoke on "The Role of Plant Ecology in Biosystematics" to the 75 persons who had assembled for the All-Botanists dinner. Also at the dinner, the Mary Soper Pope medal was awarded to E. Lucy Braun, professor emeritus at the University of Cincinnati, for her outstanding contribution to forest ecology. The medal, which is given by the Cranbrook Institute of Science, was presented by M. Trufant Hall, Cranbrook botanist, and Pierre Dansereau, chairman of the Medal Committee for 1952.

The five symposia that formed the bulk of the Section G program were as follows: "The Improvement in Teaching of Taxonomy," arranged by Aaron J. Sharp, University of Tennessee; "Biosystematics and Taxonomic Units," arranged by Edgar Anderson, Missouri Botanical Garden; "Metabolism in the Green Plant," arranged by Barry Commoner, Washington University; "The Western Range—Our Great National Resource," arranged by F. W. Albertson, Fort Hays Kansas State College, and David F. Costello, Rocky Mountain Forest and Range Experiment Station; and "Plant Sociology and the Taxonomy of Vegetational Units," arranged by the section secretary.

The two sessions provided for contributed papers had 15 speakers representing ten different states, with attendance ranging from about 50 to 70 persons. During recent years, when the botanical societies have held their official annual meetings at times other than the meetings of the AAAS, Section G has consistently scheduled as many sessions for contributed papers as the demand calls for. The section secretary is convinced that this is a necessary and useful function of the AAAS and, furthermore, that it is a means of providing adequate audiences for the symposia. No matter how worth while the symposia are, many persons who would like to hear them cannot attend AAAS meetings unless they can get some financial subsidy, which is usually contingent upon the presentation of a paper. Although it may be agreed that one of the very valuable functions of the AAAS is to organize the specialized and interdisciplinary symposia, it is urged that the sessions for contributed papers also be facilitated. With the two program-sponsoring organizations meeting at different times of the year and in different sections of the country, they can both help serve the needs of American botanists in this way. It is hoped that, for the benefit of botany and botanists in general, some of the botanical societies will find it desirable to meet, at least at times, officially with the AAAS. Two annual meetings a year may be too much for some societies, in which

case they could consider alternating their official meetings between the AIBS and the AAAS. The present situation does not provide a satisfactory solution of the needs of botanists for national meetings.

Attendance at the seven symposia of Section G was gratifying. It varied from a minimum of about 80 to a maximum of 100, and averaging about 100. During the four days of the program there was only one conflict, when the second session of the symposium on Metabolism in the Green Plant was scheduled concurrently with that on The Western Range. At large meetings multiple conflicts are the rule, and individual sessions are commonly less well attended than were the recent ones at St. Louis. Altogether about 50 botanical papers were presented. Official program participants represented 35 different institutions and came from 22 states and Canada. They came from the East (Connecticut, New York, and New Jersey), the South (North Carolina, Tennessee, Texas, and Louisiana), and the West (Colorado, California), as well as from the Middle West. It was truly a national meeting.

Some sessions of the Section G program were cosponsored by the Ecological Society of America, the Illinois Section of the American Society of Plant Physiologists, the American Society of Naturalists, and the Grassland Research Foundation. It is hoped that other interested organizations will arrange to cosponsor programs in the future, or will take the initiative in developing programs that Section G can cosponsor.

Comments that have come to the secretary indicate that the meetings at St. Louis were the most successful of recent years. We look forward confidently to even more successful meetings at Boston in 1953 and at Berkeley in 1954.

STANLEY A. CAIN, *Secretary*

Section on Anthropology (H)

The 1952 annual meeting of section H consisted of nine sessions, of which four were held jointly with Section K. Excluding the latter, 33 persons participated. A symposium organized by James B. Watson, Department of Sociology and Anthropology of Washington University, on The Rio Grande Pueblos and the Plains occupied two sessions and set the theme for the meetings. From an attack on this problem, which involved ethnology, ethnohistory, folklore, musicology, physical anthropology, and, above all, archaeology, it was agreed that the two areas of indigenous cultures under consideration have left numerous evidences of contacts at different times and at numerous places along and beyond the boundaries between them. The central problem of the symposium was not whether the peoples occupying the Plains and Pueblo areas exchanged cultural traits, but rather when, where, and how. A round-table discussion of the relative chronology of Plains and Southwestern archaeology was added to the program to deal specifically with the first of these questions.

The contributed papers in archaeology continued the same theme, for they dealt with the regions surrounding the Plains-Pueblo area: the Mississippi Valley and Northern Mexico. Frank H. H. Roberts' beautifully illustrated vice-presidential address, "Progress in the Archaeological Salvage Program," dealt with the emergency excavation of river basin sites that are about to be flooded by dam construction. As these sites cover many areas and various periods, his talk also demonstrated the trend toward a unified American archaeology.

Among the contributed papers in social anthropology, several dealt with questions of acculturation, a theme carried over from 1951. A symposium on cultural relativity held at Philadelphia also served as the focus for an attack on the application of this concept by Frank Hartung, of Wayne University. Still another evidence of the impact of the 1951 meeting was a report by Richard K. Beardsley, of the University of Michigan, concerning the organization of a committee on Old World archaeology and prehistory, which grew out of the symposia on Old World and New World studies which Lauriston Ward organized a year ago. The committee is planning a society that will stimulate inter-area and interdisciplinary studies of Old World prehistory through the publication of bibliographies and other activities.

The joint sessions consisted of symposia on Regional Research: Emerging Concepts and Techniques and Social and Economic Aspects of Technical Assistance Programs.

