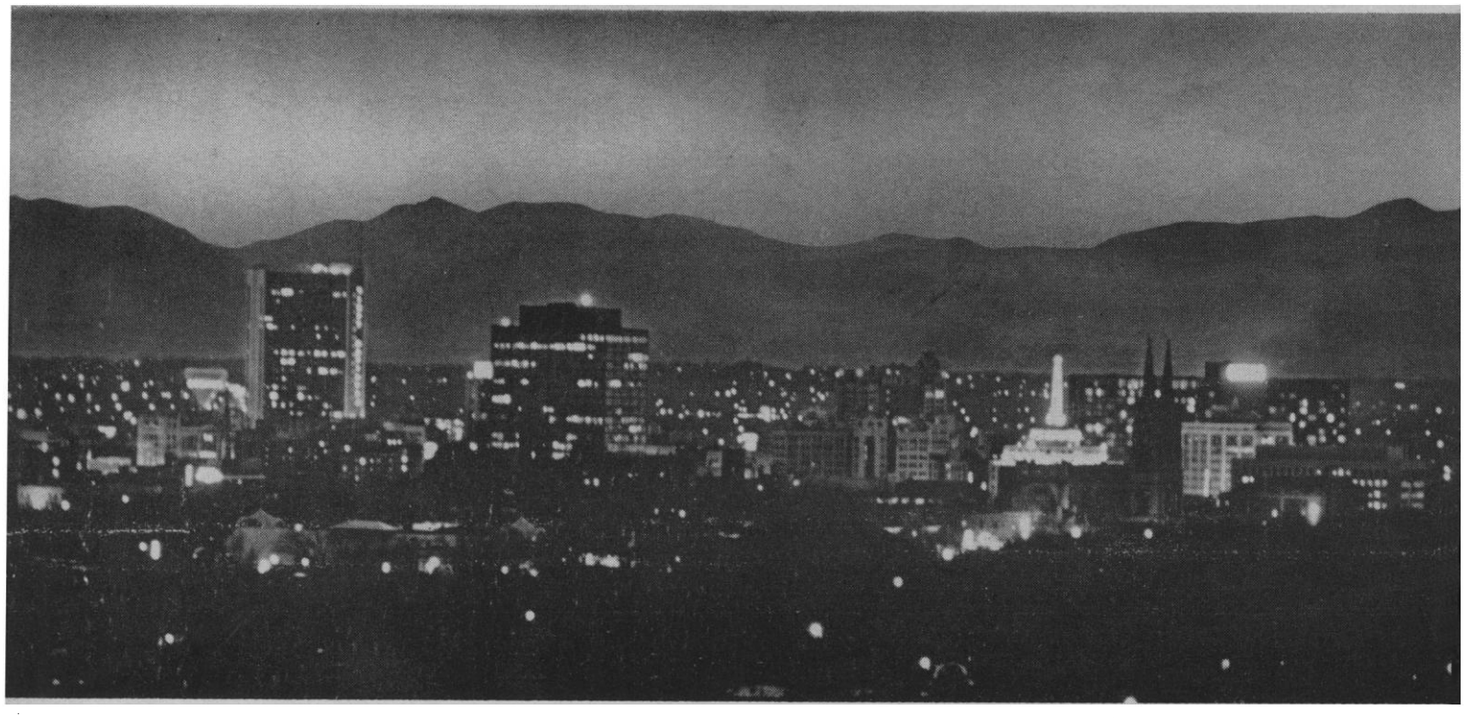


# Denver: 128th Annual Meeting

The guests at Denver's hotels, Horace Greeley wrote, had a "careless way, when drunk, of firing revolvers, sometimes at each other." There's no longer any shooting in the Brown Palace bar, and physicists are much thicker in Colorado than sourdoughs and cowmen. The mining West of false fronts and plank sidewalks has been replaced by prize-winning architecture and mountain-top laboratories where astrophysicists seek the origin of cosmic rays and study the effect of the sun upon the earth's weather.

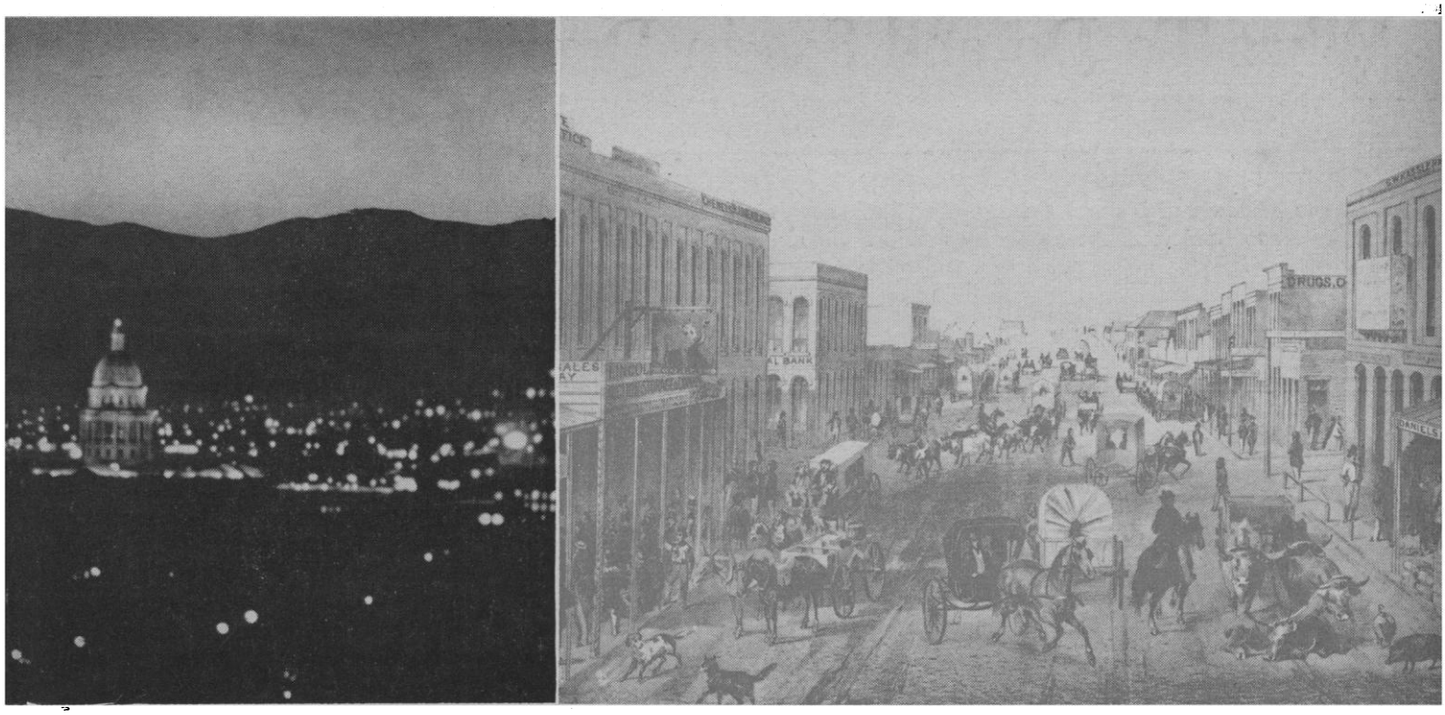
There's some suggestion that the Wild West became especially wild for Greeley's benefit. At any rate, the local folk managed to gull the distinguished Eastern editor with a hoax that brought new thousands to rocky fields where pots of gold were nonexistent, and even pots of beans were scarce. The prospectors used a shotgun to salt a sandbar in Gregory Gulch with gold for Greeley. Greeley obligingly turned over the sand to discover the gold and wrote of his experience in tones of wonder that not only came out as an "exclusive" in the Rocky Mountain News (which printed on brown wrapping paper), but also made headlines around the world.

If you want to see that rococo monument of the silver bonanza, the Tabor Grand Opera House, you will find it on 16th St. The stage where Sarah Bernhardt and Edwin Booth walked is now used for Spanish-language movies. The cherrywood from Japan and carved Honduran mahogany which H. A. W. Tabor put into his flourish of civic pride has long since been stripped away, and the great chandelier lies covered with dust in the basement. Tabor, who rose from small storekeeper to appear on the floor of the U.S. Senate in a blaze of diamond studs, is one of the big figures of the Denver legend. Although he died penniless after the silver panic of 1893, he never lost faith in the Leadville mines where he had made his strike. "Hold onto the Matchless," he told his beautiful young wife, Baby Doe. And she did, until they found her, frozen, in an unheated shack near the mouth of the Matchless mine in 1935.

The splendid Brown Palace Hotel and the gold-leaf dome of the State Capitol are other reminders of the giddy era when it was sourdough today and champagne tomorrow, when rosewood pianos rode the narrow-gauge railways, pure gold frames hung on the barroom walls, and the lucky ones stopped at Delmonico's for beaver tail soup and Baltimore oysters after their trip to Denver's private mint. But the majority tired of washing dirt for a take of a few dollars a day and traded their claims for a plough.

A much older segment of Colorado's past is part of its scientific present at Mesa Verde, where archeologists are using radio beams to map their digging sites. The diggers hope eventually to unearth an explanation of why an industrious early society of squash planters and pottery makers abandoned the cliff dwellings they carved out of the mesa tops. At the annual meeting, these researchers will tell about the work in progress.

The Mesa Verde cliff dwellers told time by the sun, and astronomical observations remained the basis for measuring the passage of time through the busy centuries that followed. But now in the National Bureau of Standards



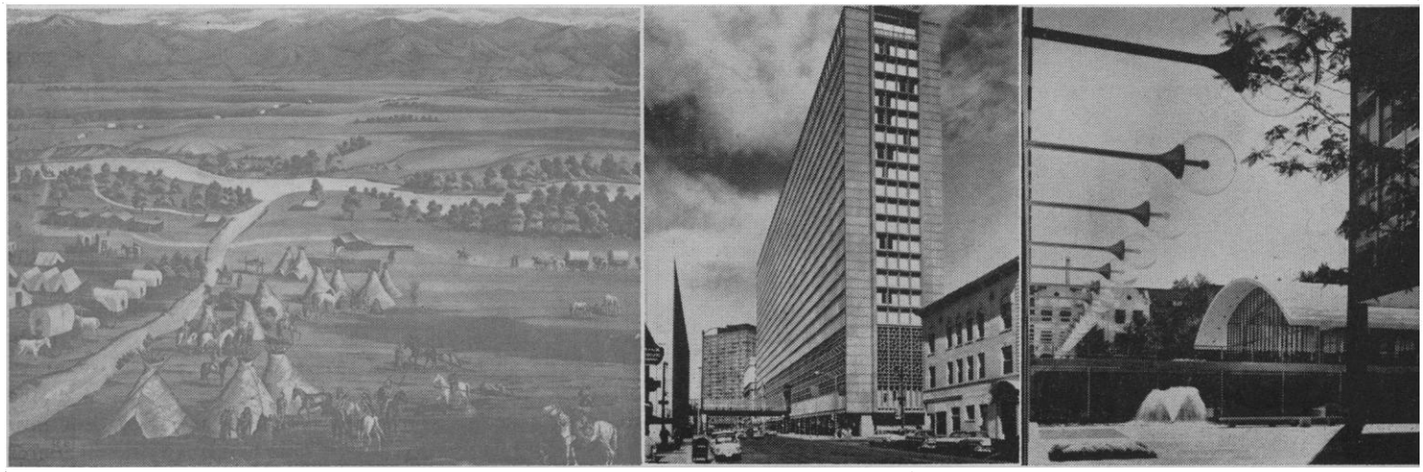
*Fred Maroon photograph reproduced by permission of Holiday, copyright 1961, Curtis Publishing Co. Denver in 1866, by A. E. Mathews, courtesy of the Library of Congress.*

laboratory at Boulder the flow of atoms in a cesium beam provides a new time standard. Clocks timed by astronomical observations lose a second every 300 years, and while this has been adequate for such terrestrial affairs as war and gold mining, it is not accurate enough for space exploration. When the Bureau concludes its work on the new time unit about 1966, the standard second now in use may go the way of the sun dial.

If you'd like to know more about the Bureau's atomic clock and how it provides a time standard now used by many sorts of laboratories in the U.S., be sure to attend the symposium on physics research in the Rocky Mountain area on Wednesday. Here John M. Richardson of the Bureau's Boulder laboratory will bring us up to date on atomic definition of time. The West's present scientific wealth will be abundantly represented at this symposium; we have space to mention only a few examples: Los Alamos scientists will report on a method for detecting nuclear explosions in space; a Martin Co. scientist will review this company's work in solid state research; a physicist from the University of Wyoming will report on recent physical explorations of certain areas in biochemistry.

Colorado's glittering past and its unsurpassed natural wonders make the annual meeting even more of a holiday than usual. So don't forget your skis, and bring the whole family. While you are exploring the over-300 sessions of the program outlined in summary form on the following pages, the young people can enjoy the museums, ski slopes and other sights also listed.

*Denver looked like this before the Gold Rush. Now city boasts buildings by architect I. M. Pei, Hilton Hotel and Mile High Center (right), which won the American Institute of Architects' award of merit for design excellence.*



# What To Do and See in Denver

*By Essie White Cohn, Department of Chemistry, University of Denver*

## Museums

**Colorado Museum of Natural History**. City Park, near 18th and Colorado Boulevard. Accessible by Number 40 bus.

Excellent original exhibits, including particularly fine South American animal displays. Dramatic display effects achieved by modern mounting techniques. Ecological Hall shows local animal and plant life. Audio tour. Small planetarium. On a clear day, lounge offers view across City Park to the front range of the Rockies, including 14,264-foot Mt. Evans.

**Schleier Art Gallery**. 1343 Acoma Street. About two blocks from the Denver Hilton Hotel.

European and modern paintings, furniture and statuary of Western origin, display of early American home furnishings.

**Oriental Art Museum**. 14th and Bannock Streets. Adjacent to Schleier Art Gallery.

Small museum with high-quality selection.

**Chapelle House**. 1300 Logan Street.

Indian artifacts of high quality.

**State Historical Society**. 14th and Sherman Streets. Across from State Capitol.

Good collection of early-day Colorado items.

## Universities and Laboratories

**University of Denver**. Science departments located on South Denver campus at South University and East Evans Avenue.

In addition to academic departments, houses Denver Research Institute. Strong divisions in electronics, metallurgy, mechanics, chemistry, and physics.

**Regis College**. West 50th Avenue and Lowell Boulevard.

Principal scientific interest is seismography.

**Colorado School of Mines**. Golden, 15 miles west of Denver.

Noted training center for the mining industry. Fine mineral exhibits. Research institute particularly interested in processes for separating complex ores.

**University of Colorado**. Boulder, 35 miles northwest of Denver.

Excellent campus, beautiful architecture, interesting departmental exhibits and collections. Also site of the offices of the High Altitude Observatory.

The University of Colorado School of Medicine is in Denver at 4200 East 9th Avenue.

