

# 128th Annual Meeting: Program Summary

## Zoological Sciences (F)

Wednesday 27 December

**Biologists' Smoker.** Joint program of AAAS Sections F—Zoological Sciences and G—Botanical Sciences, and all biological societies. Arranged by Tyler A. Woolley, Colorado State University, and Paul W. Winston, University of Colorado. Financed by donations from zoology and biology departments at Colorado State University, University of Colorado, University of Denver, Colorado College, and Colorado State College.

Friday 29 December

**Zoologists' Dinner** and Vice Presidential Address of Section F. Program of AAAS Section F—Zoological Sciences, cosponsored by the zoological societies meeting at Denver. Arranged by George W. Wharton, Ohio State University. C. Ladd Prosser, president, American Society of Zoologists, will preside. Human values and human genetics, Jack Schultz, Institute for Cancer Research, Philadelphia, and vice president for Section F. The business meetings of both the American Society of Zoologists and Section F will immediately follow the Zoologists' Dinner.

Section F is a cosponsor of the symposia of the American Society of Zoologists, the Society of Protozoologists, and the Society of Systematic Zoology. It is also a cosponsor of the symposium of Alpha Epsilon Delta, Career Opportunities in the Health Professions, 28 December, and of the interdisciplinary symposia on Existing Levels of Radioactivity in Man and His Environment and Geochemical Evolution, both 28 December.

## American Society of Zoologists

Thursday 28 December

Concurrent sessions for contributed papers.

**I: Animal Behavior and Sociobiology, I.** Joint session of the Division of

Animal Behavior and Sociobiology of the American Society of Zoologists and of the Section of Animal Behavior and Sociobiology of the Ecological Society of America, cosponsored by AAAS Section I—Psychology. George Barlow, University of Illinois, will preside.

**II: Histology, Cytology, and Genetics.** Sheila J. Counce, Yale University, will preside.

**III: Demonstrations.** Use of I.B.M. cards for custom-made bibliographic punch card systems, Hermann Meyer. Ultrastructure of nerve and satellite cells of spinal ganglia of rats treated with malononitrile, V. L. van Breemen and J. Hiraoka.

**IV: Animal Behavior and Sociobiology, II.** (Sponsorship as in Session I.) Bernard Greenberg, Roosevelt University, will preside.

**V: Invertebrate Zoology, Parasitology, and Protozoology.** Clarence J. Goodnight, Purdue University, will preside.

28–29 December

**Neurosecretion**, a three-session symposium. Joint program of the Divisions of Comparative Physiology and Comparative Endocrinology of the American Society of Zoologists, cosponsored by the Society of General Physiologists and AAAS Section F—Zoological Sciences. Arranged by Nancy S. Milburn, Tufts University.

Part I, Berta Scharrer, Albert Einstein College of Medicine, presiding. Neurosecretion in *Lumbricus terrestris*, Ernst Scharrer and Stanley Brown. Experimental studies of the neurosecretory activities of the thoracic ganglion of a crab, *Hemigrapsus*, Kunio Matsumoto. A thoracic neurosecretory complex in brachyura, Donald Maynard. Effects of the pericardial neurosecretory substance on the crustacean heart, Ian Cooke. The neurosecretory system of *Leucon maderae* and its role in neuroendocrine integration, Berta Scharrer.

Part II, Ernst Scharrer, Albert Einstein College of Medicine, presiding. Fine structure of cells within the pars

intercerebralis of *Blaberus craniifer* (Blattaria), Robert B. Willey and George B. Chapman. A cytochemical study of neurosecretory and other neuroplasmic inclusions in *Periplaneta americana*, Rudolph Pipa. Neuroendocrine control of mating behavior in cockroaches, Robert Barth. Control of efferent activity in the cockroach cercal ganglion by extracts of the corpora cardiaca, Nancy S. Milburn.

Part III, Aubrey Gorbman, Barnard College, Columbia University, presiding. The caudal neurosecretory system of fishes, Howard A. Bern and Noboru Takasugi. The seasonal secretory cycle of the nucleus lateralis tuberis of the hypothalamus and its relation to reproduction in the eastern brook trout, *Salvelinus fontinalis*, Dorothy C. Billenstein. Inhibitory control of pars intermedia activity by the brain, William Etkin. Neurosecretion in birds, Donald S. Farner and Andreas Oksche. Actions of neurohypophyseal hormones on the membrane of the toad bladder, Alexander Leaf.