A special additional feature of the meetings enjoyed by the members of the section and visiting anthropologists was an informal evening and supper at the home of Dr. and Mrs. P. H. Titterington. The generous hospitality and the opportunity to see Dr. Titterington's archaeological collections were greatly appreciated.

Plans are already under way for the December 1953 meetings in Boston. Besides sessions for archaeologists, who contributed the majority of papers at the St. Louis meetings, it is hoped to have a better representation of contributions from other fields of anthropology. Clyde Kluckhohn will give the vice-presidential address, and it is anticipated that there will be more sessions for social anthropology. Also being arranged is a symposium dealing with the nonhuman primates and the contribution made by their study (sociological, psychological, physiological, ontological, and anatomical) to an understanding of human origins.

GABRIEL LASKER, *Secretary*

Section on Psychology (I)

The annual meeting of Section I in St. Louis consisted of five sessions of submitted papers, with two sessions devoted to clinical, and a session each to training, theoretical, and experimental psychology. In addition, Section I cosponsored with the sections on Medicine, Engineering, and Industrial Science a symposium on Men and Machines. The program was arranged by Philip H. DuBois. William A. Hunt presided at the morning session and Paul M. Fitts at the afternoon session. The vice-presidential address was delivered by Harold Schlosberg on the topic "The Intensive Dimension of Emotion."

The following officers were elected for the coming year: vice president, Frank Beach; secretary, Dewey Neff; committee member, Clarence Graham.

DELOS D. WICKENS, *Secretary*

Section on the Social Sciences (K)

Most of the Section K program this year was devoted to joint activities with other groups. Four sessions had been arranged with Section O on the subject of combined resources development, with special reference to the Missouri Valley, an area of major concern in St. Louis. In these sessions, the problems of economic development were considered from the standpoint of basic resources, including soils, vegetation, minerals, and water, as well as from the organization of these resources, as in agriculture or in industrial development. Problems of investment and government relations in combined resources development of a large area were also discussed.

A unique feature of these sessions was the provision of a full two-hour period for discussion of the papers that had been presented.

In cooperation with Section H, a series of three sessions was devoted to an examination of the social and economic aspects of the technical assistance programs. In the first, two representatives from countries receiving technical assistance presented an analysis of what is desired from such assistance and stressed the attitudes of these countries that were favorable or unfavorable to programs of economic development. They placed much emphasis also on the characteristics of the technicians who go out on technical assistance assignments. A second program discussed the social and economic problems encountered from the standpoint of the administrators, and in the third session there was a detailed analysis of social and cultural factors that must be taken into account whenever a program for economic development is in operation.

In cooperation with the National Academy of Economics and Political Science and Section P, a session was arranged to consider the applications to economic and industrial problems of modern information processing devices, particularly electronic computers. Other sessions dealt with emerging concepts and techniques in regional research, the role of the humanities and the social sciences in medical education, and the role and responsibilities of the individual scientist in today's world.

Lowry Nelson was nominated as chairman of the section, and Amos Taylor was elected to a four-year term on the section committee.

CONRAD TAEUBER, *Secretary*

National Academy of Economics and Political Science (K1)

The National Academy of Economics and Political Science held two forum meetings in 1952, one in Washington, D. C., on the general subject of "Eastern Problems of the Western Democracies," and the other in St. Louis, at the 119th Annual Meeting of the AAAS, on the general topic of "Information Processing in Social and Industrial Research." Collaborating at both session meetings were Section K and the National Social Science Honor Society, Pi Gamma Mu (and Section P, at the St. Louis session).

Amos E. Taylor, director of the Department of Economic and Social Affairs, Organization of American States, was elected to the office of third vice-chairman of the board at the annual board meeting held in January 1952. Dudley Dillard, professor of economics, University of Maryland, and Howard B. Myers, director of research, Committee for Economic Development, were elected new members of the Board of Directors. Francis O. Wilcox, staff director, U. S. Senate Committee on Foreign Relations and member of the Executive Council of the American Political Science Association, was elected as a new member of the Advisory Council.

The thirty-first annual sessions of the Academy will be held at the Brookings Institution in Washington, D. C., the first week in May 1953. The general subject for development, which will concern a current important problem in the field of economics, political science, or foreign affairs, will be announced at a later date. The proceedings of these sessions will be published in the Autumn 1953 issue of *Social Science*—the official journal of the National Academy and of the National Social Science Honor Society, Pi Gamma Mu. Proceedings of the thirtieth annual sessions, held May 7–8, 1952, in Washington, D. C., and referred to above, comprised the Autumn 1952 issue of *Social Science*.

DONALD P. RAY, *Executive Secretary*

Section on the History and Philosophy of Science (L)

The unusual symposium on "Relations between Science and Thomistic Philosophy" was attended by more than 150 persons; it ended in an animated discussion. Conway Zirkle, vice-president for Section L, called it, "one of the best symposia I ever attended." The participants were Robert J. Henle, S.J., and George Peter Klubertanz, S.J., St. Louis University; Yves Simon, University of Chicago, and Hugh S. Taylor, Princeton University. In his remarks on "One Scientist's Attitude to Thomistic Philosophy," Professor Taylor stated:

> The modern scientist is asking entirely different questions from those asked by the Scholastic philosophers since St. Thomas Aquinas' time in the 13th century. . . . We need to insist on an increased appreciation of our students of science of points of view other than that of the inductive sciences. . . . What I think the Scholastic philosophers are trying to tell the scientists is what Aquinas wrote: "The order of Nature is not the order of Thought." They are trying to tell us that science, in spite of all its manifold contributions to the health, welfare and development of human life, does not and cannot provide us with a philosophy, a way of life.