**Colorado State University**. Fort Collins, 65 miles north of Denver.

Special interest in agriculture; specialized studies in hydraulics.

**U.S. Air Force Academy**. Five miles north of Colorado Springs.

**Colorado College**. Colorado Springs.

Excellent liberal arts college.

**National Jewish Hospital**. East Colfax Avenue at Colorado Boulevard, Denver.

Noted particularly for its research in the field of tuberculosis.

**Denver and Rio Grande Western Railroad Company**. General Office: 1531 Stout Street, Denver.

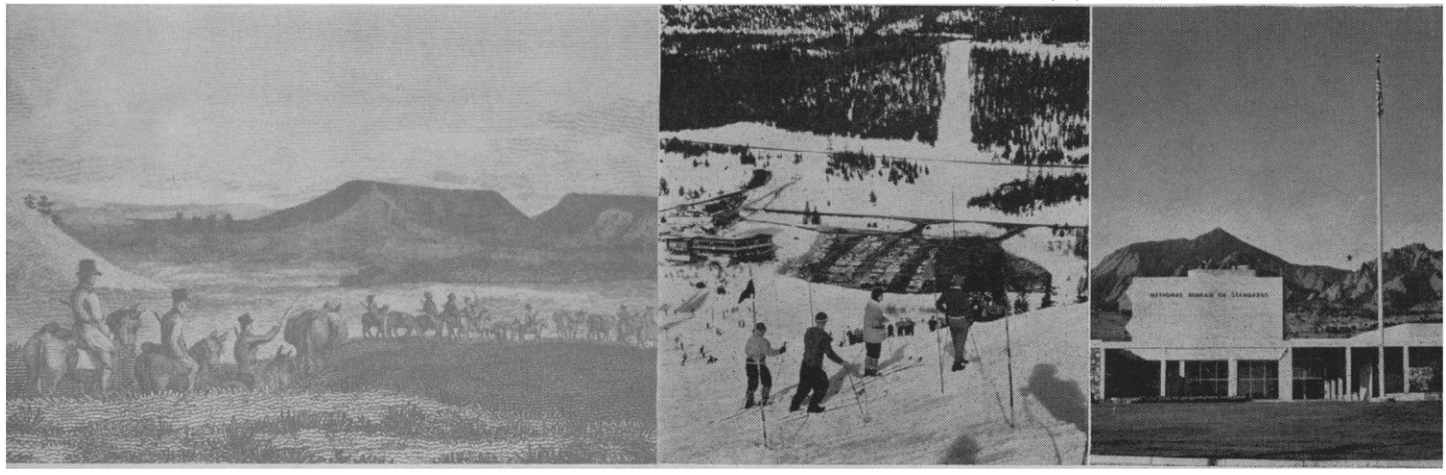
High-quality small laboratory responsible for many innovations in railroading. Especially interested in electron microscopy of oils, photoelastic studies in stress, and developments in nuclear energy applied to transportation.

**Coors Porcelain Company**. Golden, 15 miles west of Denver.

Manufacturers of chemical porcelain ware and porcelain specialties for defense industries.

*Major Stephen Long and his 20-man expedition, shown here in old engraving, were among the first Americans to see the snowy Rockies, now full of skiers. Ski slope below at Berthoud Pass is 57 miles from Denver. Aspen's 40 miles of trails are 210 miles west of Denver. National Bureau of Standards Laboratory at Boulder will hold open house during week of meeting.*

[*Courtesy Library of Congress (left); National Geographic Society (middle)*]



**William Ainsworth and Sons, Inc.** 2151 Lawrence Street, Denver.

Manufacturers of high-precision balances. Late developments include electronic recording micro-balances.

**Martin Company, Denver Division.** 12250 South Highway, Littleton, south of Denver.

Missile production (including Titan ICBM). Research units at the site and also at Cambridge Building, 4301 East Exposition Avenue, Denver.

**Stanley Aviation Company.** 2501 Dallas, Denver.

Manufacturers of aviation specialties.

**Sundstrand Corporation, Denver Division.** 2480 West 70th Avenue.

Manufacturers of aviation specialties.

**U.S. Bureau of Reclamation.** 10 miles west of Denver.

Hydraulics laboratories and concrete testing laboratories are of special interest.

**U.S. Bureau of Standards Laboratories.** Boulder.

Consists of three sections: (i) general electronics, (ii) microwaves, (iii) cryogenics.

**High Altitude Observatory.** Offices in Boulder. Laboratory at Climax, Colorado, about 125 miles from Denver by mountain highways. May not be accessible in December.

This nationally known institution has been primarily interested in coronagraph studies but is expanding into the field of general meteorology.

**Inter-University High Altitude Laboratory.** Offices, University of Denver; laboratories, Echo Lake and Mt. Evans. Mt. Evans laboratory inaccessible in December, and Echo Lake laboratory (65 miles from Denver by mountain road) may not be accessible in December.

Well known for studies in cosmic rays and is becoming known as a center for high-altitude studies in biology.

## Public Buildings

**Colorado State Capitol.** Overlooking Civic Center from the east. Dome covered with gold leaf from Colorado mines.

**United States Mint.** West Colfax at Cherokee. Stores more gold bullion ($6 billion worth) than any other U.S. depository except Fort Knox. Tours by special arrangement.

**Theater of the Red Rocks.** Red Rocks Park, off Hogback Road. An amphitheater carved from tower red cliffs.

## Restaurants

**Palace Arms,** Brown Palace Hotel. One of this country's great restaurants.

**Navarre.** 1727 Tremont. Atmosphere and fine food.

**La Fitte.** 14th at Larimer. Seafood; elegant New Orleans decor.

**Quorum.** 233 East Colfax. Opposite State Capitol. Fine French cuisine.

# Gold Hunters' Guide


The pictographs identified below are intended to guide you through the day-by-day summary of the annual meeting which follows.

- AAAS as a whole
- Agriculture
- Anthropology
- Astronomy
- Biological sciences
- Botanical sciences
- Chemistry
- Dentistry
- Education
- Geology, geography
- History, philosophy of science
- Industrial science
- Mathematics
- Medical sciences
- Pharmacy
- Physics
- Psychology
- Social and economic sciences
- Space science
- Science in general (Sci Teach)
- Zoological sciences
- Lunch
- Dinner
- Cocktails
- Reception or mixer

# Tuesday

## 26 December 1961

- Survival Symp. Comm Sci Human Welfare
- Econ of Information, Am Econ A
- Empiricism and Status of Theories I
- Ground Water Geology I Symp
- Geography I, Papers AAG
- Papers
- Joint session with CEC
- Moving Frontiers of Science I, AAAS
- Prediction and Causality II

# Wednesday

27 December 1961

Space Biochem
Biology Symp I

Monosaccharides, Symp

AAG Geography
Papers II

Geology Papers

Rocky Mt Physics
Symposium I

AAS Concurrent
Papers

AAS Papers

Teacher Education
AAAS Comm
NARST

Session with CEC, II

Oral Aspects of
Genetics
Symposium I

Land and Water Use
Symposium I

General Ecology,
ESA Papers

Animal Ecology,
ESA Papers

Hospital Pharmacy,
Papers I

Plant Biology Symp I

PS Papers I

History, Philosophy
of Science, III

Sci Teach
Molecular Biology
Symposium

Genetics, Evolution.
Human Behavior I,
PA

ASN President's
Address

VP
Address,
Award

Sci Teach
NABT
Address

Address
(12:30)

VP
Address

# Thursday

28 December 1961

Arctic-Alpine Vegetation
Symp I, ESA

Physics of the Upper Atmosphere Symp

Water and Climate Symp

Geochemical Evolution I

Radioactivity in Man

Neurosecretion
Symp I, ASZ

Animal Behavior I
ASZ, ESA Papers

Histol Cytogenet,
Papers ASZ

Demonstrations
ASZ, Papers III

Classification, Data,
Symp II, SSZ

Sci Teach
Outdoor Nature
Interpretation, AN

Accent on
Investigating II,
NABT

Science Facilities I
NSTA

Biomet WNAR
Papers

Concept of Race
Symp

Geography IV
Papers AAG

Induction VP
Address

Opportunities in
Health Professions
AED

Sci Teach
Presidential Address,
NABT

AED
Address
(12:15)

# Friday

29 December 1961

Arctic-Alpine Mammals Symp, ESA

Arctic-Alpine Vege, ESA Symp III

AS Address

Teaching Machines, Math Symp, AAAS Comm

Neurosecretion Symp III, ASZ

Vertebrate Locomotion Symp, ASZ

Animal Behavior III, ASZ, ESA Papers

Develop Biology I, ASZ Papers

PS Papers II

Biogeography of Philippines, Symp I, SSZ

Human Genetics I

Machines and Brains VI

Teaching Systems Thinking Symp, SGSR

Manned Lunar Flight AS Symp I

Civilizations in Desert Land, Symp

Geochemical Evolution Symposium II

Rural Crime Control I, Criminol

Sociology of Medicine, Sociol Symp

Management Science Symp, IMS

Papers

Land and Water Use IV

VP Address, Papers I

Sci Teach — Biology Films, NABT

Space Science Vista III NSTA

Speleogenesis, NSS

Aspects of Sleep, Symp

AAS Papers

ESA ANNUAL CONVENTION

Goals of Psychotherapy Symp I (10:45)

Address

AAAS Section Officers

AS Address

SIGMA XI PROCTER PRIZE, RESA ADDRESS

AAS Society Photograph

# Saturday

30 December 1961

Water Improvement Symp I, Comm Arid Zones

AAS Papers

AAS Concurrent Papers

Criminol Research IV, Criminol

Government Price Statistics, Am Stat

Interdepend Archeol and Ethnol Symp

Appetite Behavior Symp

Nature of Historical Explanation VIII

Human Genetics Symp III

AAAS Council Meeting II

Preteaching Students Symp, AERA

Papers

Cellular Endocrinology Symp, ASZ

Comp Physiology II Papers, ASZ

Dev Biology II Papers, ASZ

PS Papers

Sci Teach — Rocky Mountains, Natural History, ANSS

Accent on Investigating IV, NABT

Science Curricula IV, NSTA

Applied Anthropology

Papers

SSZ Papers

Conf Scientific Communica (12:30)

Colo STA Address

# Wednesday PM

27 December 1961

BBB Address

VP Address

Arctic-Alpine Environment, ESA Symp

Information Processing, BIO Papers

Social-Behavorial Research Problems

Hospital Pharmacy, Symp II, Papers

Ground Water Geology, Symp II

Land, Water Use, Symp II

Sci Teach — Elementary Science, All Societies

Collegiate Academies, AC Debate

Oral Aspects of Genetics II, Symp

Space Biochem, Biology, Symp II

Polysaccharides, Symp

Biochem Phyletic PS Symp

Data Classification, Symp I, SSZ

Genetics, Evolution, Human Behavior II, PA

VP Address

Conventionalism and Laws in Mod Physics

Geography III, AAG Papers

Physics of Rocky Mt Area, Symp II (2:30)

Sci Teach — Nature Study around World, ANSS

Earth Science, Symp I, NSTA

Plant Biology Today, Symp II (2:30)

Accent on Investigating I, NABT (All 2:30)

AAS Papers

AAS Concurrent Papers

Sci Teach — Elementary Science, AAAS Coop Comm

AAAS Council I

ACS

Conf Sci Manpower, Address

Sci Teach

NASW

Geologists'

AAG Geographers'

AC

NASW Awards

VP Address

Glenn Seaborg: 29th John Wesley Powell Lecture (8:30)

Helen B. Warner Lecture, AAS

Intern Relations

# Thursday PM

28 December 1961

AAAS George Sarton Memorial Lecture

Arctic-Alpine Vegetation, Symp II, ESA

AAAS Moving Frontiers of Science II

AC Junior Science

Neurosecretion Symp II, ASZ

Animal Behavior II, ASZ, ESA Papers

Invert Zoology, ASZ Papers

ASZ Demonstrations

Classification Data, Symp III, SSZ

Sci Teach — International Resour Development Symp, ANSS, NABT

Accent on Investigati III, NABT

AS Tour, Martin C

Arctic-Alpine Inverte brates, Birds, ESA S

Man and the Computer ACM Papers

Biomet, WNAR Pap

Plant Ecology, ESA Papers (2:30)

Demonstrations, Films, AAS (3:30)

SSZ, Systematists, Coffee (4:30)

WOMEN IN SCIENCE, TEA, SDE (4:30)

AAS

AS Registration

AAAS Presidential Address

AAAS Presidential Reception (9:15)

# Friday PM

29 December 1961

Land and Water Use Symp V

Human Genetics Symp II

Early Man in Western U.S., Symp

Wetherill Mesa Project, Symp

Vert Morphology, ASZ Papers

Arthropod Physiol, ASZ Papers

Reproductive Behavior, ASZ, ESA

Biogeography of Philippines Symp II, SSZ

Prob in Contemporary Penology, Criminology

Amer Highway Operation Symp, Am Stat

Manned Lunar Flight II, Physiol

Shaping of a Scientist, Symp

Goals of Psychotherapy Symp II

Biology and Math Symp, SIAM (2:30)

Sci Teach

NARST Research Symp

Extracurricular Motivation for Science, Sci Serv

NABT, Films

Catholic H.S. and the BSCS, NABT

Methodological Problems VII

Law, Science and Decision-Making, Phil of Sci

Organic and Biochem Papers

Analytical and Phys Papers

Magnetic Fields in Solar System Symp, AAS

NSS General Session

AS Manned Lunar Flight III (4:15)

Appetite Behavior Papers II (4:30)

Zoologists' VP Address, ANSS

AS Film

(7:30)

gma Xi, Phi Beta K Address
au Beta Pi Address (9:15)

Criminol Awards Memorial Meeting

# Saturday PM

30 December 1961

Recomm Training Math Teachers, CUPM

Animals in Human Ecology

Incest in Cross-Species Perspective

Human Genetics Symp IV

VP Address

Conf Sci Commun Inaug New Section

Water Improvement Symp II

Comp Endocrinology, ASZ, Papers

Comp Physiol III, ASZ, Papers

Dev Biology III, ASZ, Papers

Control of Verbal Behavior, Symp

Technol in Educa Symp, AERA

Papers

Museum School Service, ANSS, NABT

Twentieth Century Policing V, Criminol

AAG: Association of American Geographers
AAS: American Astronomical Society
AC: Academy Conference
ACM: Association for Computing Machinery
ACS: American Chemical Society
AED: Alpha Epsilon Delta—National Premedical Honor Society
AERA: American Education Research Association
ANSS: American Nature Study Society
APSA: American Political Science Association
AS: American Astronautical Society
ASN: American Society of Naturalists
ASZ: American Society of Zoologists
BBB: Beta Beta Beta Biological Society
BIO: Biomedical Information-Processing Organization
BSCS: Biological Sciences Curriculum Study
CEC: Council for Exceptional Children
CUPM: Committee on Undergraduate Program in Mathematics
ESA: Ecological Society of America
IMS: Institute of Management Sciences
NABT: National Association of Biology Teachers
NARST: National Association for Research in Science Teaching
NASW: National Association of Science Writers
NSTA: National Science Teachers Association
NSS: National Speleological Society
PA: American Psychiatric Association
PS: Society of Protozoologists
RESA: Scientific Reseach Society of America
SDE: Sigma Delta Epsilon
SGSR: Society for General Systems Research
SIAM: Society for Industrial and Applied Mathematics
SSZ: Society for Systematic Zoology
SWRM: Southwestern - Rocky Mountain Division
VP: Vice Presidential

Lecture, Film
Natl Geog Society

## AAAS Special Sessions

One of the characteristic and most important features of the annual meetings of the Association is the series of outstanding general addresses by distinguished authorities, sponsored by the Association or by organizations that meet regularly with it. These special events are open to the general public of the city in which the meeting is held.