Friday 29 December

**Vertebrate Locomotion**, Program of the Division of Vertebrate Morphology of the American Society of Zoologists, cosponsored by AAAS Section F—Zoological Sciences. Arranged by D. Dwight Davis, Chicago Natural History Museum, who will preside. Swimming and the origin of paired appendages, J. R. Nursall. Discussion: Hydrodynamic models for the evolution of body form in scombroid fishes, Vladimir Walters. Walking, running, and jumping, Milton Hildebrand. Discussion: T. H. Eaton, Jr. Gliding and flight in vertebrates, D. B. O. Savile. Discussion: Harvey I. Fisher. Locomotion without limbs, Carl Gans. Discussion: Walter Auffenberg. Bipedal locomotion, Richard C. Snyder. Discussion: E. Lloyd Dubrul.

**Evolutionary Changes in the Hormonal and Neural Bases of Reproductive Behavior**, symposium. Joint program of the Division of Animal Behavior and Sociobiology of the American Society of Zoologists and the Section of Animal Behavior and Sociobiology of the Ecological Society of America, cosponsored by AAAS Sections F—Zoological Sciences and I—Psychology. Arranged by William C. Young, University of Kansas, who will preside. Neural and hormonal factors in sexual behavior in lower vertebrates, Lester R. Aronson. Physiological regulation of reproductive behavior in birds, Daniel S. Lehrman. Neural and hor-

monal factors in sexual behavior in mammals, Robert W. Goy. Sex and the nervous system, Karl H. Pribram.

Concurrent sessions for contributed papers.

**VI: Animal Behavior and Sociobiology, III.** (Sponsorship as in Session I.) William Etkin, Albert Einstein College of Medicine, will preside.

**VII: Developmental Biology, I.** Antone G. Jacobson, University of Texas, will preside.

**VIII: Vertebrate Morphology.** Richard C. Snyder, University of Washington, will preside.

**IX: Comparative Physiology, I.** Arthropod physiology. Nancy S. Milburn, Tufts University, will preside.

#### Saturday 30 December

**Cellular Endocrinology**, symposium. Program of the Division of Comparative Endocrinology of the American Society of Zoologists, cosponsored by AAAS Section F—Zoological Sciences. Arranged by Paul A. Wright, University of New Hampshire, who will preside. The role of ionic factors in hormone action on the vertebrate melanophore, Ronald R. Novales. Influence of the parathyroids on frog bone, Roy V. Talmage and Reiko Yoshida. Cellular effects of the thyroid hormone in different organs and species, Henry Lardy and Ya-Pin Lee. Biochemical changes at the cellular level induced by androgens, Charles D. Kochakian. Mechanism of Action of estrogens, Claude Villee.

Concurrent sessions for contributed papers.

**X: Comparative Physiology, II.** James Case, State University of Iowa, will preside.

**XI: Developmental Biology, II.** Stephen Subtelny, Institute for Cancer Research, Philadelphia, will preside.

**XII: Comparative Endocrinology.** Dorothy Price, University of Chicago, will preside.

**XIII: Comparative Physiology, III.** Donald S. Farner, Washington State University, will preside.

**XIV: Developmental Biology, III.** Douglas E. Kelly, University of Colorado, will preside.

In addition, 54 papers will be read by title.

The American Society of Zoologists is a cosponsor of the symposia of the Society of Protozoologists and the Society of Systematic Zoology, and also of the Section on Medical Science's four-session symposium, Physiological and Biochemical Aspects of Human Genetics, 29 and 30 December. Ar-

ranged by Alexander G. Bearn, Rockefeller Institute and Oscar Touster, Vanderbilt University. The parts of this are: I: Structure and Specific Action of DNA; II and III: Gene-Protein Relationships; IV: Tissue Culture, Immunological and Evolutionary Aspects.

**Library and Book Lounge**, jointly sponsored by the American Society of Zoologists and the Society of Systematic Zoology. Open Wednesday, 27 December, through Saturday, 30 December.

#### Society of Protozoologists

Program chairman: Norman D. Levine.

#### Wednesday 27 December

**Session for Contributed Papers, I.** William Trager, Rockefeller Institute, presiding.

**Biochemical Phyletic Markers among the Protozoa**, round table symposium. Program of the Society of Protozoologists, cosponsored by AAAS Section F—Zoological Sciences. Arranged by Seymour H. Hutner, who will preside. Are there biochemical boundaries to a phylum protozoa? Ellsworth C. Dougherty. Which protozoa (if any) should be called humanoid? Seymour H. Hutner. Biochemical intimations of the phylogenetic position of the ciliates, George G. Holz, Jr. Biochemical taxonomy of trichomonads, John J. Lee.