Leonardo da Vinci's birth 500 years ago was commemorated by a symposium on his scientific, artistic, and curatorial achievements. Raymond S. Stites, curator in charge of educational work at the National Gallery of Art, discussed Leonardo's personality; using some 40 pages from Leonardo's manuscripts, he demonstrated that this unique man functioned simultaneously as a scientist and an artist from his earliest creative years—contrary to the opinions of most biographers. Chauncey D. Leake, former president of Section L, stressed the remarkable scope of Leonardo's scientific achievements. He called particular attention to Leonardo's work in botany: to the discovery of the tree-ring method of dating and to the flow of sap within plants. William Suida, author of the definitive work *Leonardo and Seine Kreise,* and now the historian for the Samuel H. Kress Foundation, pointed out that only five extant works of Leonardo are in any way documented, although 15 or 16 others are generally accepted on the fairly firm basis of their style alone. Four of these are in the U. S.; one, the exquisite *Madonna with the Pomegranate,* has been bought recently by the Kress Foundation for eventual deposit at the National Gallery of Art.

A stimulating session was jointly sponsored by Section M; it dealt with "Methodology of Engineering Research." The participants were Clarence E. Davies, presiding; Earl P. Stevenson, of Arthur D. Little, Inc.; Paul S. Olmstead, Bell Telephone Laboratories; and Morrough P. O'Brien, University of California. A thought-provoking session was held jointly with the Philosophy of Science Association on "Philosophical Problems of Contemporary Biology."

Most of the sessions, including the vice-presidential address, were attended by 40–50 people, but one of the best had only 15 present. Future plans of Section L call

for a determined effort to schedule meetings so that the large number of scientists having the history and philosophy of science as a secondary interest may have the opportunity to share in these programs.

RAYMOND J. SEEGER, *Secretary*

Philosophy of Science Association (L1)

The Philosophy of Science Association, History of Science Association, and Section L of the AAAS met jointly in a one-day session. The two morning papers were both concerned with biology. Heinz Herrmann, of the University of Colorado, presented a very interesting paper on the problem of explanation in biology. He criticized those who have attempted to explain biological phenomena in terms of physical field theory and argued that the biologist is interested in a far more detailed kind of explanation that can be obtained through physical models. A. Bachem, of the University of Illinois, discussed the parallelism of mind and matter, and its relation to biological phenomena.

In the afternoon William A. Werkmeister, of the University of Nebraska, criticized some contemporary attempts on the part of philosophers to arrive at measures of confirmation of scientific hypotheses. Dr. Werkmeister believes that these measures are not possible, and that matters of this sort should rest with the sound judgment of the scientist rather than any measuring devices. Robert A. Bass, of the University of Toledo, discussed the concept of simplicity in science and argued that the scientists have adopted a hypothesis that nature is fundamentally simple, which hypothesis, in Mr. Bass' opinion, seems to have been well confirmed by scientific findings.

C. WEST CHURCHMAN, *Editor*, Philosophy of Science

Section on Engineering (M)

Section M has some 3000 members, all of whom are active members of one or more professional engineering societies. It has associated with it 12 affiliated engineering societies and 5 associated societies. The function of the section is not to compete with the engineering societies but to provide a common platform where engineers, as a group, can meet with scientists in other fields. It is also evident that Section M must receive the active support of its member-societies if it is to function properly, and the year 1952 witnessed a joint effort on the part of the engineering societies to support Section M and to plan its future programs. Six meetings were held in New York City during the year, attended by the Committee of Section M and the secretaries of several engineering societies. The program of the St. Louis Meeting and reorganization plans are the direct results of these meetings. The section plans to continue the meetings of the committee during 1953 and to establish an organization and a program policy for our future activities.

The program for the St. Louis meeting included 17 sessions, in which 72 papers were presented. Cosponsoring groups included the American Industrial Hygiene Association, Central Institute for the Deaf, Veterans Administration, Sections B, I, L, and P, and Subsections Nm and Nd. For the purpose of advertising the annual meeting a committee was organized in St. Louis consisting of representatives of 23 engineering societies, the Engineers Club of St. Louis, St. Louis University, and Washington University. Four thousand programs were printed and mailed to engineers on the mailing lists of the above organizations. The section expresses its thanks to the St. Louis committee for its excellent cooperation.

Officers for 1953 include Clarence E. Davies, chairman, and Frank D. Carvin, secretary, who were both re-elected. Eugene F. Murphy, of the Veterans Administration, New York, was elected section committeeman for a term of four years. Serving on the 1953 Program Committee are Irving P. Orens, chairman, G. Edward Pendray, and E. Lawrence Chandler.

At the annual meeting of the American Society of Mechanical Engineers in New York, Section M cosponsored several meetings of the Applied Mechanics Division of the ASME, and with Section E it cosponsored technical sessions and a program of field trips arranged by the Industrial Minerals Division of the American Institute of Mining and Metallurgical Engineers at the Centennial of Engineering at Chicago Sept. 3–6.

FRANK D. CARVIN, *Secretary*

Subsection on Medicine (N1)

During the December sessions of the Association, the Section on Medical Sciences and its subsections, in collaboration with eight other sections (C, F, G, I, K, M, P, and Q) and twelve affiliated societies, sponsored more than 25 symposium programs and panel discussions. These sessions, ranging in content from the problems of teaching in the physiological sciences to air pollution and the psychological adaptation of modern man to his machines, comprised papers and discussions of interest to specialists in all branches of medicine and allied sciences, and stressed the relationships between medicine and the industrial and engineering sciences which it serves and from which it derives support.

Planning for the 1953 meeting has already been started by the new secretary of the subsection, Allan Bass, of Vanderbilt University. The retiring secretary hopes that Dr. Bass will enjoy the same enthusiastic cooperation that we have received during the past four years.

