SCIENCE

NEW SERIES
VOL. 94, NO. 2451

FRIDAY, DECEMBER 19, 1941

SUBSCRIPTION, $6.00
SINGLE COPIES, .15

Science: published weekly by The Science Press, Lancaster, Pa.
Entered as second-class matter July 18, 1923, at the Post Office at Lancaster, Pa., under the Act of March 3, 1879.

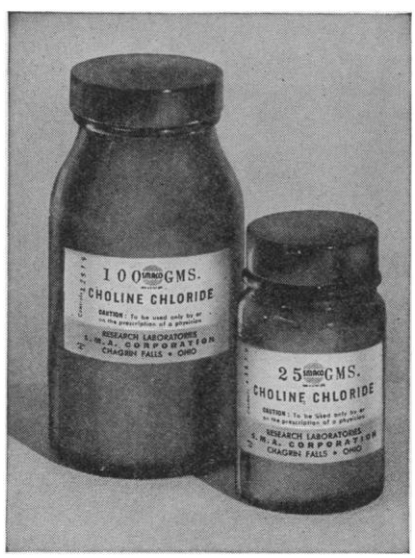
CHOLINE CHLORIDE

SMACO

THE IMPORTANCE of choline in nutrition is now more widely recognized as a result of new investigations showing its relationship to liver cirrhosis[1] and renal damage.[2] Under specific dietary conditions a deficiency of choline results in fatty infiltration of the liver in rats[3] and perosis in chicks.[4] Choline is definitely involved in the metabolism of the sulphur containing amino acids.[5, 6]

It has been suggested that choline is a factor in the B-complex[7] and because of this there is increasing use of choline chloride as a routine supplement in nutritional research especially where highly purified diets are employed.

Choline Chloride synthesized in our laboratories, is available conveniently packaged for research purposes and in bulk quantities.