**Moving Frontiers of Science**. Part I, 26 Dec., evening. "Changing concepts of mineral raw materials in the national economy," Howard A. Meyerhoff, executive director, Scientific Manpower Commission; "The molecular designing of materials," Arthur R. von Hippel, director, Laboratory for Insulation Research, Massachusetts Institute of Technology. William W. Rubey, member, AAAS board of directors, will preside.

**John Wesley Powell Lecture** (of the Southwestern and Rocky Mountain Division). 27 Dec., evening. "Minds, men, and materials: a scientific appraisal," Glenn T. Seaborg, chairman, U.S. Atomic Energy Commission. Paul M. Gross, AAAS president elect, will preside.

**George Sarton Memorial Lecture**. 28 Dec., afternoon. "The International Geophysical Year," Joseph Kaplan, head, department of physics, University of California, Los Angeles. Chauncey D. Leake, AAAS retiring president, will preside.

**Moving Frontiers of Science**. Part II, 28 Dec., afternoon (after the Sarton lecture). "Evolution of stars and galaxies," Halton C. Arp, Mount Wilson and Palomar Observatories; "Energy flow in ecological systems," E. W. Fager, Scripps Institution of Oceanography. Harrison Brown, member, AAAS board of directors, will preside.

**AAAS Presidential Address**. 28 Dec., evening. "The status of pharmacology as a science," by Chauncey D. Leake, retiring president of the AAAS. Thomas Park, AAAS president, will preside. Preceding the address, Robert L. Stearns, general chairman of the Denver meeting, will speak briefly, and AAAS awards will be presented. Guests of honor will include Frank E. E. Germann, past president and former secretary of the AAAS Southwestern and Rocky Mountain Division; J. L. Still, treasurer, Australian-New Zealand Association for the Advancement of Science; and Roland Harper, member, British Association for the Advancement of Science, and the department of psychology, University of Leeds (England).

After the address there will be an informal AAAS presidential reception in the adjacent foyer and ballroom areas. Simple refreshments will be served; in addition, nearby there will be a "Dutch treat" bar. All registrants and members of the local committees are cordially invited to attend.

**Joint annual address of the Society of the Sigma Xi and the United Chapters of Phi Beta Kappa**. 29 Dec., evening. "Science and government," Harrison Brown, professor of geochemistry, California Institute of Technology. William W. Rubey will preside.

**Annual address of the Tau Beta Pi Association**. 29 Dec., evening. "The second engineering revolution," John A. Logan, chairman, department of civil engineering, Northwestern University. George G. Lamb, member, executive council, Tau Beta Pi, and professor of chemical engineering, Northwestern University, will introduce the speaker. Paul A. Scherer, AAAS treasurer, will preside. (Follows Phi Beta Kappa address.)

**Annual lecture and film of the National Geographic Society**. 30 Dec., evening. "The sacred well of Chichén Itzá," Matthew W. Stirling, research associate, Smithsonian Institution, and member of the National Geographic Society's committee for research and exploration. Margaret Mead, member, AAAS board of directors, will preside.

## AAAS General Sessions

The general sessions are broad interdisciplinary programs, sponsored by the Association as a whole, by AAAS sections, by AAAS committees, or by AAAS affiliates; they are given here in chronological sequence.

**Committee on Science in the Promotion of Human Welfare**. 26 Dec., afternoon. Symposium, "Problems of Survival." Barry Commoner, chairman, AAAS Committee on Science in the Promotion of Human Welfare, will preside and give introductory remarks. "Anticipated biological and environmental effects of detonating a large megaton weapon on an American metropolis," Tom T. Stonier, Rockefeller Institute. "Industrial organization and disorganization in nuclear war," Seymour Melman, Columbia University. "Technical problems of survival and recuperation in a radiological environment," Walter E. Strope, U.S. Department of Defense. "Social consequences of focus on survival," Margaret Mead, American Museum of Natural History. After the papers there will be discussion. Members of the committee which planned this program are: Barry Commoner, Washington University, chairman; Robert B. Brode, University of California, Berkeley; T. C. Byerly, U.S. Agricultural Research Service; Lawrence K. Frank, Belmont, Mass.; H. Jack Geiger, Harvard Medical School; Frank W. Notestein, Population Council, New York; Walter Orr Roberts, University Corporation for Atmospheric Research, Boulder, Colo.; Margaret Mead, American Museum of Natural History, ex officio board representative; and Dael Wolfle, AAAS (ex officio).

**Interdisciplinary Symposium in the Physical Sciences**. Physics of the Upper Atmosphere. 28 Dec., morning. Joint program of the AAAS Sections on Physics and Astronomy, cosponsored by the American Astronomical Society, the American Geophysical Union, the American Meteorological Society, and Sigma Pi Sigma. Arranged by Stanley S. Ballard, University of Florida, and Alan H. Shapley, National Bureau of Standards, Boulder, Colo. Alan H. Shapley will preside. "The atmosphere above 50 kilometers," William G. Stroud, Goddard Space Flight Center, Greenbelt, Md. "Atmospheric winds and diffusion coefficients in the 100-kilometer region," Edward Manring, Geophysics Corporation of America, Bedford, Mass. "The invisible aurora," Franklin E. Roach, National Bureau of Standards, Boulder, Colo. "Scatter sounding of the high atmosphere," Von R. Eshleman, Stanford University.

**Interdisciplinary Symposium in the Earth Sciences**. Geochemical Evolution —The First Five Billion Years. Part I: Cosmic and Geological Aspects. 28 Dec., morning. Program of the AAAS Section on Chemistry, cosponsored by the AAAS Sections on Geology and Geography, Zoological Sciences, and Botanical Sciences, the American Geophysical Union, and the Geological Society of America; and with the assistance of the American Chemical Society, Colorado section, and the Colorado-Wyoming Academy of Science. Arranged by T. S. Lovering, U.S. Geological Survey, Denver, Colo., who will preside. "The origin of the chemical elements," G. R. Burbidge, Yerkes Observatory, University of Chicago. "The origin of the atmosphere of the plan-

ets," Harold C. Urey, University of California, La Jolla. "The role of the primitive environment in shaping the course of the origin of life," Philip H. Abelson, Geophysical Laboratory, Carnegie Institution of Washington, Washington, D.C. "The geochemical evolution of continental crusts," Albert E. J. Engel, University of California, La Jolla.

**Interdisciplinary Symposium in the Biological-Medical Sciences.** Existing Levels of Radioactivity in Man and His Environment: Measurement and Significance. 28 Dec., morning. Joint program of the AAAS Sections on Pharmacy, Zoological Sciences, Botanical Sciences, Medical Sciences, Dentistry, Agriculture, and Education. Arranged by John E. Christian, Purdue University, who will preside and give introductory remarks and radioisotope demonstrations. "Radioactivity levels in man and his environment—contribution and potential hazards of reactor and isotope powered space vehicles," Wright H. Langham, Los Alamos Scientific Laboratory. "Existing levels of cosmic-ray produced radioactivity—present and potential applications to archeology, meteorology, geochronology, and oceanography," James A. Arnold, University of California, San Diego. "Measurements of the existing radioactivity of people and foods. Applications to nondestructive measurements of body composition (potassium, lean, fat, water), medical diagnosis, age studies, and fall-out studies," Ernest C. Anderson, Los Alamos Scientific Laboratory. "The relationship of existing radiation levels to carcinogenesis," P. R. J. Burch, University of Leeds (England).

**Interdisciplinary Symposium in the Social Sciences.** Water and Climate. 28 Dec., morning. Joint program of the AAAS Section on Agriculture and the Committee on Desert and Arid Zones Research of the AAAS Southwestern and Rocky Mountain Division, cosponsored by the Sections on Geology and Geography, Social and Economic Sciences, Engineering, and Industrial Science, the American Geophysical Union, and the American Meteorological Society. Arranged by Terah L. Smiley, University of Arizona, and D. Wynne Thorne, Utah State University. Terah Smiley will preside. "A meteorologist looks at hydroclimatology," Paul R. Julian, High Altitude Observatory, University of Colorado. "Capture of additional water for increasing supplies," John W. Harshbarger, University of Arizona. "Weather modification," Earl G. Droessler, National Science Foundation. "Legal aspects of a national water policy," Morris K. Udall, House of Representatives, U.S. Congress.

**Interdisciplinary Symposium in the Earth Sciences.** Geochemical Evolution —The First Five Billion Years, Part II: Minor Elements in the Biosphere and in Surface Waters. 29 Dec., morning. (Same sponsor, cosponsor, and arranger as for part I.) Essie White Cohn, University of Denver, will preside. "Effects of some minor elements on animals and people," William H. Strain, Strong Memorial Hospital, Rochester, N.Y. "Biochemical cycle of some minor elements in plants," Perry R. Stout, University of California, Davis. "Biochemical cycle of vanadium in plants," Helen Cannon, U.S. Geological Survey, Denver. "Implications of the minor element content of some major streams of the world," Walton Durum, U.S. Geological Survey, Washington, D.C., and Joseph Haffty, U.S. Geological Survey, Denver, Colo. "Minor elements in some major municipal water supplies in the United States," Charles Durfor, U.S. Geological Survey, Washington, D.C. T. S. Lovering and Essie White Cohn will give a commentary on the symposium.

**Symposium: Teaching Machines and Mathematics Programs.** The Interaction of Content and Programing Specialists in Developing Self-instructional Programs. 29 Dec. morning. Joint program of the AAAS Cooperative Committee on the Teaching of Science and Mathematics and the AAAS Sections on Mathematics and Psychology. Arranged by Joseph Hammock, Bell Telephone Laboratories, Murray Hill, N.J., and John R. Mayor, AAAS. Joseph Hammock will preside. Speakers will be Lewis D. Eigen, Center for Programed Instruction, New York, N.Y.; John A. Barlow, Emory University; Norman A. Crowder, Educational Sciences Division, U.S. Industries, Inc., New York, N.Y.; Lloyd E. Homme, Teaching Machines, Inc., Albuquerque, N.M.; Jack E. Forbes, Britannica Center for Studies in Learning and Motivation, Palo Alto, Calif. Discussants will be Max Beberman, University of Illinois; R. Creighton Buck, University of Wisconsin; Robert M. Gagné, Princeton University.

**Symposium: Water Improvement.** Part I. 30 Dec., morning. Program of the Committee on Desert and Arid Zones Research of the AAAS Southwestern and Rocky Mountain Division, cosponsored by the AAAS Section on Agriculture. Arranged by Joseph A. Schufle, New Mexico Institute of Mining and Technology, and Terah L. Smiley, University of Arizona. Terah L. Smiley will preside. "Contamination of underground water—vicinity of Denver," William N. Gahr, Colorado State Department of Public Health, Denver. "New dimensions in water pollution research," Gordon McCullum and Bernard B. Berger, U.S. Public Health Service, Washington, D.C. "The salt water intrusion problems in coastal aquifers," David K. Todd, University of California, Berkeley. "The zone of diffusion and its consequences," H. H. Cooper, U.S. Geological Survey, Tallahassee, Fla.

Part II. 30 Dec., afternoon. (Same sponsor, cosponsor, and arrangers as for part I.) John W. Harshbarger, University of Arizona, will preside. "Electrochemical demineralization of water —theory and practice," George W. Murphy, University of Oklahoma. "Operating characteristics of ground water reservoirs occupying a trench," Robert E. Glover and Morris M. Skinner, Colorado State University. Peter C. Duisberg, consultant, El Paso, Tex., and John F. Lance, University of Arizona, will give a summary.

## AAAS Conferences

In addition to the Academy Conference, composed of official delegates from most of the 47 state and city academies of science affiliated with the AAAS, several conferences have become recurrent events at AAAS meetings. These conferences are open to all who are interested. Academy Conference, 27 and 28 Dec. Conference on Scientific Communication, 30 Dec. Conference on Scientific Manpower, 27 Dec.

## Topical Index of Symposia

Details of the various programs listed can be found in this and earlier issues of *Science*. Issues and page numbers are given in parentheses.

**AAAS General Symposia.** Moving Frontiers of Science (8 Dec., p. 1852). Interdisciplinary symposium in the physical sciences: physics of the upper

atmosphere (8 Dec., p. 1852). Interdisciplinary symposium in the earth sciences: geochemical evolution—the first 5 billion years (8 Dec., p. 1852). Interdisciplinary symposium in the biological-medical sciences: existing levels of radioactivity in man and his environment (8 Dec., p. 1853). Interdisciplinary symposium in the social sciences: water and climate (8 Dec., p. 1853).

**AAAS Committee on Science in the Promotion of Human Welfare**. Problems of survival (8 Dec., p. 1852).

**AAAS Cooperative Committee on the Teaching of Science and Mathematics**. Teaching machines and mathematics programs (27 Oct., p. 1376). Studies in teacher education (1 Dec., p. 1761). Elementary school science (1 Dec., p. 1762).

**AAAS Southwestern and Rocky Mountain Division**. Committee on Desert and Arid Zones Research. Water improvement (10 Nov., pp. 1533, 1538).

**Academy Conference**. Why collegiate academies? (1 Dec., p. 1763). Junior academies (1 Dec., p. 1764).

**Conference on Scientific Communication**. Inauguration session for possible new section: Problems of communication (1 Dec., p. 1764).

**Mathematics**. Recommendations on the training of teachers of mathematics (27 Oct., p. 1378). Man and the computer (27 Oct., p. 1376). Biology and mathematics (27 Oct., p. 1376).

**Physics**. Physics research in the Rocky Mountain area (3 Nov., p. 1438).

**Space Science**. Manned lunar flight (3 Nov., p. 1438). Extraterrestrial biochemistry and biology (27 Oct., pp. 1375, 1376).

**Chemistry**. Recent advances in carbohydrates (27 Oct., p. 1376).

**Astronomy**. Magnetic fields in the solar system (3 Nov., p. 1440).

**Geology and Geography**. Ground water problems in the Rocky Mountains and Great Plains (10 Nov., p. 1534). Speleogenesis (10 Nov., p. 1537).