G. K. MOE, *Secretary*

Subsection on Dentistry (N2)

Subsection Nd held three sessions on Dec. 27—morning, afternoon, and evening—with an average attendance of 30 at each session. The first session was devoted to a symposium on the chemistry of the saliva; the second, to scientific contributions to the manufacture of restorative dental materials; and the third to the engineering and chemical factors of water fluoridation.

The Subsection also cosponsored, with Section C, a program on chemistry and dentistry and, with Section M, a program on hearing and speech aids. Members of the subsection passed the following resolution and ordered it to be submitted to the Council of the AAAS:

> Be it resolved that Subsection Nd of the AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, convened in annual session in St. Louis, December 27, 1952, strongly endorsed the fluoridation of city water supplies as a partial preventive of decay of the teeth of children and recommended that all cities and communities having a central water supply adopt this health measure.

RUSSELL W. BUNTING, *Secretary*

Subsection on Pharmacy (N3)

The subsection on pharmacy (Np) was strengthened during 1952 by the addition of two pharmaceutical organizations—the American Society of Hospital Pharmacists and the American College of Apothecaries, as affiliated societies of the AAAS with representation on

the AAAS Council and on the section committee. At St. Louis the Subsection held four sessions, which were well attended. Over 40 individuals took part in the program, either by contributing original papers or by participating in panel discussions and symposia.

The first symposium considered the problem of accreditation of hospital pharmacies, the establishment of an approved pharmacy internship and residency program, and the possibility of having such accreditation and approval carried out by agencies now in existence, such as the Joint Commission on Accreditation of Hospitals, Schools, and Associations, as well as the hospitals themselves. Participants in the symposium included Martha Johnson, assistant to the director, Joint Commission on Accreditation of Hospitals; James R. Shaw, chief, Division of Hospitals, U. S. Public Health Service; Roy Kneifl, executive secretary, Catholic Hospital Association; L. C. Zopf, secretary, American Association of Colleges of Pharmacy; Grover C. Bowles, president, American Society of Hospital Pharmacists; and Donald C. Brodie, of the University of California.

The second symposium on the content of the specialized education program for hospital pharmacists explored the over-all program, as well as details of the educational requirements that are so important in a total medical care program.

A third symposium was directed to the problem of developing and maintaining sound drug therapy trends and standards. L. C. Miller, director of revision of the U. S. Pharmacopoeia; J. L. Powers, chairman, Committee on National Formulary; Robert T. Stormont, secretary, Council on Pharmacy and Chemistry of the American Medical Association; J. Roy Doty, secretary, Council on Dental Therapeutics of the American Dental Association; and L. C. Zopf, State University of Iowa, participated. Attention was directed to the danger that standards now carried out through professional agencies and the industry might be taken over by governmental agencies, and that government control might seriously impede the rapid progress that has been made in the advancement of drug therapy.

The original papers based on research varied from reports on the rates of release of medicaments from various bases to the physiological effects of such compounds, and from efforts to produce more efficient and effective diagnostic agents to the production of safe sterile water for injection, and the measurement of excretion of drug products in milk through isotopic tracer techniques.

GLENN L. JENKINS, *Secretary*

Alpha Epsilon Delta (N4)

The role of the humanities and the social sciences in the premedical program and their contributions to medical education were discussed at the symposium sponsored by Alpha Epsilon Delta, national premedical honor society, in cooperation with Sections Nm, K, and Q. About 100 persons enjoyed a spirited discussion following the excellent presentations of the speakers. In view of the interest in this subject, arrangements have been made for the publication of the symposium papers as a unit in an early issue of *The Scalpel*. Copies will be available to all interested persons on request.

A luncheon was held at the Statler prior to the symposium for those interested in the activities of Alpha Epsilon Delta. Plans were discussed for other meetings of premedical and medical educators, as urged by the national conference, so that each may acquire a better understanding and appreciation of their mutual problems and, together, work out and develop a better program of medical education.

Alpha Epsilon Delta will hold its national convention in the spring of 1954, probably in the Midwest. A luncheon program will be arranged for the Boston meeting of the AAAS in 1953.

MAURICE L. MOORE, *National Secretary*

American Association of Hospital Consultants (N7)

The American Association of Hospital Consultants held a symposium on "Science and Medical Care" on Dec. 28. On the program, which was planned for a mixed audience of men of science and of physicians in the overlapping area of their activities, Robert A. Moore, of the Washington University Medical School, spoke on "Planning for the Basic Sciences in the Hospital;" David Littauer, director of the Jewish Hospital of St. Louis, spoke on "Planning for the Mechanical Sciences in the Hospital;" and E. M. Bluestone, president of the American Association of Hospital Consultants, spoke on "Planning for the Clinical Sciences in the Hospital." Frank R. Bradley, director of the Barnes Hospital of St. Louis, was in the chair, and Herman Smith, hospital consultant, led the discussion. A small but deeply interested group participated, and everyone came away with the feeling that an excellent beginning had been made in establishing a sound relationship between the world of science in general and of medical practice in particular.

Dr. Moore stressed the educational purpose of the hospital and the relation of the basic sciences to its manifold activities. He held that the scientific activities of a hospital revolve around its laboratories, and urged stronger support of this kind of service. Dr. Littauer reviewed recent contributions to the mechanical sciences of the hospital, made a number of suggestions for future effort, and stressed the possibilities for the comfort and cure of the patient. Dr. Bluestone made a strong plea for the practice of medicine as a science in the combined fields of sociology and clinical medicine. He reviewed the shortcomings of modern medical practice and asked for better selection and classification of medical talent, insisting that it be put to the best possible use. He called particular attention to the consideration of the bed and of the patient who occupies it, as laboratories that are in themselves on a par with the centralized laboratories.