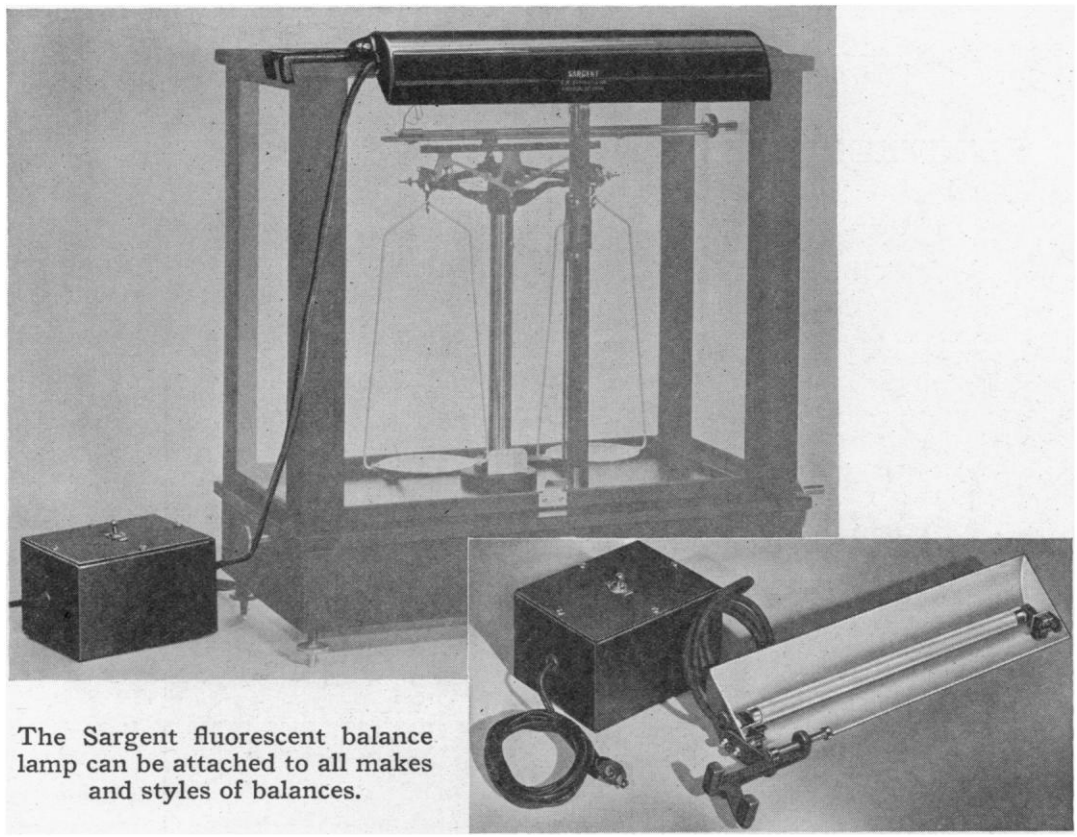
PRICES ON REQUEST

•

RESEARCH LABORATORIES
S. M. A. Corporation
CHAGRIN FALLS, OHIO

1. GYÖRGY, P., and GOLDBLATT, H.: *Proc. Soc. Exp. Biol. & Med.,* 46:492:1941.
2. GRIFFITH, W. H.: *J. Nutrition,* 21:291:1941.
3. BEST, C. H., and RIDOUT, J. H.: *Ann. Rev. Biochem.,* 8:349:1939.
4. HEGSTED, D. M., MILLS, R. C., ELVEHJEM, C. A., and HART, E. B.: *J. Biol. Chem.,* 138:459:1941.
5. DU VIGNEAUD, V., CHANDLER, J. P., MOYER, A. W., KEPPEL, D. M.: *J. Biol. Chem.,* 131:57:1939.
6. GRIFFITH, W. H., and WADE, N. J.: *J. Biol. Chem.,* 132:627:1940.
7. GYÖRGY, P., and GOLDBLATT, H.: *J. Exp. Med.,* 72:1:1940.

SMACO



The Sargent fluorescent balance lamp can be attached to all makes and styles of balances.

Directed Frontal Illumination

Mounted at the front of the balance case, the *parabolic reflector* directs all light over the entire working area of the balance. In contrast to customary overhead methods of illumination, light is directed through the front door to uniformly illuminate beam, chain scale, pointer index and pans. By this arrangement, the light has a path to all these parts uninterrupted by the balance mechanism, so eliminating objectionable shadows and poorly lighted areas.

The lamp is rigidly supported by a claw-like clamp which cannot mar the case finish, and when in position permits free movement of the sliding door. The weight of the reflector is greatly reduced by making a separate unit of the auxiliary so that it can be placed on the laboratory bench close to the balance.

The *parabolic reflector* is a completely welded sheet metal unit, having a dark blue porcelain enamel finish on the outside surface and a white porcelain enamel finish on the inside. The G. E. fluorescent tube supplied with the lamp produces approximately 750 hours of glareless, efficient light of daylight quality.

S-3820 Balance Lamp, Fluorescent, Sargent. Complete with No. S-44285. T-5 fluorescent tube **11.50**

S-44285 Fluorescent Tube, T-5, 8 watts. For replacement. Each **1.10**

E. H. SARGENT & CO.

SCIENTIFIC LABORATORY SUPPLIES

155-165 EAST SUPERIOR STREET ∴ ∴ ∴ CHICAGO, ILLINOIS

SCIENCE

VOL. 94 FRIDAY, DECEMBER 19, 1941 NO. 2451

SCIENCE: A Weekly Journal devoted to the Advancement of Science, edited by J. MCKEEN CATTELL and published every Friday by

THE SCIENCE PRESS

Lancaster, Pa. Garrison, N. Y.

New York City: Grand Central Terminal

Annual Subscription, $6.00 Single Copies, 15 Cts.

SCIENCE is the official organ of the American Association for the Advancement of Science. Information regarding membership in the Association may be secured from the office of the permanent secretary in the Smithsonian Institution Building, Washington, D. C.

SCIENCE AND NATIONAL DEFENSE[1]

By Dr. VANNEVAR BUSH

PRESIDENT OF THE CARNEGIE INSTITUTION OF WASHINGTON; DIRECTOR OF THE OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT, WASHINGTON, D. C.