**Executive Committee Dinner and Meeting.**

#### Friday 29 December

**Contributed Papers, II.** Daniel M. Lilly, St. John's University, Jamaica, New York, presiding.

**Annual Luncheon and Business Meeting.**

**Contributed Papers, III.** Robert Samuels, University of Colorado Medical School, presiding.

#### Saturday 30 December

**Contributed Papers, IV.** Theodore L. Jahn, University of California, Los Angeles, presiding.

#### Society of Systematic Zoology

Program chairman: Charles F. Lytle, Tulane University, New Orleans, Louisiana.

#### 27–28 December

**The Data of Classification**, three-session symposium. Program of the So-

cietty of Systematic Zoology, cosponsored by the American Society of Zoologists and AAAS Section F—Zoological Sciences. Arranged by Richard E. Blackwelder, Southern Illinois University, who will preside. Behavioral study in cricket classification, Richard D. Alexander. Distributional data in troglobite classification, Thomas C. Barr, Jr. Nonmorphological data in anuran classification, W. Frank Blair. Reproductive data in classification, H. B. Boudreaux. Precipitin testing and classification, Alan A. Boyden. Host plant relations as data for butterfly classification, John C. Downey. Anatomical data in duck classification, Philip S. Humphrey. Ecological data in classification, Alan J. Kohn. Nonmorphological data in fish classification, Robert R. Miller. Breeding systems in tundra shorebird classification, Frank A. Pitelka. Crystallographic data in echinoderm classification, David M. Raup. Molecular structure of proteins as data for classification, Charles G. Sibley. Osteological data in mammal classification, Howard J. Stains. (The order of speakers will be announced.)

#### Thursday 28 December

**Coffee Hour** for all systematists and their guests.

#### Friday 29 December

**Biogeography of the Philippine Islands**, two-session symposium. Program of the Society of Systematic Zoology, cosponsored by the American Society of Zoologists and AAAS Section F—Zoological Sciences. Arranged by Walter C. Brown, Natural History Museum, Stanford University and Menlo College, Menlo Park, California, symposium chairman; Alan E. Leviton, California Academy of Sciences; and Charles F. Lytle, Tulane University.

Part I. R. Tucker Abbott, Academy of Natural Sciences of Philadelphia, presiding. Geology and geological history, Grant W. Corby. Phytogeography, Sidney F. Glassman. Recent mollusks, R. Tucker Abbott. Cephalopods, Gilbert L. Voss.

Part II. Walter C. Brown presiding. Fresh-water fishes and Philippine zoogeography, George S. Myers. Reptiles, Walter C. Brown. Birds, Kenneth C. Parkes. Mammals, David H. Johnson. Summary of the symposium, Walter C. Brown.

#### Saturday 30 December

**Annual Breakfast and Business Meeting. Contributed Papers.**

## Zoological and Botanical Sciences (FG)

Section FG—Societies related to both zoological sciences, F, and botanical sciences, G.

### American Society of Naturalists

Wednesday 27 December

**President Address.** Ernst W. Caspari, University of Rochester, presiding. Man's ecological niche, Marston Bates, professor of zoology, University of Michigan; president, American Society of Naturalists.

**Business Meeting.** Marston Bates will preside.

### Beta Beta Beta Biological Society

Wednesday 27 December

**Biennial Business Meeting.** H. P. Sturdivant will preside.

**Luncheon and Address.** H. P. Sturdivant, presiding. Radiation, research, and reason, Martin W. Fleck, University of New Mexico.

### Bio (Biomedical Information-Processing Organization)

Wednesday 27 December

**Invited Papers.** Arranged by Robert S. Ledley, president, National Biomedical Research Foundation, Silver Spring, Md., who will preside. A theory of thinking and the automatic classification of neuropsychiatric behavior disorders, Henry J. Mark. The use of a digital computer for the analysis of genetic linkage in man, Roger W. Sherwin. Patient data processing in the hospital, Charles J. Roach. Computer aids to biochemistry, Robert S. Ledley.

### Biometric Society, Western

#### North American Region

Program chairman: Franklin Graybill, director, statistical laboratory, Colorado State University, Fort Collins.

Thursday 28 December

**Invited Papers, Session I:** Scott Urquhart, Colorado State University, presiding. Quantitative genetic studies on four traits in sugar beets, William Davis and Herbert Bush. Prediction of

gamma fractionated-dose LD<sub>50</sub>'s, W. L. LeSturgeon and J. F. Spalding.

**Session II:** Joint program of the Biometric Society, Western North American Region, and the American Statistical Association, cosponsored by AAAS Section K—Social and Economic Sciences. James A. Niederjohn, Ideal Cement Company, Denver, presiding. On a generalization of the Poisson distribution, George E. Bardwell. Estimation of multiple contrasts using the multivariate *t*-distribution, Olive Jean Dunn. Canonical correlations and their relationship to factor analysis, F. Reid Creech.