The enthusiasm of the audience gave promise that the next joint meeting in Boston will help bring these activities closer to each other as their relationships are placed on a firm basis.

E. M. BLUESTONE, *President*

Survey of Physiological Science (N10)

The symposium on "Education in Physiological Science" was held under the auspices of the Survey of Physiological Science, which the American Physiological Society is conducting for the National Science Foundation. Approximately 40 persons attended each of the two sessions on Dec. 28. The papers in the first session reported on the scope of the survey (Reynolds), the extent of the teaching of physiology in undergraduate courses (Baker, Solinger), and the relation of the physiological point of view to the training of zoologists and botanists (Prosser, Goddard). At the evening session the papers re-emphasized the scope of physiological science and its importance in the professional training of teachers (Gerard), of engineers (Taylor), and of medical clini-

cians and investigators (Comroe). The need for public education was also emphasized as important for the support of physiological experimentation and wider understanding of the principles underlying the functioning of living organisms (Visscher).

Following each of the sessions there was a full hour of discussion, which included remarks on the desirability of integrated undergraduate biology courses emphasizing the relationships, rather than the differentiations, of botany, zoology, and physiology. It was noted that some of the difficulties encountered in setting up and maintaining the standards of such courses stemmed from the narrowness or breadth of point of view the faculty had acquired in their own background of training, and that the most truly integrated courses depended largely upon the intellectual integration of the faculty members themselves. This topic led in turn to a discussion of the scope of the membership of the several professional societies.

There was also an indication that, in the smaller colleges and at the secondary level, it is difficult to find biological science teachers who have sufficient training and impetus to keep themselves and their students abreast of current developments in theory and emphasis, with the result that the content of much elementary instruction is obsolete. As an example, cellular physiology in particular is rarely treated.

Apparent limitations on some undergraduate programs in physiology arise from stated or implied requirements of the medical schools. Although some colleges are completely uninhibited by medical school requirements, others—particularly smaller institutions unable to offer a variety of courses because of the many demands on a small faculty—have been affected even to the extent of reducing instruction for nonpremedical students.

In view of the increasing recognition that physiological science has permeated many fields of both pure and applied science, there was considerable discussion of the need for disseminating sound, yet palatable, information to the general public. Based on reactions to programs already presented, which utilized the dramatic phenomena of physiological investigation in the laboratory, it was indicated that educational TV programs showing the functioning of living organisms hold the greatest promise for effective mass education.

Appropriate parts of this symposium may be reviewed and extended at the meeting of the Federation of American Societies for Experimental Biology, which is to be held in Chicago, Apr. 6–10, 1953.

W. G. LAND, *Survey of Physiological Science, American Physiological Society*

Section on Agriculture (O)

The program of Section O consisted of a joint symposium with Section K on "Combined Resource Development with Special Reference to the Missouri Valley." Although the papers dealt primarily with the Missouri Valley, much of their substance could apply to other areas or be used as a pattern for a similar study in other conservation areas. The material presented was of fundamental value and did not contain the elements of propaganda or local bias.

Both soil and mineral resources were described, and their utilization in the development of the region was discussed. Natural vegetation and its relationship to climate and soil conditions were considered, and the contributions that both timber and grass could make under proper management to the wealth and water resources of the valley were set forth. Possibilities and hazards of an enlarged agricultural development of the drainage basin were analyzed in detail. Because water in excess causes severe floods, and in insufficient amounts results in restricted output of both agricultural and manufactured products, the problems of water supply and control were dealt with thoroughly. The relationships of raw materials, of the amount and cost of power both present and potential, and of population in the development of industry in the valley were outlined, as were the sources of capital. In dealing with so large an area certain developments for the general good must be financed largely by federal funds, although utilization of private capital is desirable to the fullest possible extent. The administration of the development of so large an area, involving so many states, is an intricate problem, and the advantages and limitations of several methods were brought out.

Attendance at the sessions was approximately 30, which was in no way commensurate with the scope of the problems discussed or with the excellent content of the papers presented. The symposium was concluded with a lively two-hour discussion period.

C. E. MILLAR, *Secretary*

Section on Industrial Science (P)

The second annual meeting of the Section on Industrial Science was held in St. Louis on Dec. 30. The general theme of the program was "Effective Utilization of Industrial Manpower."

In the morning session modern industry was evaluated in terms of how scientific are industrial operations. Howard I. Young, president of American Zinc, Lead & Smelting Company, presided. The first discussion, by Harrison A. Roddick, of McKinsey & Company, management consultants, evaluated top management and pointed out many management and administrative problems and how they may be approached scientifically. It was of interest, also, to note what has happened in such situations when basic scientific principles are not applied. Research was appraised by Frank C. Croxton, of Battelle Memorial Institute, who pointed out many problems arising from limitations on personnel, budgets, and the like. It was demonstrated that certain scientific principles, if applied in the field of research, will make available personnel and facilities more effective. S. V. Hartman, of Aluminum Ore Company, in evaluating production, told of the many scientific developments that have increased production in various industrial areas. An evaluation of sales was given by Franklin J. Cornwell, manager of the Franchise Division of Brown Shoe Company. Mr. Cornwell stressed the need for scientific principles in appraising and developing markets, and indicated the unlimited work that can be done now and in the future in establishing markets for new products and their various consumer groups.