IN this discussion of the present position of science and research in National Defense I will confine myself to two points. The first concerns the form of organization under which the scientists of this country are working. The second, which is very brief, has to do with the spirit with which the task is undertaken. As to the work itself I can not, of course, be specific at the present time.

Details of the organization have been made known, but I think they are not well understood generally. In June, 1940, there was formed, by order of the Council of National Defense, a group called the National Defense Research Committee (NDRC), for the purpose of supplementing the work of the Army and Navy in the development of devices and instrumentalities of war. This new organization was intended to function in an executive, not an advisory, capacity. The advisory function was being adequately cared for by the National Academy of Sciences, which has been in existence since the Civil War period, having been created by Act of Congress for the express purpose of advising the government on its scientific and technical problems. There was, however, need for a civilian group with executive powers to supplement the scientific and technical work of the Army and Navy, for,

[1] From an address delivered at the joint luncheon of the Acoustical Society of America, the Optical Society of America and the Society of Rheology in New York on October 24, 1941.

PREVIEW OF THE ANNUAL EXHIBITION

of the American Association for the Advancement of Science, Baker Hotel, Dallas, Texas, December 29 to January 1

The exhibition of the American Association for the Advancement of Science will this year be held at the Baker Hotel, Dallas, Texas, from December 29 through January 1, 1942. We again wish to express our appreciation for the cooperation that we have received from the exhibitors who have helped to maintain the high standards of the exhibition. Some institutions and concerns who have recently decided to take part in the exhibition have not had time to send descriptive material for publication in this issue of *Science*. A brief description of exhibits follows.

DORIS LEISEN,
Director of Exhibits

AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS

Agricultural Experiment Station

Booth No. 58

Importance of Vitamin A in Animal Nutrition: Photographs and charts are used to illustrate the economic importance of vitamin A and its precursors for farm animals. This includes effect on growth, production, reproduction and health, as well as the quality of the products from these animals for human food. Illustrations are shown for poultry, dairy and beef cattle, swine, sheep and goats. Mr. O. C. Copeland is in charge.

AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS

Agricultural Experiment Station

Booth No. 57

Genetics of Sheep and Goats: Photographs of embryos up to sixty-two days of age resulting from breeding goats to sheep are exhibited together with aborted fetuses. Photomicrographs and drawings are shown of the chromosomes of both parent species and of the hybrid embryo. Photographs also are shown of the wild Mouflon, which is one of the parental species of domestic sheep, together with those of the F_1 (Mouflon × domestic sheep) and back-cross progeny. Samples and photomicrographs of coat covering are shown from each. Differences in tail-length and in number of coccygeal vertebrae of the parents and hybrid offspring are illustrated. Dr. B. L. Warwick is in charge.

AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS

Agricultural Experiment Station

Booth No. 56

The use of colchicine in cotton breeding is illustrated by living plants of wild and cultivated species of cotton, sterile hybrids between wild and cultivated species, and fertile polyploids produced from sterile hybrids. Photographs show the chromosomes in normal species, hybrids, and colchicine induced polyploids. The origin of the tetraploid American cultivated cotton is illustrated with plant material. Dr. J. O. Beasley is in charge.

AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS

Texas Agricultural Experiment Station

Booth No. 55

The scope of experimental work on the cotton root-rot disease (most destructive plant disease of the Southwest) is illustrated by charts, photographs and publications giving the results of field and laboratory research. Specimens showing the various stages in the life history of the root-rot fungus are displayed together with cotton plants showing the effects of the disease. Another phase of the exhibit deals with results of physiological studies on fruiting of the cotton plant as influenced by different soil-moisture and nutrient conditions. Dr. A. A. Dunlap is in charge.

AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS

School of Engineering and Department of Physics

Booth Nos. 23, 24

This exhibit illustrates apparatus used and results secured in a research project determining compressibility factors for natural gas, without volume measurements, through a pressure range from atmospheric up to 4,000 lbs. per sq. inch. Metallographic specimens of ferrous and non-ferrous metals are exhibited for inspection under the microscope. Photographs and charts of apparatus being used in a research project on the continuous solvent extraction of cottonseed oil are exhibited. Demonstrations of a micrometer measuring changes in linear dimensions as small as one millionth of an inch are conducted. This apparatus was developed in the Physics Department in 1941 by J. R. Keeling, who conducts the demonstrations. Nomographic charts used in the solution of some intricate equations involved in a research project on design procedures for continuous structures are exhibited. Dr. Jakkula, in attendance, welcomes discussion with those interested in nomographic solutions. Photographs and drawings used in projects on low cost housing and elementary schools are exhibited.

AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS

Booth Nos. 9, 16

The Sciences Applied to Oil Fields: This exhibit shows how measurements of various physical properties of the strata penetrated in drilling wells are used, together with the examination of fossils from the samples taken, to interpret the geological conditions under which oil and gas are accumulated in commercial quantities. The exhibit is illustrated by photographs of oil field operations, by samples of fossils, and by geologic cross-sections of typical oil fields. Some member of the Association's Committee on the Applications of Geology or of the Houston Geological Society, organizations which cooperated in the preparation of the exhibit, is in attendance during exhibition hours.

AMERICAN ASSOCIATION OF SCIENTIFIC WORKERS

Booth No. 47

This exhibit illustrates how the Association is fulfilling its general aims of bringing scientists into closer contact with their fellow citizens and of effecting the participation of scientists in solving the problems which face our country. Examples are shown of the activities by the national organization and by the local branches having as their objects the following: (1) aiding national defense, national morale and the nation's health; (2) furthering the continuance of scientific work; (3) disseminating accurate scientific information; (4) preserving science and freedom of thought in war-time; and (5) acquainting scientists with facts and needs of many problems which involve social welfare. Some member of the Southwestern Division of the American Association of Scientific Workers is in attendance.

BAUSCH & LOMB OPTICAL COMPANY

Rochester, N. Y.

Booth Nos. 18, 19

Visitors to the Bausch & Lomb exhibit will see not only a pictorial presentation of the vital part the company is playing in the National Defense Program, but also a most comprehensive display of its products. While the job of producing fire control instruments, optical glass and such of the regular products as are used by the Army and Navy is foremost, our efforts to continue to supply science and education with their optical tools will be the best under present circumstances. Visitors are cordially invited to discuss their interests with our representatives, G. Rohde and G. H. Leffler.

BIOLOGICAL ABSTRACTS

University of Pennsylvania

Booth No. 8

A cooperative, non-profit journal published by biologists for biologists. Abstracting regularly more than 1,400 journals, including many foreign publications, *Biological Abstracts* is the only abstracting service in the world which covers the entire field of biology. It is now published in five sections as well as the complete edition. Starting in January, 1942, a new section will be published comprising specially assembled abstracts of Animal Production and Veterinary Science. Dr. John E. Flynn, editor-in-chief, and H. I. Anderson, business manager, are in attendance to welcome visitors and furnish information.

THE BLAKISTON COMPANY

Philadelphia, Pa.

Booth No. 6

During 1941 Blakiston published important books in the fields of agriculture, astronomy, biology, chemistry, hygiene, physics and medicine, all of which are on display in Booth 6. Be sure to see: the first four titles in The Harvard Books on Astronomy, Snell's "Biology of the Laboratory Mouse," Colin's "Elements of Genetics," the Third Edition of Meredith's "Hygiene," Mellan's "Organic Reagents in Inorganic Analysis," the Third Edition of Foley's "College Physics," Weber's "Temperature Measurement and Control" and the Fifth Edition of Gould's "Medical Dictionary." Mr. E. Raidy Stetson is in charge.

CENTRAL SCIENTIFIC COMPANY

Chicago, Ill.