The Biometric Society, WNAR, is a cosponsor of the program of the American Statistical Association.

### Ecological Society of America

Chairman, Committee on Meetings: Richard S. Miller, University of Saskatchewan, Saskatoon, Canada.

Wednesday 27 December

**Contributed Papers, Session I:** General Ecology. Ernest M. Kuhinka, Dickinson College, presiding.

**Session II (concurrent):** Animal Ecology. Paul W. Winston, University of Colorado, presiding.

**Session III:** Animal Behavior and Sociobiology, I. Joint session of the Section of Animal Behavior and Sociobiology and the Division of Animal Behavior and Sociobiology of the American Society of Zoologists, cosponsored by AAAS Section I—Psychology.

27–29 December

**North American Arctic-Alpine Ecology,** symposium in several parts; all sessions of the symposium arranged by the local committee of the Ecological Society of America.

Introduction: The Arctic-Alpine Environment, William S. Cooper, University of Colorado, presiding. Introduction and remarks, Robert W. Pennak. Solar and thermal radiation in the Alpine tundra, David M. Gates. Botanical evidence of glacier activity at Mount Ranier, Washington, Robert W. Sigafos and E. L. Hendricks. Solar radiation and Alpine plant temperatures, Frank B. Salisbury. The accumulation of snow in Alpine areas, M. Martinelli, Jr. The environment of the Himalayan Tibetan frontier, Lawrence W. Swan. Ecological diagnostics of Alpine lakes, Robert W. Pennak. The

Alpine and Subalpine climax region environments of the Front Range, Colorado, John W. Marr.

**Part I:** Pattern and Process in Arctic-Alpine Vegetation, session I. Eilif Dahl, Agricultural College of Norway, Vollebakk, presiding. Alpine ecosystems of the northern Rocky Mountains, Richard D. Taber, Robert S. Hoffman, Thomas J. Nimlos, and Samuel Bamberg. Landscape relationships of vegetation and soils in the forest-tundra ecotone, Upper Firth River, Alaska and Canada, Royal E. Shanks and James V. Drew. Turf hummocks in northeastern Greenland, Hugh M. Raup. Primary productivity in cirque lakes of the Klamath Mountains, California, Charles R. Goldman. Net primary production and efficiency of tundra plant communities, Lawrence C. Bliss. The effects of visitor impact on Rocky Mountain Alpine tundra, Beatrice E. Willard. Alpine plant communities in relation to cryopedogenic patterns and processes, Philip L. Johnson.

**Part I (cont.)** Pattern and Process in Arctic-Alpine Vegetation, session II (concurrent with part II). Herbert C. Hanson, Berthoud, Colorado, presiding. Investigations of Arctic and Antarctic vegetation by the Institute of Polar Studies, Emanuel D. Rudolph and J. McCormick. Mycotrophy of Alpine shrubs in the Cascade Mountains, James M. Trappe. Successional potential resulting from differential seedling establishment in Alpine tundra stands, William S. Osburn. The influence of frost action on plant distribution in northwestern Alaska, Albert W. Johnson. An ordination of Alpine vegetation, Richard T. Ward. Ecological study of forest-tundra ecotone at Small Tree Lake, Northwest Territories, J. S. Maini. Alpine and Subalpine vegetation patterns in the White Mountains of California, H. A. Mooney, G. St. Andre, and R. D. Wright. Quantitative aspects of the Alpine vegetation of Iztaccihuatl and Popocatepetl, John H. Beaman. Comparative ecology of Arctic and Alpine plants, W. D. Billings.

**Part II:** Ecology of Arctic-Alpine Invertebrates and Birds (concurrent with part I, session II). Robert W. Pennak, University of Colorado, presiding. Arctic and Subarctic examples of intertidal zonation, D. V. Ellis. Altitudinal succession of Colorado Orthoptera in relation to Hopkins's bioclimatic law, Gordon Alexander. High-altitude ant faunas of Colorado, Robert E. Gregg. Distribution and ecology of Arctic-

Program notes for some sections have appeared in previous issues of *Science*: "Chemistry" and "Mathematics and Related Programs," 27 October, page 1376; "Physics" and "Astronomy," 3 November, page 1438; and "Agriculture," "Geography," and "Geology," 10 November, page 1534.

On page 1616 of this issue appears a coupon which readers can mail in to obtain hotel reservations for the annual meeting.