The highlight of the meeting was the section luncheon and the talk presented by Clark Hungerford, president of the St. Louis–San Francisco Railway Co. Mr. Hungerford who discussed "Science and Technology on the Railroads," covered a broad section of railroad operations, ranging from the early development of locomotives and rails to the present exploratory use of television for moving freight cars in the yards. From general comments made after the luncheon, it seems highly probable that many of those who heard this talk came out with a lot of "railroading in their blood."

The afternoon session was concerned with the "Effective Utilization of Industrial Manpower." Morris A.

Viteles, of Philadelphia Electric Company, discussed the contributions of psychology, analyzing the reasons why employees like or dislike their work and why they become effective or casual workers. Apparently a great deal can be done in increasing the productive ability of the individual or group by applying sound principles of psychology, both through the analysis of worker attitude and through the improvement of his reaction toward management and the company for which he works. The paper covering contributions of engineering was prepared by H. B. Maynard, of the Methods Engineering Council, and was read by C. E. Davies, of the American Society of Mechanical Engineers. It described the contributions that have been made in the field of engineering and the application of engineering principles to manpower problems. The contributions of medical research and practice were discussed by E. A. Irvin, medical director of the Cadillac Motor Car Division of General Motors Corporation. Dr. Irvin pointed out how a good medical program can be employed to utilize the services of various kinds of personnel, as well as to increase the productive ability of the employee group as a whole.

N. V. HENDRICKS, *Secretary*

American Industrial Hygiene Association (P1)

The second interim meeting of the American Industrial Hygiene Association with the AAAS consisted entirely of joint sessions, one with Subsection Nm and Section P, and three comprising a symposium on "Health Hazards and Health Protection" with Subsection Nm, Section M, and Section P. AIHA was gratified to be able to share its viewpoints with members of related societies. Because this was an interim meeting no business was conducted. The annual conference of AIHA will be held in Los Angeles at the Hotel Statler, Apr. 20–23, 1953.

HENRY F. SMYTH, JR. *Executive Secretary*

Society for Industrial Biology (P2)

The Society for Industrial Microbiology held its December meeting at St. Louis Dec. 27–28. The Saturday sessions were devoted to a symposium covering the general subject of "Industrial Microbiology." The two sessions held on Sunday consisted of contributed papers and covered a wide area of interest in the industrial microbiological field.

At the conclusion of the Sunday afternoon session a short business meeting was held, at which time announcement was made of the newly elected officers for 1953: president, Kenneth B. Raper, Department of Bacteriology, University of Wisconsin; vice president, M. M. Baldwin, Battelle Memorial Institute; director for three years, G. W. Martin, Department of Botany, University of Iowa. Tentative plans were made at this meeting for the organization of a Midwest section.

Members of the society participated in the symposia and general program offered by Section P. John S. Karling was chairman of the Program Committee for the society, but J. E. McClary, a member of the program committee and representative of the society on local arrangements, contributed much to the success of the meeting and to the excellence of the program.

All sessions were well attended, and discussions following the papers were spirited. The AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE should be congratulated for making every facility available. The society expresses its thanks for these efforts.

C. L. PORTER, *Secretary*

Section on Education (Q)

Section Q held six sessions at the St. Louis Meeting, in addition to cosponsoring, with Alpha Epsilon Delta, a symposium on "The Social Sciences and Humanities in Medical Education." Attendance at the sessions ranged from 15 to 60, but at only one session was it fewer than 24. It was planned to keep the number of papers down so that there could be time to discuss them, and the discussion periods were especially well received.

For the third year, N. Franklin Stump arranged a panel on "Visual Performance in Engineering in Industry"— adding to the title this year, "and in the School." The panel met for two sessions and aroused keen interest. A symposium on the "New York Regents Examinations in Science" also attracted a sizable audience, with active participation in the discussion.

Particularly important was the symposium on "Current Criticisms of Public Education and How to Meet Them." Although this was held Wednesday morning after most of the convention had been finished, about 50 persons were present—many of them outside the field of professional education. Attacks by avowed enemies of the schools, as well as those by those in academic circles, were considered. The discussion was spirited but temperate.

D. A. WORCESTER, *Secretary*

AAAS Cooperative Committee on the Teaching of Science and Mathematics (Q1)

The symposium on "Identification of Talented Youth in Science and Mathematics," sponsored by the AAAS Cooperative Committee on the Teaching of Science and Mathematics, was well attended and evoked considerable audience participation in a discussion of the problems of identifying high school students with high potential for science and mathematics and of providing the opportunities for their development. The symposium was an outgrowth of a conference on the same subject held in November under the joint sponsorship of the Cooperative Committee and the U. S. Office of Education, and attended by approximately one hundred teaching scientists from all parts of the country. The results of this conference were reported in one of the papers of the symposium.

Officers of the Cooperative Committee for 1953 are Morris Meister, Bronx High School of Science, chairman, and Bernard B. Watson, Defense Manpower Administration, secretary. Dr. Meister and Dr. Watson also served in these same capacities during 1952.

BERNARD B. WATSON, *Secretary*

National Science Teachers Association (Q4)

For the fifth consecutive year, the National Science Teachers Association held its annual winter conference in conjunction with the AAAS and in cooperation with the other science teaching societies affiliated with the AAAS. The twelve separate sessions were attended by nearly 300 individuals. About 40 persons participated as speakers and panel members.

Especially well received was the general session extending through both morning and afternoon, Dec. 27. Following a presentation of his views on what constitutes "the principles of good teaching" in science by Francis D. Curtis, of the University of Michigan, 11 classroom teachers presented specific examples of techniques and activities for the implementation of the basic principles. A report of this symposium will appear in an early issue of *The Science Teacher*.

The general session at which panels of science teachers and representatives of book publishers discussed needs and problems in science text and reference books was also well received. It is expected that this symposium will likewise be reported in *The Science Teacher*.