**Zoological Sciences**. Neurosecretion (17 Nov., p. 1630). Vertebrate locomotion (17 Nov., p. 1630). Evolutionary changes in the hormonal and neural bases of reproductive behavior (17 Nov., p. 1630). Cellular endocrinology (17 Nov., p. 1631). Biochemical phyletic markers among the protozoa (17 Nov., p. 1631). The data of classification (17 Nov., p. 1631). Biogeography of the Philippines (17 Nov., p. 1631).

**Biological Sciences** (see also Medical Sciences). Biology and mathematics (27 Oct., p. 1376). Invited papers of Biomedical Information-Processing Organization (17 Nov., p. 1632). Invited papers of Biometric Society, WNAR (17 Nov., p. 1632). North American Arctic-Alpine ecology (17 Nov., p. 1632). Molecular biology (1 Dec., p. 1762).

**Botanical Sciences**. Plant biology today (17 Nov., p. 1633).

**Anthropology**. Concept of race (24 Nov., p. 1700). Civilizations in desert lands (24 Nov., p. 1700). Early man in the western United States: cultural continuities (24 Nov., p. 1700). Wetherill Mesa project (24 Nov., p. 1700). Interdependence of archaeology and ethnology (24 Nov., p. 1702). Applied anthropology (24 Nov., p. 1700). Role of animals in human ecological adjustments (24 Nov., p. 1700). Incest in cross-species perspective (24 Nov., p. 1702).

**Psychology**. Aspects of sleep (24 Nov., p. 1702). Goals of psychotherapy (24 Nov., p. 1702). Sensory factors in appetitive behavior and food acceptance (24 Nov., p. 1704). Control of verbal behavior (24 Nov., p. 1704).

**Social and Economic Sciences**. Current problems in social-behavioral research (24 Nov., p. 1704). Economics of knowledge and information (24 Nov., p. 1704). International relations (24 Nov., p. 1704). Rural crime control (24 Nov., p. 1705). Problems in contemporary penology (24 Nov., p. 1705). Research and experimentation in criminology (24 Nov., p. 1705). Problems and controversies in twentieth century policing (24 Nov., p. 1706). Sociology of medicine: problems and prospects (24 Nov., p. 1706). Problems of the American highway operation (24 Nov., p. 1706). Government price statistics (24 Nov., p. 1706). Management science (24 Nov., p. 1706).

**History and Philosophy of Science**. (1 Dec., p. 1760). Empiricism and the status of theories. Prediction and causality. History and philosophy of science. Conventionalism and laws within modern physics. Induction. Machines and brains. Methodological problems of the social sciences. Nature of historical explanation. Law, science, and decision making. Teaching of systems thinking.

**Medical Sciences**. Physiological and biochemical aspects of human genetics (17 Nov., p. 1633). Career opportunities in the health professions (17 Nov., p. 1634). Genetics and evolution of human behavior (17 Nov., p. 1634).

**Dentistry**. Oral aspects of genetics (17 Nov., p. 1634).

**Agriculture**. Land and water use (10 Nov., pp. 1533, 1537, 1538).

**Education**. The shaping of a scientist (1 Dec., p. 1761). Intervention in personality development of college students preparing to teach (1 Dec., p. 1761). Technology in education (1 Dec., p. 1761). Teaching machines and mathematics programs (1 Dec., p. 1762). Studies in teacher education (1 Dec., p. 1761). Elementary school science (1 Dec., p. 1762). Extracurricular motivation for science (1 Dec., p. 1762).

**Science Teaching**. Molecular biology (1 Dec., p. 1762). Nature study around the world (1 Dec., p. 1762). Outdoor nature interpretation (1 Dec., p. 1762). Conservation and international resource development (1 Dec., p. 1763). Natural history of the Rocky Mountains (1 Dec., p. 1763). Museum school service and displays (1 Dec., p. 1763). Vistas in science (1 Dec., pp. 1762, 1763). Accent on investigating (1 Dec., p. 1763). Research symposium (1 Dec., p. 1763). The Catholic high school and the BSCS curriculum (1 Dec., p. 1763).

## AAAS Science Theatre

The AAAS Science Theatre, a permanent feature of the Association's annual meeting, presents each year a selection of the latest domestic and foreign scientific films, throughout the meeting period. Programs are repeated at different times to increase the opportunities for those attending the sessions of the 128th meeting to see particular films. The Association is indebted to all those who made these pictures and lent them for showing, and indebted for their assistance to Malcolm S. Ferguson, National Institutes of Health; to Richard A. Boolootian, University of California, Los Angeles; and to the American Science Film Association (Robert E. Green, secretary), Washington, D.C.

The Science Theatre may be reached by passing through the Annual Exposition of Science and Industry, on level 2B, Convention Center, Hilton Hotel. Admission is restricted to those who wear the AAAS Convention Badge. (Children under 16 are not registered.)

**27 December, 10 A.M. to 2 P.M.**

*Voice Production—The Vibrating Larynx.* Produced by the University of Groningen, in collaboration with Stitchting Film en Wetenschap, Utrecht, Netherlands.

*Epidemiology of Histoplasmosis.* Produced by David S. Ruhe, Kansas University Medical Center.

*Microcirculation Studies.* Produced by the University of Michigan Audio-Visual Education Center.

*Medical Genetics, Part 2.* Produced by Victor McKusick, Johns Hopkins University, for the National Foundation.

*Total Body Measurement of Natural and Acquired Radioactivity in Man.* Produced by Department of the Army.

*The Sea Otter.* Produced by R. A. Boolootian, University of California, Los Angeles.

*Looking into Space.* Produced by Hans Elias, Chicago Medical School.

*Frescan—AN/SPS-42.* Produced by Hughes Aircraft Company.

*Man in Flight.* Produced by U.S. Air Force.

*Hoolaulea—Traditional Dances of Hawaii.* Produced by Honolulu Academy of Arts.

*Water.* Produced by Center for Mass Communication of Columbia University for the Visual Information Board of the United Nations.

*Our Nearest Star: Radioisotope Power System for the Transit Satellite.* Produced by Martin-Nuclear, Baltimore, Md.

**27 December, 2 to 6 P.M.**

*Plague in Sylvatic Areas.* Produced by Communicable Disease Center, Atlanta, Ga.

*Gamma Globulin.* Produced by Synergist Productions, Inc., for Merck, Sharp & Dohme.

*Small Electric Currents in Intravascular Thrombosis.* Produced by Roman Vishniac and Phillip N. Sawyer.

*The Life Cycle of a Bacteriophage.* Produced by Department of Bacteriology and University Extension, University of California, Davis.

*Anaphylaxis in Guinea Pigs.* Produced by Department of Bacteriology and University Extension, University of California, Davis.

*The Complement Fixation Test.* Produced by Department of Bacteriology and University Extension, University of California, Davis.

*The Biology and Reproduction Behavior of the Northern Elephant Seal.* Produced by George Bartholomew and Richard A. Boolootian, University of California, Los Angeles.

*The Pond.* Produced by Crawley Films Ltd. and Campbell Productions for International Film Bureau, Inc.

*Social Behavior of Domesticated Norway Rats (Part 3: High Vitamin A Diet).* Produced by J. B. Calhoun, National Institute of Mental Health.

*Way to a New World.* Produced by Australian News and Information Bureau.

*Refining Precious Metals from the Sudbury Nickel Ores.* Produced by Film Graphics, Inc.

*The AETR (Advanced Epithermal Thorium Reactor).* Produced by Atomics International, a division of North American Aviation. Inc., for Southwest Atomic Energy Associates.

*The Flying Coronascope.* Produced by High Altitude Observatory, Boulder.

**28 December, 10 A.M. to 2 P.M.**

*Micromechanisms of Water-Oil Displacement.* Produced by Jersey Production Research Company.

*The Magic of Sulphur.* Produced by Texas GulfSulphur Company.

*Marine Snow—The Origin of Oil.* Produced by Tokyo Cinema Company, Inc.

*Short Term Visual Memory.* Produced by Bell Telephone Laboratories, Inc.

*The Mentally Ill: Organic Research.* Produced by WCET-TV.

*Vacant Lot.* Produced by Crawley Films Ltd. and Campbell Productions for International Film Bureau, Inc.

*Tissue Injury in Intravascular Thrombosis.* Produced by Roman Vishniac and Phillip N. Sawyer.

*The Real Story of Radar.* Produced by the National Film Board of Canada.

*MSG-4, Missile Monitor.* Produced by Hughes Aircraft Company.

*Operation Bluenose.* Produced by Space and Information Systems Division of North American Aviation.

**28 December, 2 to 6 P.M.**

Same as 27 December, 10 A.M. to 2 P.M., except that *Looking into Space* will be presented first, at 2 P.M.; the other films will follow in the order given.

**29 December, 10 A.M. to 2 P.M.**

Same as 27 December, 2 to 6 P.M.

**29 December, 2 to 6 P.M.**

Same as 28 December, 10 A.M. to 2 P.M.

**30 December, 9 A.M. to 1 P.M.**

*Microcalorimetrie et Thermogenèse.* Produced by Professor Calvet, National Center for Scientific Research, Marseilles, France.

*Culture and Association in vitro of Young Chicken Embryo Blastoderms.* Produced by Professor Wolff, College of France, Nogent-sur-Marne, and by Service du Film de Recherche Scientifique.

*Hylotrupes Bajulus (Cerambycidae)—Entwick-Lungszyklus.* Produced by Institut für den Wissenshaftlichen Film für *Encyclopaedia Cinematographica.*

*Cupiennius Salei—Kokonbau und Eiablage.* Produced by Institut für den Wissenshaftlichen Film für *Encyclopaedia Cinematographica.*

*Thaumetopoea* or *La Chenille Processionnaire du Pin.*

*La Crevette et Son Bopyre.* Produced by Jean Painlevé.

*Ancyclostoma: Life History of Hookworms.* Produced by Sakura Motion Picture Company, Ltd.

*Marine Snow—The Origin of Oil.* Produced by Tokyo Cinema Company, Inc.

*Hoolaulea—Traditional Dances of Hawaii.* Produced by Honolulu Academy of Arts.

*Medical Genetics, Part 2.* Produced by Victor McKusick, Johns Hopkins University, for the National Foundation.

*Voice Production—The Vibrating Larynx.* Produced by University of Groningen, in collaboration with Stichting Film en Wetenschap, Utrecht.

**30 December, 1 to 3:30 P.M.**

The first seven films of the preceding program will be shown again at this time.

## AAAS Business Sessions

The Council of the Association will meet 27 Dec. at 4 P.M. in Assembly Room No. 3 of the Hilton Hotel. A second session of the Council is scheduled for 30 Dec. at 9 A.M. in the same room. All members of the Council have been notified, and it is hoped that all can attend. Subjects to be considered by the Council (in addition

to the agenda prepared) usually are first brought before the Board of Directors through the Executive Officer. During the meeting, communications for the Board of Directors should be submitted in writing and left at the Hilton Hotel mail desk, addressed to Dr. Dael Wolfle.

## Registration

**Main Registration–Information Center.** The AAAS Main Registration–Information Center is located in the south lobby of the Hilton Hotel. It will be open as follows: 26 Dec., 8 A.M. to 10 P.M.; 27–29 Dec., 8 A.M. to 8 P.M.; 30 Dec., 8 A.M. to 4 P.M.

Badges and General Programs may be obtained at the supplementary registration desks, but supplementary literature, maps, and the like will be available only at the Main Registration Center. Advance registrants (who will have received programs and badges prior to the meeting) are urged to visit the Main Registration Center at any time to obtain these additional items.

**Supplementary Registration Desks.** For the convenience of those attending the 128th meeting, there are three supplementary hotel registration desks, at the Brown Palace, Cosmopolitan, and Shirley Savoy hotels. These will be open as follows: *Brown Palace*: 26 Dec., 8:30 A.M. to 8:30 P.M.; 27–28 Dec., 8 A.M. to 8 P.M.; 29 Dec., 8 A.M. to 6 P.M. *Cosmopolitan*: 26 Dec., 4 P.M. to 9 P.M.; 27–28 Dec., 8 A.M. to 8 P.M.; 29 Dec., 8 A.M. to 6 P.M. *Shirley Savoy*: 26 Dec., 9 A.M. to 9 9 P.M.; 27–28 Dec., 8 A.M. to 8 P.M.; 29 Dec., 8 A.M. to 6 P.M.

**Registration Fee.** The AAAS registration fee, which, intentionally, has been kept at a minimum, is $3. A spouse or child 16 years or over who does not want a separate Program may register for $1 if he or she registers at the same time as the accompanying regular registrant. Each regular registrant receives a receipt, a Convention Badge, and the General Program—the only publication containing the programs of the 18 AAAS sections and of the 88 participating organizations. Any person who purchases an advance copy of the General Program but does not register in advance and who then attends the meeting has agreed to complete his registration, and is expected to do so by paying $1 at the Main Registration Center or at one of the three supplementary registration desks; after this he receives his Convention Badge and the privileges that go with it.

Every thoughtful person will want to register and thus pay his share of the expenses of the meeting. The AAAS Convention Badge indicates that you are participating fully in this 128th convention of the Association. You should wear the badge throughout the meeting because (i) it reminds others to register; (ii) it is needed for admission to the Annual Exposition of Science and Industry, the AAAS Science Theatre, and the reception that follows the AAAS presidential address; and (iii) it helps your friends to find you.

**Visible Directory of Registrants.** The Visible Directory of Registrants is located in the south lobby of the Denver Hilton Hotel; it is open day and night.

The registration cards of all registrants are placed in the Visible Directory soon after registration. The arrangement is alphabetical. The cards of advance registrants are completely alphabetized and typed, since they are posted prior to the meeting; all other registration cards are filed to the second or third letter of the surname (Ba, Be and so on). Members of the press, exhibitor personnel, and guests are also listed in the Visible Directory—on blue cards instead of yellow. Registrants will find the Visible Directory invaluable in determining the convention addresses of friends attending the meeting.

**Mail, Telegrams, and Messages.** Mail and telegrams addressed in care of the AAAS will be held at the AAAS Office, off the south lobby of the Denver Hilton. Telephone and personal messages will also be filed alphabetically in the AAAS Office, and the names of those for whom they are intended will be posted on a bulletin board near the Visible Directory. The Association assumes no responsibility for the delivery of mail or telegrams.

**Society Meal Function Tickets.** Tickets to the dinners or luncheons of any section or any participating society may be obtained from representatives of the section or society, either during preceding sessions or at the Main Registration–Information Center in the lobby of the Hilton Hotel.

## Hotel Headquarters

The Denver Hilton is the official headquarters hotel of the AAAS. It is where the Council of the Association will meet and where other business sessions will be held. The Pressroom—for receipt of authors' abstracts and the only source of press releases—is in rooms 540–542.

The AAAS Office, Main Registration–Information Center, Visible Directory of Registrants, AAAS Science Theatre, and Annual Exposition of Science and Industry also are all in the Hilton Hotel.

The headquarters of the 18 sections and of the participating societies follow (the societies are grouped in the same sequence as the letters of the sections with which they are affiliated).