Alpine butterflies, F. Martin Brown. Some ecological aspects of predation by shrikes in Arctic Alaska, Tom J. Cade. Competition in the genus *Stercorarius* in northern Alaska, William J. Maher. Distribution, overlap, and hybridization of two species of redpolls in Alaska, Paul H. Baldwin.

Part III: Ecology of Arctic-Alpine Mammals (concurrent with part I, session III). Hugo Rodeck, University of Colorado, presiding. Ecology of the terrestrial mammals of the Cape Thompson region, Alaska, William O. Pruitt, Jr. Food habits and some Alpine tundra vegetation interrelationships of the Colorado pika, Mark W. Paddock. The effects of continuous light upon 24-hour activity of Arctic mammals, G. Edgar Folk. Ecological mechanisms in Arctic microtine cycles, Frank A. Pitelka. Caribou year-life history of the barren-ground caribou (*Rangifer arcticus*), William O. Pruitt, Jr.

Part I (cont.) **Pattern and Process in Arctic-Alpine Vegetation, session III** (concurrent with part III). W. D. Billings, Duke University, presiding. Considerations of pattern and process in subarctic Alaskan vegetation, W. S. Benninghoff. Vegetation gradients in Arctic Alaska, John Cantlon. The Nunatak theory reconsidered from a biogeographic and geologic point of view, Eilif Dahl. The vegetation of the Nelchina caribou range, Herbert C. Hanson. Alpine floristic components of the southern Rocky Mountains, William A. Weber.

#### Thursday 28 December

**Contributed Papers, Session I:** Animal Behavior and Sociobiology, II.

Session II: Plant Ecology, John W. Marr, University of Colorado, presiding.

#### Friday 29 December

**Motion Pictures:** Animal Behavior and Sociobiology, III.

#### Mountain Lake Biological Station

Director: James L. Riopel, University of Virginia, Charlottesville.

Program chairman: Horton H. Hobbs, Jr., University of Virginia.

#### Friday 29 December

**Breakfast.** Annual meeting of former students, investigators, and staff.

#### National Association of Biology Teachers

The program of the NABT will be found in the coordinated programs of the Science Teaching Societies, to appear in a subsequent issue.

#### Society of General Physiologists

The society is a cosponsor of the symposium on Neurosecretion, of the American Society of Zoologists.

#### Botanical Sciences (G)

##### Tuesday 26 December

**Session for Contributed Papers.** Harriet B. Creighton, Wellesley College, will preside.

##### Wednesday 27 December

**Plant Biology Today: Advances and Challenges,** symposium. Joint program of AAAS Section G—Botanical Sciences and the Botanical Society of America. Arranged by Harriet B. Creighton, Wellesley College, who will preside.

Part I: The control of plant growth by environment, Anton Lang. Molecular botany, James F. Bonner. The problem of cell development, William A. Jensen.

Part II: "Biological clocks" in plants, Beatrice M. Sweeney. Photosynthesis, Lawrence Bogorad. Translocation: The movement of dissolved substances within plants, Frank B. Salisbury.

**Botanists' Luncheon and Vice Presidential Address.** Speaker, James F. Bonner, California Institute of Technology.

**Biologists' Smoker.** Joint program of AAAS Sections F—Zoological Sciences and G—Botanical Sciences, and all bio-

logical societies. Arranged by Tyler A. Woolley, Colorado State University, and Paul W. Winston, University of Colorado. Financed by donations from zoology and biology departments at Colorado State University, University of Colorado, University of Denver, Colorado College, and Colorado State College.

Section G is a cosponsor of the two interdisciplinary symposia, Geochemical Evolution and Existing Levels of Radioactivity in Man and His Environment.

#### Medical Sciences (N)

##### 29 and 30 December

**Physiological and Biochemical Aspects of Human Genetics.** Four-session symposium of AAAS Section N—Medical Sciences, cosponsored by AAAS Sections C—Chemistry, H—Anthropology, and Nd—Dentistry, and by the American Society of Zoologists. Arranged by Alexander G. Bearn, Rockefeller Institute, and Oscar Touster, Vanderbilt University.

Part I: Structure and Specific Action of DNA, Gunther S. Stent, University of California, Berkeley, presiding. The biological aspects of the reversible denaturation of DNA, J. Marmur. Studies of the process of replication of a single-stranded DNA, R. L. Sinsheimer. The priming role of DNA and RNA in ribonucleic acid biosynthesis, J. J. Hurwitz. The control of genetic activity, A. E. Mirsky.

Part II: Gene-Protein Relationships, session I, A. G. Bearn, Rockefeller Institute, presiding. The role of gene-specific DNA in the cell-free synthesis of  $\beta$ -galactosidase, G. D. Novelli. The gene and protein structure, David M. Bonner. Gene-protein relationships in human hemoglobin, C. Baglioni. Genetic and biochemical aspects of haptoglobins, O. Smithies.