The Business-Industry Section of NSTA held two sessions, one of which was the annual business meeting, at which Edmund Speare, of the Bituminous Coal Institute, was chosen section chairman for 1953.

In actions taken by the Executive Committee of NSTA, it was decided to continue the joint conference with AAAS at Boston in 1953; the 1954 national convention of NSTA was scheduled for Apr. 1–3 at the Hotel Morrison in Chicago (the 1953 convention will be held at the William Penn Hotel in Pittsburgh, Mar. 19–21); and it was agreed to recommend to the NSTA Board of Directors certain constitutional revisions that will modify the structural organization of the Association.

ROBERT H. CARLETON, *Executive Secretary*

Academy Conference (X1)

The Academy Conference held its annual meeting at the Hotel Jefferson on Dec. 28. This, the first meeting of the conference under its new constitution, had an attendance of 45, including representatives of 29 academies and 11 guests—the largest attendance and widest representation in the history of the organization.

At the business meeting, presided over by Austin R. Middleton (Kentucky Academy), amendments to the constitution were proposed to provide for the appointment of an archivist and to change the title of secretary to secretary-treasurer. It was voted to appoint a committee to draft bylaws and rules of order. Reports from Percival Robertson (Illinois Academy), chairman of a Committee on Cooperation among Academies of Science, and from F. E. E. Germann (Colorado-Wyoming Academy), chairman of a Committee on Cooperation of the Academies of Science with the Academy Conference, were presented. The retiring past president, Clinton L. Baker (Tennessee Academy), who had been appointed a committee of one to perform the duties of an archivist, presented a "History of the Academy Conference," bound mimeographed copies of which were distributed.

Wayne Taylor (Texas Academy) was named president-elect for 1953, and Leland H. Taylor (West Virginia Academy) was re-elected secretary. In accordance with the constitution, Austin R. Middleton now becomes past president, and Percival Robertson becomes president.

The program consisted of round-table discussions of "Responsibilities of Academies of Science in Promoting Improvement in the Teaching of Science in the Public Schools," led by Greta Oppe (Texas Academy); "The Relations of Academies of Science to College Students," conducted by Harold R. Wanless (Illinois Academy); "The Relations of Academies of Science to the Public," led by Harold E. Wilcox (Alabama Academy); and "The Relations of Academies of Science to the Press," by Watson Davis (Washington Academy). Discussions were lively and informative, and participation was general.

Out of the several reports and discussions it appeared that the following recommendations might well be carried back by delegates to their academies: (1) Academies should be urged to invite neighboring academies to send representatives to their own annual meetings; (2) the report of the delegate to the Academy Conference should have a prominent place in the meeting of each academy; (3) academies should encourage industrialists to take a more active part in their programs and their work; (4) academies should increase and improve their efforts to disseminate science to the layman through press, radio, and television; (5) many academies might profitably increase the activities of junior and collegiate academies; (6) better relations with the press are desirable for many academies, especially in providing reporters with facilities for adequate reporting.

The annual conference dinner was followed by an address by Paul E. Klopsteg, of the National Science Foundation, on "The Making of Awards and Grants by the National Science Foundation."

LELAND H. TAYLOR, *Secretary*

American Nature Study Society (X4)

Undoubtedly one of the highlights of the annual meeting of the American Nature Study Society was the joint field trip with the NABT to the Mississippi-Missouri River flood plains. Four bus loads of people had a most enjoyable day tramping over the area, which has recently been so drastically changed by the action of the rivers, and noting the ecological adaptations that have taken place. Of equal interest was the afternoon in the Busch Wildlife Area maintained by the Missouri Conservation Commission.

The presidential address by Roger Tory Peterson on Dec. 27, was illustrated with color movies of his European bird adventures. Dr. Peterson stressed the role of public education in attitudes of the layman toward outdoor activities and conservation. He found the people of England and Northern Europe—where TV, radio, movies, magazines, and newspapers all cooperate in bringing this kind of education to the public—even more interested than the people of America. But he found total indifference and destruction the rule of the day in Southern Europe, where these facilities are not utilized.

On Dec. 29, the panel session on "Presenting Nature and Conservation through the Major Mediums of Public Enlightenment," was of particular interest in the light of President Truman's remarks on Dec. 27. Newspapers, magazines, and radio were represented.

The panel discussion and demonstration on "Getting Better Results from Nature Photography," on Dec. 20, brought help and worth-while suggestions to everyone, whether beginner or veteran, amateur or professional, specialist in color or black and white, stills or movies.

Officers elected were: president, Roger Tory Peterson; vice president, Ruth Hopson; secretary, Helen B. Ross; treasurer, Gilbert Mouser; Board of Directors: William Gould Vinal, H. Raymond Gregg, Theodore Eckert, Dorothy Miller Matala, H. Seymour Fowler, Eva L. Gordon, Charles E. Mohr, Edwin Way Teale, Richard L. Weaver, and Richard Westwood.

HELEN B. ROSS, *Secretary*

Conference on Scientific Editorial Problems (X6)

The first Conference on Scientific Editorial Problems was attended by 75 persons, representing all phases of scientific writing, editing, and publishing. Six speakers, prominent in various branches of scientific editorial work, presented an excellent and stimulating series of addresses. The speakers included: Albert Joyce Riker, University of Wisconsin, "Standardization of Literature Citations;" Jaques Cattell, Science Press, "Offset Lithography;" Gertrude Mary Cox, The Consolidated University of North Carolina, "Role of Statistics in Technical Reports;" Leslie E. Neville, Armed Services Technical

Information Agency, Department of Defense, "Problems of Documentation in the Department of Defense;" George Seielstad, Applied Physics Laboratory, The Johns Hopkins University, "Format of Technical Reports;" and A. E. Tyler, U. S. Naval Ordnance Test Station, China Lake, Calif., "Technical Reporting in a Naval Research and Development Establishment." One feature of the conference was a fruitful discussion, which included questions to the speakers and a free exchange of ideas.