*Hilton* (884 rooms), 155 Court Place.

AAAS; AAAS Southwestern and Rocky Mountain Division; AAAS Office; AAAS Pressroom.

AAAS Main Registration–Information Center; Visible Directory of Registrants; AAAS Annual Exposition of Science and Industry; AAAS Science Theatre.

AAAS Business Sessions (Board of Directors, Council), General Events, and Special Sessions.

AAAS Committee on Science in the Promotion of Human Welfare; Committee on Desert and Arid Zones Research of the Southwestern and Rocky Mountain Division.

AAAS Sections A–Mathematics, C–Chemistry, E–Geology and Geography, F–Zoological Sciences, G–Botanical Sciences, M–Engineering, N–Medical Sciences, O–Agriculture, and P–Industrial Science.

Association for Computing Machinery, Committee on the Undergraduate Program in Mathematics of the Mathematical Association of America, Society for Industrial and Applied Mathematics.

American Chemical Society, Colorado Section.

Association of American Geographers, Great Plains-Rocky Mountain Division; Geological Society of America; National Geographic Society; National Speleological Society.

American Society of Zoologists, Society of Protozoologists, Society of Systematic Zoology.

American Society of Naturalists; Beta Beta Beta Biological Society; Biomedical Information-Processing Organization; Ecological Society of America; Mountain Lake Biological Station; Society of General Physiologists.

Botanical Society of America.

American Society of Agricultural En-

gineers, Engineering Manpower Commission, Tau Beta Pi Association.

Alpha Epsilon Delta.

American Dairy Science Association, American Farm Economic Association, American Society for Horticultural Science, American Society of Agronomy, American Society of Animal Production, American Society of Range Management, Gamma Sigma Delta, Society of American Foresters, Soil Conservation Society of America.

American Geophysical Union, Conference on Scientific Communication, Conference on Scientific Manpower, National Academy of Sciences–National Research Council, National Association of Science Writers, National Science Foundation, Scientific Manpower Commission, Scientific Research Society of America, Sigma Delta Epsilon, Society of the Sigma Xi, United Chapters of Phi Beta Kappa, Wilderness Society, Wildlife Management Institute, Wildlife Society.

*Brown Palace and Tower* (600 rooms), 17th Street and Tremont Place.

AAAS Sections I–Psychology, K–Social and Economic Sciences, and L–History and Philosophy of Science.

Biometric Society, Western North American Region.

Colorado Psychological Association, Colorado Society of Psychologists in Private Practice, Rocky Mountain Psychological Association.

American Economic Association, American Political Science Association, American Society of Criminology, American Sociological Association, American Statistical Association, Institute of Management Sciences, National Institute of Social and Behavioral Science.

American Philosophical Association, Philosophy of Science Association, American Psychiatric Association.

*Cosmopolitan* (425 rooms), 18th Street and Broadway.

AAAS Sections H–Anthropology, Nd–Dentistry, and Np–Pharmacy.

American Astronautical Society.

American Anthropological Association.

Metric Association.

Society for General Systems Research.

American Physiological Society.

American College of Dentists; American Dental Association; International Association for Dental Research, North American Division.

American Association of Colleges of Pharmacy; American College of Apothecaries; American Pharmaceutical Association, Scientific Section; American Society of Hospital Pharmacists; National Association of Boards of Pharmacy.

American Educational Research Association.

Academy Conference, Colorado-Wyoming Academy of Science, National Aeronautics and Space Administration.

*Shirley Savoy* (400 rooms), 17th Street and Broadway.

AAAS Cooperative Committee on the Teaching of Science and Mathematics.

AAAS Sections B–Physics, D–Astronomy, and Q–Education.

American Meteorological Society, Sigma Pi Sigma.

American Astronomical Society, Astronomical League.

National Association of Biology Teachers.

Colorado Science Teachers Association, Council for Exceptional Children, National Association for Research in Science Teaching, National Science Teachers Association, American Nature Study Society.

## Local Travel Directions

At this meeting, since the four hotels used are all within a few blocks of each other, no travel directions are necessary except, perhaps, directions for reaching the points of interest listed below, which may be obtained at the AAAS Information Center in the Hilton Hotel.

## Tours and Points of Interest

At this meeting, there will be no formal tours sponsored by the AAAS as a whole, but certain sections and participating societies have planned tours and field trips, as noted in their programs.

*Chamberlin Observatory* (East Warren Ave. at South Milwaukee). Tours by appointment, Tuesday and Thursday from 7 to 9 P.M.

*Chappell House* (1300 Logan St.). Exhibits of American Indian, South Sea, and African art. Open Tuesday through Saturday, 9 A.M. to 5 P.M.; Sundays and holidays, 2 P.M. to 5 P.M.; Mondays, 1 P.M. to 5 P.M.

*Colorado Railroad Museum* (17555 W. 44 Ave., 2 miles east of Golden on Highway 58). Open daily 9 A.M. to sunset. Open 25 Dec. and 1 Jan. Admission: $0.35.

*Denver Museum of Natural History*, Botanic Gardens, and City Zoo (City Park, E. 17 Ave. between York St. and Colorado Blvd.). Open Monday through Saturday 10 A.M. to 4:30 P.M.; Sundays and holidays, 12 noon to 4:30 P.M. Closed 25 Dec. and 1 Jan.

*Denver Public Library* (1357 Broadway). Open Monday through Thursday, 9 A.M. to 9 P.M.; Friday and Saturday, 9 A.M. to 5:30 P.M.; Sunday, 1:30 P.M. to 5:30 P.M. Closed 25 Dec. and 1 Jan.

*Living Arts Center, Oriental House*, and *Schleier Gallery* (Civic Center). American, European, and modern Oriental exhibits. Open Tuesday through Saturday, 9 A.M. to 5 P.M.; Sundays and holidays, 2 P.M. to 5 P.M. Free.

*Sky Deck Observatory* (First National Bank Building). Open daily, 10 A.M. to 10 P.M. Admission: $0.50.

*State Historical Museum* (E. 14 Ave. and Sherman St.). Open daily, 9 A.M. to 5 P.M.; Sundays and holidays, 10 A.M. to 5 P.M. Free.

*United States Mint* (Delaware and W. Colfax Ave.). Open Monday through Friday. Tours at 9:30 A.M. and 1 P.M. Reservations necessary. Closed 25 Dec. and 1 Jan.

## AAAS Public Information Service

The necessity for keeping the general public informed whenever feasible of the results of the scientific research and development which it supports, directly or indirectly, is evident. Organized science and the individual scientist must have the understanding and support of intelligent citizens in all walks of life if they are to contribute effectively to the over-all advance of American democracy. It is, of course, equally important that information for the public concerning advances in science be clearly and accurately disseminated and without sensationalism. Progress in this direction in recent years has been in most instances outstanding, thanks largely to members of the National Association of Science Writers, other accredited science reporters, managing editors of American newspapers, and program managers of radio and television stations.

One of the four objectives of the AAAS is to try to increase public un-

derstanding and appreciation of the importance and promise of the methods of science in human progress. For this reason, and to protect authors of papers from being misquoted by the press, the Association maintains a public information service for each of its annual meetings. Sidney S. Negus, Medical College of Virginia, Richmond, has been director of this service for most meetings since 1938.

During the meeting, in the interest of accuracy and completeness, science writers frequently wish to discuss various research results with investigators. If you are asked to cooperate in this respect or to participate in a press conference, please do so—not only for your own protection but for the benefit of science in general. Scores of science writers will be covering this great scientific convention from the Pressroom in the Denver Hilton Hotel. News stories filed by them will be published and broadcast throughout the world. The assistance of authors in helping to make these stories accurate is earnestly solicited by the Association.

This year, the AAAS is fortunate in having the continued services of Dr. Negus and also the services of its Local Committee on Public Information, headed by Arthur G. Rippey (Rippey, Henderson, Bucknum & Company) and Gerould A. Sabin (director of public relations, Colorado Fuel and Iron Corporation).

## Denver Committees

It would be impossible to arrange this large and complex meeting and to carry it through to a conclusion successful in all respects if it were not for the devoted services of many local scientists and other members and friends of the Association. They merit the unstinted appreciation of all who attend. Robert L. Stearns accepted the general chairmanship of the Denver meeting in 1960, appointed the local committees promptly, and has kept in close touch with all phases of committee operations.

### General Chairman

Robert L. Stearns, president, Boettcher Foundation.

### Advisory Committee

Robert L. Stearns, *chairman.*

Chester M. Alter, chancellor, University of Denver.

Shirley A. Johnson, Jr., director of research, Denver Research Institute.

Walter K. Koch, president, Mountain States Telephone and Telegraph Company.

Carl A. Norgren, president, C. A. Norgren Company.

Arthur G. Rippey, Rippey, Henderson, Bucknum & Company, public relations.

Gerould A. Sabin, public relations director, Colorado Fuel and Iron Corporation.

### Committee on Exhibits

Walter K. Koch, president, Mountain States Telephone and Telegraph Company, *chairman.*

R. Grant Athay, associate director, High Altitude Observatory, Boulder, Colorado.

J. Clinton Bowman, president, Bowman Biscuit Company.

Brown W. Cannon, vice president, Beatrice Foods.

Fred G. Coldren, board member, Hallack & Howard Lumber Company.

Harmon H. Davis, sales promotion manager, Colorado Fuel and Iron Corporation.

Charles Gates, Jr., executive vice president, Gates Rubber Company.

Clair G. Henderson, general manager, Rippey, Henderson, Bucknum & Company.

Ray Jenkins, former district manager, J. C. Penney Company, Inc.

J. W. Liddell, vice president, Continental Oil Company.

William W. Mercer, manager, Sears, Roebuck & Company.

Lloyd J. Moyer, assistant general manager, Minneapolis-Honeywell, Heiland Division.

Albert E. Seep, president, Mine & Smelter Supply Company.

Robert M. Stanley, president, Stanley Aviation Corporation.

Paul A. Yetter, vice president, Public Service Company of Colorado.

H. C. Martin, assistant vice president, Mountain States Telephone and Telegraph Company, *secretary.*

### Committee on Finance

Carl A. Norgren, president, C. A. Norgren Company, *chairman.*

Cris Dobbins, president, Ideal Cement Company.

Walter B. Hester, director of engineering, Stearns-Roger Manufacturing Company.

Hudson Moore, Jr., president, Walter S. Cheesman Realty Company.

Aksel Nielsen, chairman, Title Guaranty Company; president, Mortgage Investment Company.

Richard H. Olson, vice president and general manager, Sundstrand Aviation-Denver.

Harry St. John, executive assistant, Ideal Cement Company.

Harold F. Silver, president, Silver Corporation.

Charles O. Voight, president, Stearns-Roger Manufacturing Company.

William L. Whitson, vice president, Martin Company.

Herbert Wolff, manager, community relations, Martin Company.

### Committee on Physical Arrangements

Shirley A. Johnson, Jr., director of research, Denver Research Institute, *chairman.*

Esther Marie Capps, conference coordinator, University of Denver.

Jay Jaumotte, audio-visual specialist, Martin Company.

Harry Kaufman, director audio-visual services, University of Denver.

Edward Lindell, assistant dean, College of Arts and Science, University of Denver.

Elwood Miller, director, audio-visual services, Jefferson County Schools, Lakewood, Colorado.

Ralph Sellinghausen, superintendent, audio-visual services, Denver Public Schools.

Paul A. Truitt, director, audio-visual services, Englewood School System, Englewood, Colorado.

Eugene Walden, audio-visual director, Cherry Creek Schools, Englewood, Colorado.

### Committee on Public Information

Arthur G. Rippey, Rippey, Henderson, Bucknum, & Co., *cochairman.*

Gerould A. Sabin, director of public relations, Colorado Fuel and Iron Corporation, *cochairman.*

Gene Amole, co-owner, KDEN.

Len Berman, publicity director, KTVR.

Chris Burns, head, department of journalism, University of Colorado.

James Case, executive director, KRMA, ETV.

Colbert E. Cushing, director of public information, Colorado Education Association.

Robert de Kieffer, director, Bureau of Audio-Visual Instruction, University of Colorado.

Jack Foster, editor, ***Rocky Mountain News.***

William Grant, president, KOA, Inc.

Palmer Hoyt, publisher, *Denver Post.*

John B. Mullins, president, KBTV.

Alberta Pike, public relations consultant.

#### Committee on Women's Events

This committee is under the direction of the Denver Branch of the American Association of University Women.

Mrs. Donald S. Benny, *president.*

Ann Byrd Kennon, *chairman.*

#### Honorary Reception Committee

Chester M. Alter, chancellor, University of Denver.

Cyrus W. Anderson, president, Colorado State Medical Society.

Alfred M. Bailey, director, Denver Museum of Natural History.

Louis T. Benezet, president, Colorado College.

S. E. Blandford, president, Denver County Medical Society.

Grant Bloodgood, assistant commissioner and chief engineer, United States Bureau of Reclamation.

F. W. Brown, director, Boulder Laboratories, National Bureau of Standards.

Eugene E. Dawson, president, Colorado Woman's College.

John T. Eastlick, librarian, Denver Public Library.

L. R. Hadley, president, Colorado Chapter, Society of the Sigma Xi.

Byron W. Hansford, commissioner of education, State of Colorado.

Stephen H. Hart, president, Colorado State Historical Society.

G. D. Humphrey, president, University of Wyoming.

Very Rev. William H. Jones, superintendent of schools, Archdiocese of Denver.

Claribell Kendall, secretary, Alpha of Colorado, Phi Beta Kappa.

William E. Morgan, president, Colorado State University.

Quigg Newton, president, University of Colorado.

Kenneth E. Oberholtzer, superintendent, Denver Public Schools.

Tom L. Popejoy, president, University of New Mexico.

Herbert E. Prater, president, Colorado Engineering Council.

Walter Orr Roberts, director, National Center for Atmospheric Research.

William Robert Ross, president, Colorado State College.

Very Rev. Richard F. Ryan, president, Regis College.

Pauline F. Schroeder, superintendent, Jefferson County Public Schools.

Sister Frances Marie, president, Loretto Heights College.

Robert M. Stabler, president, Colorado-Wyoming Academy of Science.

Maj. Gen. William S. Stone, superintendent, United States Air Force Academy.

Thoms C. Tisone, president, Colorado Alpha, Tau Beta Pi.

John W. Vanderwilt, president, Colorado School of Mines.

## Annual Exposition of Science and Industry

The AAAS Annual Exposition of Science and Industry will be held on level 2B of the Convention Center, Hilton Hotel. It will be open only to registrants; children under 16 are not registered. All booth space has been sold. Hours: 27–29 Dec., 10 A.M. to 6 P.M.; 30 Dec., 9 A.M. to 4 P.M.

Those who wish to join the Association at this time are cordially invited to visit the AAAS New Member Service, in the AAAS booth in the South Lobby of the Hilton. Whether or not one is a AAAS member, everyone is cordially invited to visit the AAAS booth for information concerning the Association and its activities. Since its founding in 1848, the Association has admitted to membership not only professional scientists but also other men and women who have a general interest in science, who wish to keep informed of the progress of science, and who would like to support the high purposes of the one organization that represents all science. The New Member Service will be pleased to accommodate those who wish to join the Association, and those who are already members can nominate others for membership.