Part III: Gene-Protein Relationships, session II, B. Childs, Johns Hopkins Hospital, presiding. Genetic control of variations in gamma globulins, A. G. Steinberg. Variants of human glucose-6-phosphate dehydrogenase, H. N. Kirkman. Population genetics of glucose-6-phosphate dehydrogenase deficiency, A. G. Motulsky. Genetics and specificities of antibodies, R. Ceppellini.

Part IV: Tissue Culture and Immunological and Evolutionary Aspects, T. Dobzhansky, Columbia University, presiding.

## GRASSLANDS

Editor: Howard B. Sprague 1959

6" x 9", 424 pp., 37 illus., index, cloth. Price \$9.00, AAAS members' cash orders \$8.00. AAAS Symposium Volume No. 53.

This volume is intended as a review of knowledge on many aspects of grasslands resources. The 44 authors were selected by their own professional colleagues as being particularly competent to present the respective subjects. Thirty-seven papers are arranged under these chapter headings:

1. Sciences in Support of Grassland Research
2. Forage Production in Temperate Humid Regions
3. Engineering Aspects of Grassland Agriculture
4. Forage Utilization and Related Animal Nutrition Problems
5. Evaluation of the Nutritive Significance of Forages
6. Grassland Climatology
7. Ecology of Grasslands
8. Range Management

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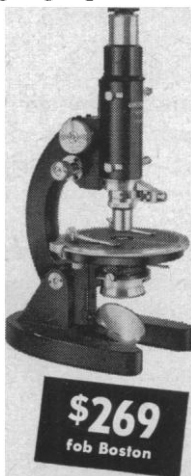
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**Vice Presidential Address.** Genetic variations in human structure and function and their influence on medical care, John B. Youmans, director of scientific activities, American Medical Association; vice president for Section N. Presentation of the 17th Theobald Smith Award. Genetic studies with human cells, T. T. Puck. Immunological aspects of human genetics, R. D. Owen. Origin and development of isozymes, C. L. Markert.

### Alpha Epsilon Delta

Thursday 28 December

**Career Opportunities in the Health Professions.** Program of Alpha Epsilon Delta, cosponsored by AAAS Sections C—Chemistry, F—Zoological Sciences, N—Medical Sciences, and Nd—Dentistry, and by Beta Beta Beta Biological Society. Arranged by Norman F. Witt, professor of chemistry, University of Colorado, national president, who will preside. Medical needs for the future, A. N. Taylor. Dental needs for the future, Reidar F. Sognaes. Panel discussion: Opportunities in medicine, Reginald H. Fitz, moderator. Panel members: Philip B. Price, Bill C. Garoutte, and Philip E. Smith. Panel discussion: Opportunities in dentistry, Hamilton B. G. Robinson, moderator. Panel members: Willard C. Fleming, Harold J. Noyes, and Ben C. McKinney.

**Luncheon and Address.** The challenges and opportunities in medical education, Robert J. Glaser, vice president for medical affairs, and dean, School of Medicine, University of Colorado Medical Center, Denver.

**Conferences with Admissions Officials.** Visit to University of Colorado Medical Center.

### American Physiological Society

The Society has arranged a joint program for session II of the American Astronautical Society's three-session symposium on Manned Lunar Flight. The Society is the cosponsor of sessions I and III of the symposium [*Science*, 134, 1438 (3 Nov. 1961)].

### American Psychiatric Association

Program chairman: David A. Hamburg, Stanford Medical Center, Palo Alto, California.

Wednesday 27 December

**Genetics and Evolution in Relation to Human Behavior.** Two sessions: Program of the Committee on Research of the American Psychiatric Association, cosponsored by AAAS Section I—Psychology, and the American Anthropological Association.

Session I, David A. Hamburg, presiding. An outline of human evolution, S. L. Washburn. Baboon behavior, S. L. Washburn and Irven DeVore. Evolution of primate social behavior, Irven DeVore.

Session II. Evolution of culture in Africa, J. Desmond Clark. Selective forces in the evolution of man, Ernst W. Caspari. What is "inheritance of behavior"? Theodosius Dobzhansky.

### Dentistry (Nd)

**Oral Aspects of Genetics.** Two-session symposium of AAAS Section Nd—Dentistry, cosponsored by AAAS Section N—Medical Sciences, the American College of Dentists, American Dental Association, and the International Association for Dental Research, North American Division.

Program chairman: Albert A. Dahlberg, University of Chicago.