Last item on the program was a brief business meeting. The conference resolved that its meetings would be a permanent part of the AAAS annual conventions. Marian Fineman was unanimously elected chairman of the group, which will meet again in Boston in 1953. Mrs. Fineman appointed a steering committee consisting of the six speakers and Jonathan N. Leonard, science editor of *Time* magazine.

MARIAN FINEMAN, *Chairman*

National Association of Science Writers (X7)

Scientific vs. journalistic accuracy was discussed by Edgar Anderson, Washington University botanist, and Harold T. Meek, news editor of the St. Louis *Post-Dispatch*, at the 1952 meeting of the National Association of Science Writers. Dr. Anderson, who is also assistant director of the Missouri Botanical Garden, expressed the belief that St. Louis newspapermen tended to worry too much about technical matters that do not concern the general public and thus missed points of more scientific significance. Mr. Meek stressed the importance of general assignment work as a means of training a science writer. He complained that many persons now writing about science for the press tend to trust scientists too much, frequently are inclined to exaggerate the importance of minor developments, and often oversimplify matters too greatly.

A lively discussion of both speakers' points followed the presentation of their papers. Volta Torrey, editor of *Popular Science Monthly*, presided in the absence of Earl English, of the University of Missouri School of Journalism, who had arranged the symposium.

At a business meeting of the association, which followed the symposium, the invitation of the AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE to meet with the AAAS in Boston, Dec. 26–31, 1953, was accepted. The first issue of a NASW newsletter, to be issued six times a year, was distributed at the St. Louis meeting. This newsletter, edited by John E. Pfeiffer, at the NASW headquarters in the New York Academy of Sciences, will contain special articles written by members of the organization and invited contributors, and will cover the activities of science writers in all parts of the U. S. The NASW now has 89 active and 80 associate members, and will celebrate the 20th anniversary of its founding in 1954. Its objectives are to foster the dissemination of accurate information regarding science through all media normally devoted to informing the public, and to interpret science and its meaning to society.

VOLTA TORREY, *President*

The Society of the Sigma Xi and The Scientific Research Society of America (X9)

The arrangements made at St. Louis for the 53rd annual convention of Sigma Xi and the evening address were entirely satisfactory. With reference to the two Sigma Xi functions, the convention was well attended. There were 89 delegates, representing 79 local groups. The annual address by D. M. S. Watson, on "Africa and the Origin of Man," was attended by very close to a thousand persons. Sigma Xi and RESA will probably meet with the AAAS at Boston next December, although a definite decision will not be reached until the spring meeting of the Executive Committee.

GEORGE A. BAITSELL, *Executive Secretary*

Scientific Book Register

Ciba Foundation Colloquia on Endocrinology. Vol. III, *Hormones, Psychology, and Behavior, and Steroid Hormone Administration;* Vol. IV, *Anterior Pituitary Secretion and Hormonal Influences in Water Metabolism.* G. E. W. Wolstenholme, Gen. Ed.; Margaret P. Cameron, Asst. New York: Blakiston; London: J. & A. Churchill, 1952. Vol. III: 380 pp. and plates; Vol. IV: 591 pp. and plates.

Advances in Carbohydrate Chemistry, Vol. 7. Claude S. Hudson, Melville L. Wolfrom, and Sidney M. Cantor, Eds. New York: Academic Press, 1952. 370 pp. $7.50.

Volume and Integral. Werner W. Rogosinski. Edinburgh–London: Oliver and Boyd; New York: Interscience, 1952. 160 pp. Illus. $1.75.

A Short Course in Organic Chemistry. Harold Hart and Roert D. Schuetz; Herman T. Briscoe, Ed. Boston: Houghton Mifflin, 1953. 326 pp. Illus. $4.50.

Congenital Anomalies of the Heart and Great Vessels. Maurice A. Schnitker. New York: Oxford Univ. Press, 1952. 306 pp. Illus.

Introduction to the Foundations of Mathematics. Raymond L. Wilder. New York: Wiley; London: Chapman & Hall, 1952. 305 pp. $5.75.

A Contribution to the Theory of the Living Organism. 2nd ed. W. E. Agar. Victoria: Melbourne Univ. Press; New York: Cambridge Univ. Press, 1951–52. 235 pp. $3.75.

Strikes—A Study in Industrial Conflict. With special reference to British experience between 1911 and 1947. K. G. J. C. Knowles. New York: Philosophical Library; London: Basil Blackwell, 1952. 330 pp. Illus. $8.75.

Regeneration and Wound-Healing. A. E. Needham. London: Methuen; New York: Wiley, 1952. 152 pp. Illus. $1.75.

Highway Research Board: Proceedings of the Thirty-First Annual Meeting, Vol. 31. National Academy of Sciences–National Research Council Pub. 238. Fred Burggraf, W. N. Carey, Jr., and Walter J. Miller, Eds. Washington, D. C.: Highway Research Board, NRC, 1952. 690 pp. Illus. $7.50.

Record of the Rocks: The Geological Story of Eastern North America. Horace G. Richards. New York: Ronald, 1953. 413 pp. Illus. $6.00.

Student Deferment in Selective Service: A Vital Factor in National Security. M. H. Trytten. Minneapolis: Univ. Minnesota Press; London: Geoffrey Cumberlege, Oxford Univ. Press, 1952. 140 pp. Illus. $3.00.