Upon payment of the annual dues of $8.50 (for 1962), each member receives the scientific newsweekly, *Science*, and the quarterly *Bulletin*. Sample copies will be available, and symposium volumes and AAAS membership insignia will be on display. Prospective advertisers may obtain the rate card for *Science*.

#### AAAS Science Library Program

Booths 92 and 93. Since 1955 the AAAS has administered an experimental science library program with the financial support of the National Science Foundation to encourage the improvement of science and mathematics instruction, to make young people better informed concerning science, to encourage those with appropriate aptitude to choose science careers, and to stimulate the enlargement and improvement of collections of science and mathematics books in elementary schools, secondary schools, and public libraries. An important activity of the program is the continuous staff review and evaluation of science books as they are published, with the advice of qualified specialists.

To aid schools and libraries in selecting and purchasing science and mathematics books, particularly with the aid available under the provisions of the National Defense Education Act and other federal legislation, the AAAS has published *The AAAS Science Book List* (an annotated list for secondary schools and public libraries) and *The Science Book List for Children* (an annotated guide for elementary schools and public libraries). These lists are used as purchase guides by school systems throughout the world. The AAAS will exhibit all of the "double-starred" books (indispensable) and most of the "single-starred" books (highly desirable) recommended in these lists so that they may be examined by scientists, educators, and others. Copies of these lists will be distributed without cost to registrants, as well as copies of the following: *An Inexpensive Science Library*, the 1961 edition of an annotated list of 679 paper-bound science books recommended for high school students, college undergraduates, teachers, and the educated general public; and *Careers in Science*, a new bibliography of career guidance and college information publications prepared especially for secondary school students, teachers, and vocational counselors.

#### AIM Corporation/Library Publishers, Inc.

Booth 32. Scientists and science teachers will be interested in the Accelerated Instruction Methods Corporation's first showing of the new General Science Programmed Learning Laboratory. In this junior high school general science course, our educational and psychological staffs have employed Skinnerian linear programming techniques to present scientific fundamentals. Difficult concepts are fragmented in these programmed text books in such a way that students are likely to dig out an understanding for themselves. Thus,

the class is able, with better understanding, to go beyond the text into discussion and experiments. In addition, Library Publishers, Inc., will display the newly published titles of *The New Mathematical Library*. This series, designed to present and develop new concepts in mathematics, is being prepared by the School Mathematics Study Group. Each book has been written by an expert in his field and the entire series is being edited by a panel of leading mathematics authorities selected by the SMSG. Another feature of the exhibit is the 1961 edition of the *International Standard Atlas of the World*. Other titles will be displayed, and circulars and catalogs will be available.

**Affiliated Publishers, Inc.**

Booth 31. We are distributors for Golden Press, Inc., Pocket Books, Inc., and Simon and Schuster, Inc. This is a publishing program which covers the entire elementary science area—from elementary grades to the college level. A variety of titles are available in library binding and hard cover, as well as in quality soft-cover editions.

**American Institute of Biological Sciences**

Booths 50, 51, and 52. The AIBS exhibit will contain a display of various projects with particular emphasis on the Biological Sciences Curriculum Study, the AIBS Film Series, the Biological Sciences Communications Project, and other publications. Other activity projects of AIBS also will be depicted. AIBS staff members will be on hand to provide information, and a lounge area will be provided for inspection and perusal of publications and brochures. Free copies of the AIBS publications catalog and other brochures will be available.

**American Society for Pharmacology**

Booth 59. The exhibit will illustrate opportunities in a career in pharmacology. Qualified pharmacologists are in critical demand in universities and in governmental and private research laboratories. College students are often unaware of the opportunities which pharmacology offers to students in biological science since this science is taught only at graduate professional schools. A brochure, *A Career in Pharmacology*, prepared by the Committee on Educational Affairs, is distributed nationwide in order to attract the attention of high school and college students through their advisers and science teachers. Additional information regarding departments offering graduate instruction, their programs and goals, and opportunities offered in research training are made available by the committee to interested science students on an individual basis (supported by NIH Teaching Grant 2G-391).

**Association of American University Presses**

Booth 35. The member presses of AAUP have sent their most recent publications in scientific fields to this cooperative exhibit. Visitors may examine a wide selection of scholarly books in the biological, medical, and physical sciences; in mathematics and engineering; in social and economic sciences, anthropology, and archeology; and in the history and philosophy of science. Representatives of AAUP will be at the booth to answer questions concerning AAUP and the publications of its member presses, each of which is a separate publishing organization. Free catalogs of the books on display will be distributed. Books may be ordered at the booth or directly from the presses.

**Baird-Atomic, Inc.**

Booth 21. Baird-Atomic's exhibit will feature the model TF-1 Kopito furnace. This device is based upon a new heating technique which permits classroom demonstrations of most high-temperature physics, chemistry, and metallurgy experiments. Features of the furnace include temperatures over 4000°F within seconds, low-cost, safe operation, complete visibility, economical operation, and a wide range of demonstrations. With this compact heat source, the science instructor and student are able to investigate such phenomena as emission and absorption spectroscopy, ore refining, alloying of metals, enameling and glazing of metals and ceramics, phase transformation of metals, surface tension of metals, characteristics of radiation, and many other experiments where controlled, elevated heats are required. These experiments are described in detail in the manual of experiments provided with each instrument.

**Bell Telephone System**

Booths 45, 46, 47, 48, and 49. Do you have any questions about E.C.O.? What is E.C.O.? How fast is E.C.O.? How does E.C.O. work? All these questions are answered in the new Bell System Electronic Central Office exhibit. The exhibit tells about the telephone services this new system will offer, and it answers visitors' questions. The world's first electronic central office is undergoing trial in Morris, Illinois. It is the result of one of the most massive single research and development projects ever sponsored by a private enterprise.

**Biological Abstracts**

Booth 38. *Biological Abstracts* is a scientific information service that reports the world's biological research. The exhibit is designed to illustrate that over 100,000 scientific articles, from more than 5,000 biological journals originating in 83 countries, will be screened and reported in 24 semimonthly issues in 1962 in easy-to-read capsule form. On display will be copies of BA's new *Basic Index*—a current, automated subject index—which will appear in each issue of the journal in 1962. See copies of BTI—*Biochemical Title Index*—BA's specialized, current-awareness service to biochemists and medical researchers, which provides up-to-date references for all the latest research in the biochemical field.

**The Book Home**

Booth 73. The Book Home is a Colorado Springs firm dealing mainly in scientific and technical books. Besides some rare, old titles in natural science, books of a number of European publishers will be represented. A few of the better known publishers are: Akademie Verlag, Akademische Verlagsgesellschaft, Masson et Cie, Brockhaus Verlag, Springer Verlagsgesellschaft, Walter de Gruyter & Co., Cleaver-Hume Press Ltd., Franz Deutike Verlag, and Wilhelm Ernst & Son. Of special interest should be *Nouveau Traité de Chimie Minérale* (20 vols.) and H. Rind's *Atlas Der Phasen Kontrast Haematologie*.

**Brinkmann Instruments Inc.**

Booths 54 and 55. Brinkmann Instruments will exhibit Zeiss research microscopes, Brinkmann micromanipulators, Metrohm *p*H meters and automatic recording titrators, Sartorius analytical balances, Brinkmann photomicrographic cameras and exposure meters, and Haake constant temperature circulators.

**Cambridge University Press**

Booth 4. Cambridge University Press has long been a publisher in the natural and physical sciences—chemistry, phys-

ics, mathematics, biology, botany, zoology. It lists among its authors some of the world's most distinguished scientists, including Sir Charles Snow, Sir Arthur Eddington, Sir James Jeans, George Gamow, Lord Rutherford, Bertrand Russell, A. N. Whitehead, and Sir Charles Sherrington.

**Carolina Biological Supply Company Powell Laboratories Division**

Booth 37. The new West Coast Division of Carolina Biological Supply Company, Powell Laboratories, will represent the parent company in Denver this year. Plans are being made to provide an interesting and different display incorporating the latest available instructional material. We think you will find many of these innovations useful in your present and planned courses.

**Childrens Press, Inc.**

Booth 89.

**Climax Molybdenum Co.**

Booths 42 and 43.

**The Coca-Cola Company**

Booth 78. Ice-cold Coca-Cola will be served through the courtesy and cooperation of the Denver Coca-Cola Bottling Company and The Coca-Cola Company.

**Colorado Fuel and Iron Corporation**

Booth 61.

**Columbia University Press**

Booth 72. All recent Columbia books in anthropology, biology, biochemistry, psychology, and psychiatry will be displayed, as well as recent publications of UNESCO, World Health Organization, and Food and Agriculture Organization in these fields. Catalogs, informational literature, and advance information on new books will be available for exhibit visitors. A cordial invitation to browse is extended.

**Consultants Bureau Enterprises, Inc.**

Booth 57. In addition to its extensive program of translating and publishing Soviet scientific journals for American learned societies, CB publishes many scientific books and journals translated from Russian under its own colophon. Leading Soviet journals translated on a continuing cover-to-cover basis include: *Biochemistry, Kinetics and Catalysis,* and *Glass and Ceramics.* CB books are carefully selected from current Soviet publications in all fields of science and are translated into English by bilingual scientists, bringing Western researchers, engineers, and teachers the most significant Soviet literature. Some recent titles are: *Analysis of Gases in Metals, Soil Drilling by Vibration,* and *Ball Lightning.* Plenum Press, Inc., publishes the proceedings of conferences held by American and British learned societies, as well as monographs of note. Recent Plenum titles include: *Rocket Propulsion Technology, Fluid and Solid Mechanics,* and *Progress in Industrial Gas Chromatography.*

**Continental Oil Company**

Booth 19. Continental Oil's exhibit features "Alfol" alcohols, the newest of Continental's expanding line of petrochemical products. Alfols are primary straight-chain alcohols used as chemical intermediates in the synthetic detergent, plasticizer, and lube oil additive fields. The exhibit depicts a large illuminated Alfol molecule, and includes five sketches showing use areas for Alfol alcohols, and sample bottles of ten other Continental Oil petrochemical products. This exhibit was originally prepared as a component of Continental Oil's exhibit at the Fifth World Petroleum Congress which was held in New York in 1958. It has also been displayed in 1959 and 1961 at the Exposition of Chemical Industry in the New York Coliseum.

**Cooke Engineering Company**

Booth 88. The BAK Amplifier, exhibited by the Cooke Engineering Company of Alexandria, Virginia, and San Mateo, California, is an ultra-high input impedance unity gain amplifier for neurophysiological measurements and recording. An exceptionally high characteristic of stability is featured. The equipment aids in the recording of d-c and high-frequency a-c voltages from high (over 10,000 megohms) impedance sources. It has been used successfully in the recording of resting and action potentials of single neurons. This amplifier may be operated from an a-c transistorized power supply requiring a 60-cycle single-phase 115-volt current source, or by battery voltages controlled through a d-c accessory unit.

**The Decker Corporation**

Booth 87. The Decker Ophthalmic Artery Pulsenor Model 315-1 is designed to provide quantitative physiological data associated with cerebral circulation, based on the ophthalmic artery being a branch of the internal carotid artery and the circle of Willis. The Decker Caudal Plethysmorgraph System Model 320-1 utilizes the Decker T-42 Ionization Transducer in conjunction with an extremely simple pressure wave monitoring system for pulse rate and systolic blood pressure determinations. Decker Unalec Electrodes with Decaderm Electrode Compound, fastended with Decker skin adhesive, provide a noise free, highly stable electrode system applicable to EEG, EKG, and GSR recording.

**Dorsett Controls, Inc.**

Booth 25. Dorsett's exhibit includes an operating unit of its Riometer, a recently developed instrument for measuring ionospheric density to radio frequency radiation. This is accomplished by looking through the ionosphere at galactic radiation sources, and by measuring the degree of attenuation, thus determining ionospheric absorption or density. This instrument is a modern tool for evaluation of communication conditions and is popular for radio astronomy and space study applications.

**Doubleday & Company, Inc.**

Booth 44. Of special interest to both high schools and colleges, Anchor Books features its new paperback series in the sciences: The Science Study Series, published in cooperation with the Physical Science Study Committee, the Natural History Library, and the American Museum of Natural History. Selected Anchor and Dolphin Books in the sciences will also be exhibited. Among the hardbound books on display are: *Doubleday Pictorial Library of Science, Doubleday Pictorial Library of Nature, Doubleday Pictorial Library of Geography,* and *Living Fishes of the World* and *Living Amphibians of the World* (The World of Nature Series).

**ERA Research, Inc.**

Booth 22. Our exhibit will feature sophisticated equipment designed and tailored to each educational level—elementary, high school, junior college, and university—in the area of electricity, electronics, heat, life science, and mathematics. ERA Research, Inc., offers unique, low-cost equipment for use in teaching the modern sciences. Each unit is composed of modern, up-to-date components and materials, simple to use, and applicable to teaching levels from elementary through high school and university. ERA equipment

eliminates the old-fashioned "black box" approach to scientific equipment, e.g., all wiring and components are clearly visible. One single principle or effect is incorporated into each piece of equipment, thus doing away with unnecessary complexities. ERA products include the Electro-Plot, Model S-200, an electric field plotting system; the incubator, Model U-103, for hatching eggs for life science studies; the Thermobend system, for study of bimetal thermometers and thermostats; and the Transi-Curve, Model T-203, for studying charge and discharge characteristics of capacitors.

**Elgeet Optical Co., Inc.**

Booth 16. In attendance at the Elgeet booth will be: Mr. David Goldstein, president, Elgeet Optical Co., Inc.; Mr. Robert Lohwater, sales manager, Scientific Instrument and Apparatus Division; and Mr. Louis Marini, Midwest regional manager. On exhibit will be a new closed-circuit television system integrating two Elgeet research microscopes with DuMont closed-circuit equipment. Also shown will be the complete line of student, medical, stereo, metallurgical, and research microscopes being presented by the Scientific Instrument and Apparatus Division of Elgeet Optical Company. A new Zoom microprojector and other scientific optical and electronic instruments will be shown.

**Folkways Records & Service Corp.**

Booth 85. Folkways Records' documentary recordings, made in the field and laboratory of contemporary life and consisting of sounds found on earth, in the sea, and in space, demonstrate cultures and geography. Annotated and edited by experts in their fields, all recordings are accompanied by detailed, illustrated background notes. Films, filmstrips, and books dealing with the humanities and sciences may also be purchased from Folkways Records & Service Corp., producers and distributors.

**General Biological Supply House, Inc. (Turtox Products)**

Booth 71. We will welcome any suggestions you make for the betterment of our service and our products. If you are not acquainted with our several publications and our research request feature, our representatives will give complete information on how to avail yourself of these Turtox services.