Wednesday 27 December

Session I, Albert A. Dahlberg, presiding. Recent advances in dental genetics, Carl J. Witkop, Jr. The respective roles of twin, sibling, family, and population methods in dento-medical studies, Richard H. Osborne. Effects of heredity and environment on the development of the dentition, Jerome D. Niswander. Chromosome nondisjunctions and oral anomalies, Robert Gorlin. The effectiveness of selection in producing laboratory stocks genetically uniform for resistance or susceptibility to dental caries, Harrison R. Hunt and Samuel Rosen.

Session II, Albert A. Dahlberg, presiding. Family studies of the facial complex, Bertram Hanna. Some clinical aspects of genetic research in dentistry, Sidney L. Horowitz. Third molar polymorphism and dental genetics, Stanley M. Garn and Arthur B. Lewis. The regulative changes in tooth germs grown in tissue culture, Shirley Glasstone Hughes. Discussion by symposium participants.

Section Nd is a cosponsor of the program of Alpha Epsilon Delta, of Section N's four-session symposium,



Physiological and Biochemical Aspects of Human Genetics, and of the interdisciplinary symposium, Existing Levels of Radioactivity in Man and His Environment.

## Pharmacy (Np)

Wednesday 27 December

**Contributed Papers:** Hospital Pharmacy. Arranged by George F. Archambault, Don E. Francke, and Joseph A. Oddis.

Session I: George F. Archambault, presiding.

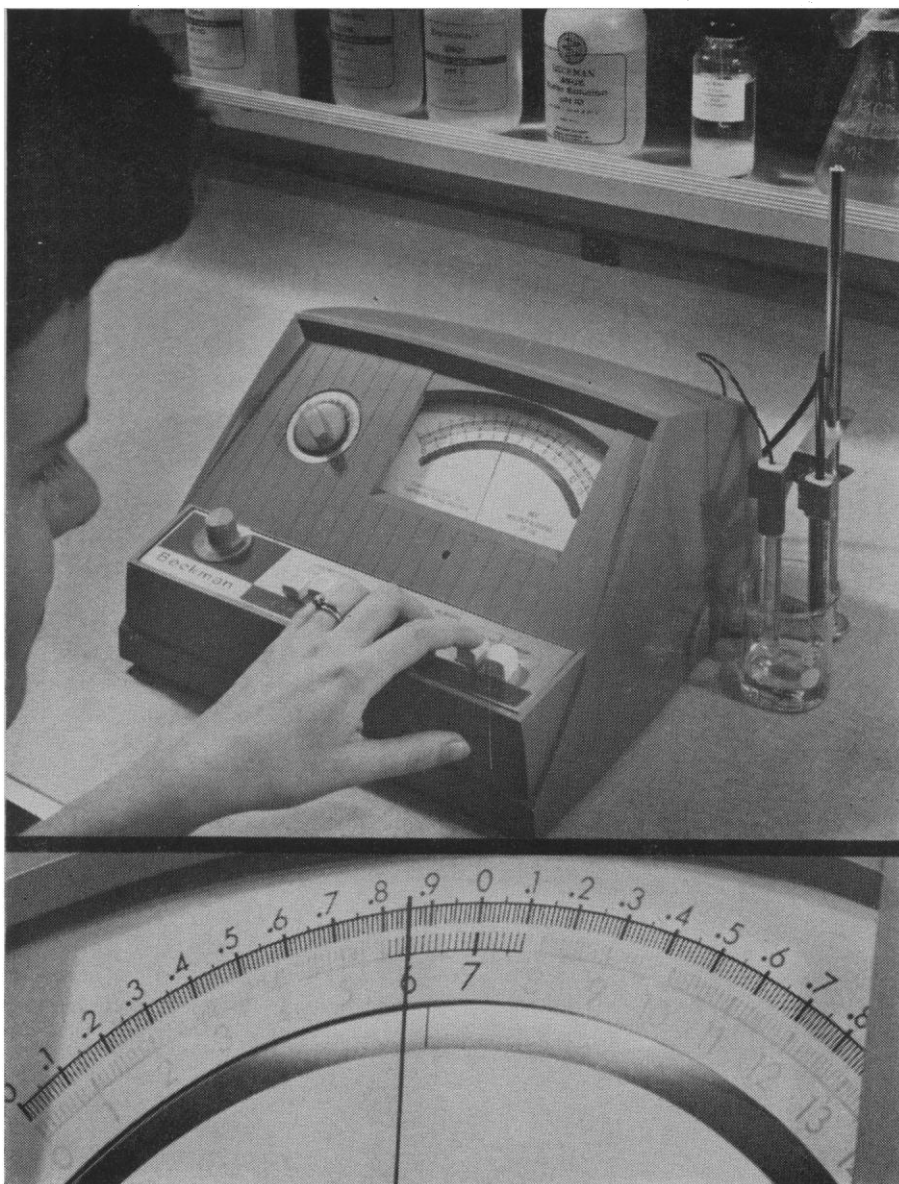
Hospital Pharmacy, Session II: Don E. Francke, presiding.