**General Electric Research Laboratory**

Booths 1 and 2. Our exhibit will include panels showing a study of superconductors by electron tunneling, the results of work on low temperature chemisorption, achievements in high vacuum, measurements to as low as ($10^{-16}$ mm-Hg), unusual magnetic moments and transitions in iron-rhodium, a new transparent potting compound from silicone, electrical conductivities of $\alpha$- and $\beta$-phthalocyanine, the turbulent structure of a gaseous detonation, and studies at a very high mach number. There will also be demonstrations and apparatus showing defects in silicon crystals introduced by electron bombardment, a plano-plano magnifying lens, a quartz crystal chronometer, resistivity of strained silicon crystals, the relation of magnetic structure to crystal structure and several types of magnetic disorder, and motion from interaction of heat and magnetism.

**Graf-Apsco Company**

Booth 34. See the new "StereoGraf" low power binocular microscope displayed in our booth; this microscope is American-made and sells at low import prices. Also shown are the Graf-Apsco biological sciences microscopes, as well as representative models of rebuilt microscopes which are "as good as new." We welcome your repair inquiries on *any* make or model microscope.

**Grolier Society Inc./Americana Corp.**

Booth 23. The Grolier-Americana booth will feature the current edition of *The Encyclopedia Americana* and *The Book of Popular Science*. The *Americana* is a standard, scholarly encyclopedia, particularly strong in its coverage of the sciences. *The Book of Popular Science* is the only general-purpose science reference set correlated with the general science curriculum and published expressly for use in school libraries and in general science classrooms at the junior and senior high school level. Also available at the exhibit will be material correlating Grolier's *The Book of Knowledge* with the elementary curriculum.

**Harper & Brothers**
**W. W. Norton & Company, Inc.**

Booth 76. Major Harper science series will be exhibited, including the Science Today Series, hardbound books at quality paperback price; the Harper Modern Science Series under the editorship of James R. Newman, featuring well-known science writers like George Gamow and J. R. Pierce; the college-level Science Library in Torchbook paperback editions; numerous college texts in pure and applied science including Harper's Geoscience Series edited by Carey Croneis; medical books published by Hoeber-Harper; and science juvenile books. A catalog of titles suitable for purchase under Title III of the National Defense Education Act of 1958 is available, as well as catalogs of all Harper departments publishing in the sciences and complimentary copies of *Harper's Magazine*.

**Harvard Apparatus Co., Inc.**

Booth 75. The Harvard Apparatus Co., Inc., a nonprofit institution, will be exhibiting selected items from its large line of apparatus for research and teaching in physiology and allied sciences. Of particular interest will be the teaching kit of physiological materials designed for secondary school use. Also included will be various infusion-withdrawal pumps, respiration pumps, and peristaltic pumps.

**D. C. Heath and Company**

Booth 81. At the D. C. Heath and Company booth, where elementary, secondary school, and college science textbooks are exhibited, you can examine the Physical Science Study Committee's new text, *Physics*, and accompanying materials—laboratory guide and teacher's resource book. For elementary schools, we show the 1961 edition of *Health Science Series*, grades 1-8, by Herman and Nina Schneider, the most widely used series. For colleges, in addition to our usual offerings, we show a new edition of Brown's *Biology*, now with a laboratory manual; in chemistry, Martin A. Paul's new *Physical Chemistry*; and for physical science, a brand new book, *Physical Science*, by Omer, Knowles, Mundy, and Yoho of the University of Florida.

**High Altitude Observatory–National Center for Atmospheric Research**

Booth 10. The exhibit of HAO–NCAR will consist of photographs showing features of research in radio astronomy, coronal research, and chromospheric studies; and a balloon coronagraph with which HAO has conducted coronal and upper atmosphere research. The coronagraph, weighing

1000 pounds and measuring 12½ feet in height, consists of two parts. The frame and pointing mechanism had an illustrious history before HAO acquired it, having served in seven flights to 80,000 feet or more as part of the Stratoscope I series under the direction of Dr. Martin Schwarzschild of Princeton. The second part, the externally-eclipsed coronagraph, was built at HAO in Boulder, Colorado. In 1959, the assembly was flown to 38,000 feet in a manned balloon, and in 1960, it went to 80,000 feet in an unmanned balloon. Photographs taken with the coronograph have been used by Dr. Gordon Newkirk to examine the sun's corona as seen from high altitudes and to measure sky brightness at various angles from the sun. From the latter data, concentrations of various sizes of particulates in the upper atmosphere can be deduced. This is an early step in the analysis of the role high-altitude particulates play in meteorological and other atmospheric processes.

**Holt, Rinehart and Winston, Inc.**

Booth 53.

**Journal of Conflict Resolution**

Booth 62. An important purpose of *The Journal of Conflict Resolution* is to stimulate systematic research on international processes. The *Journal* provides a channel of communication for the research and thinking which are already being done, including work directly in this area and work in related areas which is potentially relevant. In addition, the *Journal* enriches the study of international relations by encouraging, within the behavioral sciences, a new area of specialization. Since it is concerned with problem areas rather than discipline, it provides the interdisciplinary context favorable to research on international behavior. The field delineated for the *Journal* is a new one, bridging the gap between the traditional disciplines of history and political science and the new methods of the behavioral sciences. *The Journal of Conflict Resolution* is published by the Center for Research on Conflict Resolution at the University of Michgan. With the December 1961 issue, the *Journal* will be completing its fifth year of publication.

**Kaman Nuclear**

Booth 7. Kaman Nuclear, a division of the Kaman Aircraft Corporation, introduces the NT 60-9, a new neutron generator specifically designed for activation analysis. This miniaturized accelerator incorporates feed-back control allowing known neutron outputs to be stabilized, thus simplifying the technique of activation analysis for research and industrial applications. In addition, there will be displayed a sub-miniature neutron generator, the NT 1000-1, specifically designed for logging studies and space applications. Kaman's standard generator, the NT 60-8, now widely used in colleges and universities throughout the world for classroom demonstrations and dynamic experiments on sub critical assemblies, will also be on display. In addition, research scientists from Kaman will be on hand to discuss the background of this organization in theoretical studies encompassing all branches of nuclear physics. Attendees are cordially invited to visit the Kaman Nuclear facility in Colorado Springs, Colorado. If classified information is to be discussed, advance clearance should be filed with Kaman's security office.

**Keystone Plastics Company**

Booth 33. The Keystone Plastics Company of Media, Pennsylvania, are specialists in scientific plastic processing with a proud record of many years' service in this exacting field. A pioneer developer of Acrylic plastic animal caging, Keystone's engineers anticipate the requirements of the discriminating researcher. Refinements to the regular line of Acrylic plastic caging and specialty items are constantly fabricated with improvements. The engineering department is available to design and construct special apparatus, cages, or parts—customized to meet your own specifications. In addition, Keystone manufactures a comprehensive line of stainless steel and aluminum alloy animal caging for small laboratory animals and rodents; roll-away racking for all types of cages; and a new, highly efficient, automatic watering system that may be purchased completely installed or in parts, for installation by your own laboratory technicians. A complete catalog of the regular line and dozens of time- and labor-saving devices is available for the asking.

**LaPine Scientific Company**

Booths 79 and 80. Leybold physics demonstration apparatus will be featured at the LaPine Scientific Company exhibit in Denver, including a working Plexiglas model high vacuum pump. Many live experiments will be set up, such as: a Leybold vacuum pump with discharge tube showing cathode and positive rays; demonstration model electric motors and generators; a demonstration multirange a-c/d-c meter; an electronic tube and circuit demonstration kit; a Wulf electroscope for radioactivity experiments; a new projector with accessories for projecting live physics experiments; a rotating mirror for classroom measurement of velocity of light by the method of Foucault and Michelson; wave motion apparatus; and a mechanical equivalent of heat apparatus of surprisingly simple construction. Leybold has an exceptionally well developed line of apparatus for teaching atomic physics, and has been a leading German manufacturer of physics-teaching apparatus for over 100 years. Among the LaPine laboratory equipment items on exhibit will be a flash-evaporator, Ainsworth Right-A-Weigh balance, and Sauter Toppan balance.

**E. Leitz, Inc.**

Booth 77. E. Leitz, Inc., will show the first fully automatic microphotographic camera that fits any microscope and has both detail and field-integrating exposure mechanisms. An outstanding feature is the possibility of determining the correct exposure for a small portion of the field for such difficult specimens as darkfield, phase contrast, and either black and white or color. In addition, Leitz will show their student model HM microscopes for secondary school use, and the simple Prado microprojector for projecting either microscope slides or 2 in. by 2 in. color slides.

**Macalaster Bicknell Corporation**

Booth 3. We will exhibit and demonstrate all the apparatus kits used in the PSSC Course in physics. New concepts in design and quantity manufacture permit low price levels hoped for by educators, but never before achieved. So valuable to learning, individual student participation in lab work is now possible with no sacrifice in quality, durability, or scientific validity.

**Macmillan Company**

Booth 65. The Macmillan Company will exhibit books of scientific and technical interest to both the natural and physical science fields. Representatives will be present to discuss our new and forthcoming books.

### The Martin Company

Booth 36. The focal point of the Martin exhibit will be a scale model of *Aries,* a space station vehicle conceived by the Martin Company. *Aries* could be used by man to explore the environment of space for prolonged periods of flight in a 350-nautical-mile circular orbit. With our present knowledge and scientific breakthroughs, it should be possible to launch such a vehicle by 1967, then place five men aboard via a ferry space craft. It is expected that booster capability will be available by 1965. A number of leading aerospace companies contributed equipment and valuable scientific data to the Martin Company for the scale model.

### McGraw-Hill Book Company, Inc.

Booths 67 and 68. You are invited to inspect the new 15-volume *McGraw-Hill Encyclopedia of Science and Technology*, a comprehensive reference work which presents extensive coverage and concise, factual, basic data in all areas of the physical, earth, and life sciences, and engineering; 7200 articles by over 2000 noted contributors present, in one convenient source, material which previously would have been contained hundreds of books, and in the case of some specialized information, only in periodicals and technical journals. The text is well-illustrated, thoroughly cross-referenced, contains extensive bibliographies, and includes a 548-page index volume with over 100,000 entries. Also on display will be a wide selection of our college- and professional-level technical and scientific books and catalogs for your perusal.

### Charles E. Merrill Books, Inc.

Booth 39. Charles E. Merrill Books, Inc., Columbus, Ohio, will exhibit its full line of textbooks, workbooks, skill-texts, and other educational materials. Included in the Merrill exhibit will be new books in the fields of education and psychology, business and economics, physical science, biological science, and engineering. Many of Merrill's new titles will be on display for the first time, as the company has more than tripled its number of new publications in 1961, as compared to the new books it released in 1960. Charles E. Merrill Books, Inc., publishing since 1842, began its "College Division" late in 1958. Since then, this division has seen rapid and dynamic growth in all fields of higher education and professional materials. It is with a great deal of enthusiasm that Charles E. Merrill Books, Inc., offers, this year, its first full-scale exhibit of professional books for the attendees of this significant exposition.

### Miles Reproducer Company, Inc.

Booth 74. On display will be the newest "Walkie-Recordall," a lightweight, miniature, briefcase conference recorder-transcriber of maximum efficiency. It records continuously up to 4 hours, in or out of a closed briefcase, and at the same time filters surrounding noises and equalizes voices that are far or near, loud or soft. The Recordall is excellent for recording lectures, staff meetings, conferences, hearings, interviews, round-table discussions, reports, and dictation in the office, or in cars, trains, or planes. There are no wires, plugs, reels, or tapes; the Recordall starts and stops by voice-actuation from a microphone or telephone. Although facilities for transcription are available, transcribing may be eliminated because the nonmagnetic recordings are permanent and cost as little as 3¢ per hour. They are indexed and may be mailed or filed.

### Mnemotron Corporation

Booth 27. Mnemotron Corporation of Pearl River, New York, will exhibit multichannel precision analog data tape recording systems for recording physiological variables. On display will be the average response computer CAT for precise measurement of evoked potentials in the brain, cardiological data, phonocardiograms and averaging of other biological variables; and Sonlink, a system of sending physiological variables over a standard telephone with no connection to line.

### C. V. Mosby Company

Booth 40. New knowledge, new ideas, new research, and techniques are waiting for you in the Mosby books for the biological sciences. Come in. Look over these books at your leisure and convenience. If you wish their assistance, our representatives will be happy to discuss any book with you.

### Muscular Dystrophy Associations of America, Inc.

Booth 82. Our three-panel educational exhibit presents information on muscle and muscular dystrophy. The left-hand panel, consisting of a series of figure drawings with accompanying text, presents the manifestations of muscular dystrophy and a statistical breakdown, by age groups, of the incidence of MD. The center panel is a pictorial view of the recently opened Institute for Muscle Disease, New York City, an MDAA-sponsored project for research into muscular dystrophy and related neuromuscular diseases. The areas of research sponsored by the MDAA grant-in-aid program in quest of the cause and cure for muscular dystrophy are shown in the right-hand panel. Line drawings, with explanatory text, of various animals in which muscular dystrophy occur give visual illustration to the concept that MD is not confined to humans, but appears in many species of animals.

### National Bureau of Standards

Booth 20. Using radar methods, the National Bureau of Standards' Central Radio Propagation Laboratory is trying to accomplish two major objectives: To advance the art of ionospheric and exospheric investigation; and to provide data on the features of these regions for regular radio wave propagation predictions services, geophysical research, and analysis of the various phenomena present. The three principal techniques are: 1) vertical incidence sounding of the ionsphere for electron densities and layer heights from the ground; 2) use of a vertical incidence sounding device mounted in a satellite to probe the ionosphere from above—topside sounding; and 3) ground-based, high-power scatter radar installation, principally to measure ionosphere electron densities, kinetic temperature of ions, major ionic components at certain heights, and intensity of the earth's magnetic field.

### National Geographic Society

Booth 66. The exhibit of the National Geographic Society will feature the *National Geographic Magazine* and the *Geographic School Bulletins.* Also on display will be maps, books, pictures, and other special educational materials of the Society.

### National Science Foundation

Booths 69 and 70. The National Science Foundation exhibit presents in graphic form its programs for promoting basic research, education in the sciences, and dissemination of scientific information. This includes support for scientific investigation, equipment, fa-

cilities, and institutional grants. Education programs are provided for graduate students, as well as for course content improvement—fellowships, institutes, etc. Scientific information programs are aimed at making the results of research more readily available to the nation's scientists. Other activities of the Foundation of interest to AAAS members are those concerned with maintaining the National Register of Scientific and Technical Personnel, making fact-finding studies and analyses of the national research and development effort, and developing national science policy.

### New American Library

Booth 83. The Mentor and Signet books on display make it possible for schools and individuals to have an inexpensive "library of science." Seventy-eight of the 679 titles in the 1961 edition of the AAAS publication *An Inexpensive Science Library* are published by the New American Library. All of these books are approved for NDEA purchase. Hundreds of schools and colleges—and the NSF Traveling High School Science Teacher Program—use these science books. Each year a dozen new titles are published. Newest of these is *The Origins of Scientific Thought,* a November book, and first of the five-volume Mentor "History of Scientific Thought" series. Ask for a complimentary copy when you visit Booth 83.

### Office of Naval Research

Booth 84. The Office of Naval Research, Washington, D.C., invites you to visit their exhibit illustrating major areas in ONR's training devices program. ONR supports a broad program of scientific research essential to develop future naval capabilities. The exhibit displayed at this year's AAAS meeting pertains to the rapidly expanding science of simulation and its applications to make possible more effective training for fleet operations. The Fleet Ballistic Missile Trainer simulates critical areas of atomic-age submarines, thus permitting training that would otherwise be impossible, dangerous, or expensive to conduct on board the actual submarine. These simulators were developed by the U.S. Naval Training Center, Port Washington, New York, an ONR laboratory, and are used at the shore-based Fleet Ballistic Missile Training Facility, New London, Connecticut.

### Ohio Oil Company Research Center

Booth 5. Our exhibit will consist of three panels of photographs, both black and white and color, which tell the story of our company, with emphasis on its applications of the sciences. One panel will show that the Ohio Oil Company engages in all phases of the oil industry, namely, exploration, production, transportation, refining, petrochemicals, and marketing. A second panel will show a colored map of the world and will indicate those countries in which our company has operations. The third panel will have a large picture of our Denver Research Center, with a series of photographs of typical research.

### Pergamon Press

Booth 86. Pergamon will display an outstanding group of new books, journals, and reference works. Featured are volumes I and II of the *Encyclopaedic Dictionary of Physics,* which, when completed, will number eight volumes plus a special six-language glossary. Proceedings of the Fifth International Congress of Biochemistry (Moscow) and First International Congress of Pharmacology (Stockholm) will also be available for inspection. Among the new journals that Pergamon is publishing are *Radiation Botany, Journal of Psychiatric Research, Infra-Red Physics, Vision Research,* and *Corrosion Science.* Pergamon, a scientific, technical, and medical publisher, also produces over ninety international journals. Through its affiliate, Gauthier-Villars of Paris, the Press offers an equally distinguished list of publications from the French-speaking world. Through other affiliates—Maxwell, Meier & Holmes and I. R. Maxwell & Co.—complete library as well as journal and periodical subscription services are supplied.

### Prentice-Hall, Inc.

Booth 91. Featured at this year's meeting of the AAAS are the newest publications from Prentice-Hall, Inc., designed to meet the educational needs of the scientist, teacher, and student. Included in the display is the complete Foundations of Modern Biology Series (11 volumes). This group of monographs, on major areas of the biological sciences, is a radical departure from the traditional texts available for advanced high school and undergraduate courses. In addition to this series, new text and reference books in the areas of chemistry, engineering science, geography, geology, mathematics, physics, and the like, will be available for your examination.

### Public Health Service

Booth 17. The Division of Research Grants exhibit, Grant and Award Programs of the Public Health Service, displays the areas of financial support available from the Public Health Service: Research grants, program grants, research training and fellowships, and health research facilities construction grants. A projector mounted in the exhibit illuminates a series of slides that provide detailed information on the research grants and career development programs. The slides illustrate the review and appraisal of applications, the categories of eligibility, and the various types of grants and fellowships. The Division of Research Grants, a unit of the National Institutes of Health, provides administrative management and policy coordination for the grant programs of the Public Health Service.

### Public Service Company of Colorado

Booth 8. Our exhibit consists of a relief map of the state of Colorado and features illuminated gas and electric systems and power plants operated by Public Service Company of Colorado. The map is contained in a large lighted case and is flanked by two smaller panels. The side panels each contain three illuminated color transparencies, which depict a phase of the gas or electric industry in the state. Appropriate descriptive material augments the display, giving pertinent facts concerning the number of people served; extent of the system; and economic value of the Company's investment in property, plant, and equipment.

### Reinhold Publishing Corporation

Booth 56. The Reinhold College Textbook Department is displaying a large selection of titles from the company's line of scientific, technical, and college textbooks. In addition to the series *Books in the Biological Sciences* and encyclopedias on the subjects of biology, chemistry, microscopy, and spectroscopy, Reinhold is also introducing a new series of paperbound supplementary textbooks on the basic concepts of chemistry known as *Selected Topics in Modern Chemistry.* There are new textbooks covering cytology,

cell function, plant ecology, advanced organic chemistry, and many other subjects, plus a new 6th edition of the famed *Condensed Chemical Dictionary*. The display presents a broad sampling of Reinhold titles in all scientific disciplines.

### W. B. Saunders Company

Booth 18. W. B. Saunders Company invites you to examine their textbooks in biology, chemistry, and medicine. Exhibited for your selection will be the most recent editions of such well-known titles as *Biology* by Villee; *Histology* by Maximow and Bloom; *The Vertebrate Body* by Alfred S. Romer; *Cell Physiology* by Arthur Giese; *Function of the Human Body* by Arthur Guyton; *Textbook of Medical Physiology* by Arthur Guyton; *Physiology and Biophysics* by Theodore Ruch and associates; *Cytology* by DeRobertis, Nowinski, and Saez; *Fundamentals of Ecology* by Eugene Odum; *Comparative Animal Physiology* by C. Ladd Prosser and Frank A. Brown, Jr.; *General Endocrinology* by C. Donnell Turner; *Development Anatomy* by Leslie Brainerd Arey; *Embryology* by B. I. Balinsky; *Chemistry of Organic Compounds* by Carl Noller; and *Psychology* by Donald I. Hebb. Representatives of the firm will be on hand for consultation and advice during the meeting.

### Scholastic Magazines, Inc.

Booth 60. Scholastic Magazines will exhibit *Science World*. Published biweekly during the school year, *Science World* presents important developments on today's frontiers of science correlated with the secondary school science curriculum (edition 1 for general science, earth, and space science classes—grades 10-12; edition 2 for classes in biology, chemistry, and physics—grades 10-12). *Science Teacher's World*, the teacher edition, includes teaching guides, classroom projects, and articles of professional interest. *Science World* is published with the official cooperation of the National Science Teachers Association. Science World Book Club (grades 7-12) offers a new list of top-rated science books in inexpensive paperback editions, to enrich the secondary school science program. Titles include science history, biography, mathematics, experiments and projects, philosophy of science, and reports on major breakthroughs in science and technology.

### Science Library

Booths 12, 13, and 14. The Science Library is administered by the AAAS as an additional service to publishers of books, both exhibitors and non-exhibitors. It has become an integral part of each year's Annual Exposition of Science and Industry. In the Science Library, books of all publishers participating are grouped by fields of science —a convenience both to the visitor who is restricting his inspection of books to a single category, and to the one who wishes to browse. Among the publishers in the Science Library are: AAAS, Academic Press Inc., American Mathematical Society, Annual Reviews, Inc., Antioch Press, Bantam Books Inc., Barnes & Noble, Inc., Burgess Publishing Co., Consultants Bureau Enterprises, Inc., Coward-McCann, Inc., John Day Co., Dial Press, E. P. Dutton & Co., Inc., Emerson Books, Inc., W. H. Freeman and Co., Harper & Brothers, Houghton Mifflin Co., Institute for Scientific Information, M.I.T. Press, National Academy of Sciences–National Research Council, New American Library of World Literature, Inc., Oxford University Press, Inc., Plenum Press, G. P. Putnam's Sons, Reinhold Publishing Corp., Charles Scribner's Sons, Charles C. Thomas, Publisher, University of Miami Press, University of Tennessee Press, University of Toronto Press, Viking Press, Inc., Franklin Watts, Inc., and World Publishing Co.

### Scientists' Committee for Radiation Information

Booth 28. Scientists increasingly recognize a responsibility to inform the larger community in areas where science impinges on public policy [*Science* **132**, 68 (1960)]. This exhibit demonstrates the range of activities that scientists' groups have developed and can pursue in their own communities to promote better understanding of such issues as ionizing radiation. Sources of factual information available to the nonspecialist scientist in speaking before the public are described, and sample literature and bibliographies will be distributed.

### Sesco, Inc.

Booth 6. Sesco is a subsidiary of Universal Scientific Company, Inc., which specializes in the field of science apparatus. The Sesco units on exhibit will include representative items in the field of chemistry, general science, mathematics, and physics. These units are recent developments and have been evaluated by an impartial staff of practicing educators with regard to their functional design and teaching effectiveness. Many of the units serve areas in which suitable apparatus previously has been unavailable. Detailed specification sheets explain the operation of each unit and the more complicated units contain, in addition, a detailed manual of experiments.

### Special Libraries Association Colorado Chapter

Booth 11. Part of the exhibit will be supplied by the SLA Translation Center at the John Crerar Library of Chicago. This exhibit consists of three panels: the first panel is a photomontage that points out the importance of foreign scientific research; the second panel displays all the publications of the Translation Center and announces the available translations; and the third panel displays photostatic and microfilm copies of translations that are supplied upon request.

### Stearns-Roger Mfg. Co.

Booth 26. Our exhibit will feature saline water conversion as it is being accomplished at Freeport, Texas, the first operating demonstration plant of the Office of Saline Water, U.S. Department of Interior. The Freeport demonstration plant utilizes the long tube vertical, multiple-effect distillation which will produce one million gallons of fresh water per day. Saline water conversion will be demonstrated in this booth through the use of graphic and photographic illustrations. Technical personnel from the operating company, the Stearns-Roger Mfg. Co., and possibly from the Office of Saline Water, U.S. Department of Interior, will be available to explain the operation of the Freeport plant. Printed material on the history and development of the Saline Water Demonstration Program will be available for all visitors.

### Sundstrand Aviation-Denver

Booth 9. Sundstrand Aviation-Denver will exhibit a full-scale mock-up and sectional drawings of a Cryogenic Space Power System being developed under a U.S. Air Force Systems Command contract. Named the Cryhocycle, it is a cryogenically fueled, fully inte-

grated space power generation and thermal control system. Powered by cryogenic hydrogen and oxygen, this system is unique in that normally wasted heat, from energy conversion inefficiencies, and metabolic heat, from the crew of the space vehicle, is recovered by the coolant loop and returned to the power cycle by interstage reheaters between each of the four stages of a single-disc turbine. This results in specific propellant consumption economies which have not been achieved by any other dynamic system for space power. In addition, the entire system operates at room temperature, eliminating a need for high-temperature materials, solving wheel containment problems, and greatly improving the inherent reliability and safety. Several versions of this space system are being developed which will be suitable for missions of several weeks' duration, at power levels that range from 1.5 kilowatts to 50 kilowatts.

### Teaching Materials Corporation

Booth 24. The Teaching Materials Corporation exhibit will feature teaching machines and programed courses for use in elementary and secondary schools, colleges, business, industry, government, and home study. Teaching Material Corporation's current offerings include courses in arithmetic, algebra, statistics, and electricity. Eventually, Teaching Materials Corporation will program elements of all science subjects on the elementary, secondary, and college levels. The exhibit will feature the new Min/Max machine—a durable, light-weight, plastic machine to which an answer tape is attached, permitting multiple use of programs.

### Tobacco Industry Research Committee

Booth 15. The scientific research program developed and directed by the Scientific Advisory Board to the Tobacco Industry Research Committee is described. The research program, covering all phases of tobacco use and health, contains three main areas of investigation within which are the specific fields of research. These areas and specific fields are described. Grants-in-aid have been awarded so far to more than 110 scientists in 755 institutions, and recipients have published over 200 papers to date on their research in medical and scientific journals.

### United Western Laboratories, Inc.

Booth 90. A sterilizer of medical instruments under cold conditions, known as the Powers Cold Instrument Pathogermicide, was formulated in the laboratories of United Western Laboratories, Inc., some years ago by their chief chemist and pharmacist, Emmett Powers. This combination, a compatible mixture of many well-known ingredients, has been known and used over a period of many years by hospitals and professional laboratories. It quickly destroys such pathogenic spores as tetanus, anthrax, and the wax-coated tubercle bacilli. It is effective at 40° to 50° below zero. The Powers Pathogermicide also has been found to prepare a skin before operation quickly, without causing irritation. It is sold only to professional people.

### University of Chicago Press

Booth 41. The University of Chicago Press exhibit will feature the new Phoenix Science Series, inaugurated in paperback form with reprints of nine titles and with one original publication, *A Handbook of Biological Illustration.* Recent and important hardbound books will also be displayed, and late issues of scientific journals published by the Press will be available for examination.

### D. Van Nostrand Company, Inc.

Booth 29.

### Van Waters & Rogers, Inc.

Booth 58. Van Waters & Rogers, Inc., has three divisions: Braun, B-K-H, and Scientific Supplies. Our exhibit will display a variety of the latest available scientific apparatus and instruments. This equipment will be of interest to those in a wide range of disciplines, including the life sciences, physical sciences, education, and the clinical scientific laboratory field. Included in our exhibit will be the Mark II AutoTutor Teaching Machine; the first western showing of the Type S Mettler Digital Analytical Balance (a new approach to perfection in weighing); the latest developments in American and imported microscopes; and the newest analytical instruments of such manufacturers as Baird-Atomic, Beckman Scientific and Process Instrument Division, and Coleman Instruments, Inc.

### Ward's Natural Science Establishment, Inc.

Booth 30. Ward's is celebrating its 100th year of service to American education. Ward's display centers around several of the interesting teaching aids developed especially for our Anniversary Year, including the popular new Curriculum Aid series for high school use. Featured also are bio-plastic mounts, pioneered by Ward's in 1946. Of particular interest is the new plant kingdom collection in bio-plastic with carrying case. For the geologist there are mineral collections and specimens. Teachers of biology and geology are cordially invited to visit Ward's display and meet staff members from both Rochester and Monterey.

### Welch Scientific Company

Booth 64. The Welch Scientific Company plans to display selected apparatus used in physics, chemistry, and biology laboratories. These will include those especially adapted to the teaching of science in the secondary schools and colleges, as well as some items specifically designed for special use in research and industrial laboratories. A partial list includes stainless steel balances; quick operating, high vacuum pumps; electrical measuring instruments; electronics teaching devices; Densichron for measuring optical density, color saturation, paper chromatograms, etc.; and new, enlarged mathematics models. Many charts and visual aids for teaching science, mathematics, and physiology, as well as preserved specimens, synthetic skeletons, and other biological models will be shown.

### John Wiley & Sons, Inc.

Booth 63. John Wiley & Sons, Inc., cordially invite you to visit our booth at the 1961 AAAS Exposition of Science and Industry, where a wide selection of our college and professional level scientific and technical publications will be on display. Our representatives look forward to meeting and talking with you there. Naturally, we hope that you will spend a few minutes in browsing through the titles on exhibit. Parratt's *Probability and Experimental Errors in Science* and Core, Strausbaugh, and Weimer's *General Biology* (ed. 4) are just two of the many important new Wiley books that will make your visit to Booth 63 a stimulating one.