**Vice Presidential Address of Section Np.** George F. Archambault, presiding. Pharmacy and hospital pharmacy, Joseph A. Oddis, American Society of Hospital Pharmacists; Division of Hospital Pharmacy, American Pharmaceutical Association; and Vice President of Section Np.

Thursday 28 December

One of the four interdisciplinary symposia at the Denver meeting has been the responsibility of Section Np. The Interdisciplinary Symposium in the Biological-Medical Sciences, **Existing Levels of Radioactivity in Man and His Environment: Measurement and Significance**, is a joint program of AAAS Sections Np-Pharmacy, F-Zoological Sciences, G-Botanical Sciences, H-Anthropology, I-Psychology, N-Medical Sciences, Nd-Dentistry, O-Agriculture, and Q-Education. Arranged by John E. Christian, Purdue University, who will preside. Introductory remarks and radioisotope demonstrations, John E. Christian. Radioactivity levels in man and his environment—contribution and potential hazards of reactor and isotope-powered vehicles, Wright H. Langham. Existing levels of cosmic-ray produced radioactivity—present and potential applications to archeology, meteorology, geochronology, and oceanography, James R. Arnold. Measurements of the existing radioactivity of people and foods. Applications of nondestructive measurements of body composition (potassium, lean, fat, water), medical diagnosis, age studies, and fall-out studies. Ernest C. Anderson. The relationship of existing radiation levels to carcinogenesis, P. R. J. Burch. Question and discussion session.

The seven remaining sessions of the program of AAAS Section Np-Phar-



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**Friday 29 December**

**Contributed Papers.** Arranged by John E. Christian. John Autian, University of Texas, and Wayne Kessler, Purdue University, presiding.

## Meetings

### Electron Microscopy

The 19th annual meeting of the Electron Microscope Society of America was held in Pittsburgh, Pennsylvania, from 23 to 26 August 1961. This meeting brought together more than 706 active workers in electron microscopy from 24 states, Canada, Australia, Great Britain, Belgium, Germany, and

Japan. It was the largest meeting in the history of the society. There were ten general sessions of contributed papers (five in the biological fields, five in non-biological areas), a special session on techniques, and three symposia. There were 19 scientific exhibits and some 180 contributed papers on the techniques and applications of the electron microscope to studies in biology, chemistry, medicine, cancer, metallurgy, electron diffraction, and related fields.

In the symposium on the contribution of electron microscopy to polymer morphology, organized by R. G. Scott (Du Pont Experimental Station), seven experts in this field discussed, respectively, x-ray diffraction as applied to polymers, spherulites, electron diffraction as applied to single crystals, the morphology of polymers, fiber microscopy, and electron diffraction as applied to synthetic fibers. This symposium summarized the new phases of technology and applications of electron microscopy in the field of polymer science.

Rubin Borasky (University of Illinois) arranged and directed the symposium on ultrastructure of protein fibers. The papers on physical, chemical, and mechanical properties of protein fibers in muscle and keratin summarized the recent contributions to the science of fiber structure.

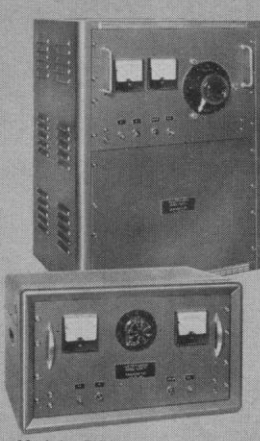
The symposium on the fine structure of viruses, arranged by A. F. Howatson (University of Toronto), was especially noteworthy in that the presentation of papers on recent advances in fine structure, animal virus structure, electron microscopy of nucleic acids and proteins, structures of bacteriophages, and studies on the fine structure of foot-and-mouth-disease virus brought together, in a very logical sequence, information on the recent improvements in the techniques of replication, shadow-casting, thin sectioning, and "negative-contrast" staining and their application and interrelationships in obtaining new information on the structure of viruses.

President D. Maxwell Teague and president-elect Keith R. Porter and the organizing committee announced plans and arrangements for the 5th International Congress for Electron Microscopy, to be held in Philadelphia from 29 August through 5 September 1962.

The Electron Microscope Society of America will be host to the International Federation of Electron Microscope Societies at this congress, which will emphasize the new and unique

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