Booth No. 35

Cenco again displays the latest designs of scientific apparatus for the physics, chemistry and biology laboratory. Visiting scientists are invited to attend. Attention is called to "Selective Experiments in Physics," a series of approximately 150 experiments compiled by five prominent teachers of physics collaborating with Cenco's technical staff. Included in the exhibit are a novel student Spectrometer, the simplified Cenco-Edgerton Stroboscope, Explano and Micro-Explano Mounts, a low-cost High-Vacuum Unit utilizing a new all-steel Diffusion Pump and many other items. Representatives in attendance are R. D. Matthews and G. C. Godejahn.

THE DALLAS PETROLEUM GEOLOGISTS

Booth No. 13

For the benefit of visitors interested in the geology of Dallas County, the Dallas Petroleum Geologists have prepared a bulletin. In addition to summarizing past work on the area, the bulletin contains a considerable amount of new information. Detailed descriptions of the surface formations are followed by an account of the subsurface geology and the geological history. A map showing areal geology is included. The bulletin and the map are exhibited and placed on sale at cost. Representatives of the Dallas Petroleum Geologists are in attendance.

THE EASTMAN KODAK COMPANY

Rochester, N. Y.

Booth Nos. 11, 12

The exhibit of the Eastman Kodak Company includes the latest developments in color photography. There are examples of the new Kotavachrome and Minicolor prints made from Kodachrome transparencies. A fine display of Kodachromes in various sizes is also exhibited and the subjects range from scientific to pictorial. The equip-

ment display includes the latest cameras for black-and-white and color photography, also accessories and attachments for scientific photography. Mr. James Christy represents the Eastman Kodak Company.

THE GENERAL ELECTRIC COMPANY

Schenectady, N. Y.

Booth No. 41

The General Electric Company exhibit is a "push the button and make it work yourself" affair. A "sun motor" runs from the light energy developed by ordinary lamps; an aluminum dish floats in air; "smoke" clouds of mercury appear; an Alnico "tumble-bug" puts on a show. The exhibit also includes an integrating exposure meter, a portable X-ray diffraction unit, a strain analyzer, an electrodynamic ammeter, an Alnico floating magnet and gauges for measuring the thickness of molecular films by means of interference colors. L. H. B. Peer, of the General Electric Research Laboratory, is in charge.

THE GRADWOHL SCHOOL OF LABORATORY TECHNIQUE

St. Louis, Missouri

Booth No. 38

This exhibit is designed to show teaching methods in relation to Frozen Section work on pathological tissues. Together with the Frozen Section Method, new and important methods of tissue staining are demonstrated: first, a new method of differentiating Gram positive from Gram negative organisms in tissue; second, rapid staining of spirochetes in tissue; third, demonstration of fat; fourth, Giemsa staining. Mr. and Mrs. Lucian Erskine represent the school.

KANSAS AGRICULTURAL EXPERIMENT STATION

Booth No. 29

(L. E. Melchers, F. A. Wagner and A. E. Lowe)

This exhibit illustrates research in breeding for resistance to the milo disease of sorghums. Photographs show the various steps followed in selecting resistant plants in the field and greenhouse; how these selections are further tested to eliminate accidental "escapes," segregates or varietal mixtures, and how disease reaction and agronomic characters may be determined in infested soils. The inheritance of resistance to disease is illustrated and segregation in Mendelian ratios is shown in hybrid material grown in infested soil in the greenhouse. The use of greenhouse methods is demonstrated in testing certified seed of resistant strains of milo. Photographs illustrate how growers and County Agents have soil from questionable fields tested for the presence of disease. Living plant material of resistant and susceptible selections and varieties of sorghum growing in infested soil are an important feature of the exhibit.

THE LINGUAPHONE INSTITUTE

New York, N. Y.

Booth No. 28

At the Linguaphone exhibit visitors are given an opportunity to have a free demonstration of this unique language-teaching method. There are courses in 29 languages including Spanish, Chinese and Hindustani. The student looks into the illustrated text-book and as his eyes scan the printed text he hears it spoken in clear native accent by an eminent educator whose voice comes from the phonograph. That is the essence of the method. Repetitious hearing, at the student's own convenience, makes for rapid progress. Through the use of this method, many have learned a European language in four months and oriental languages within a year. Mr. Max Sherover is in charge.

THE MACMILLAN COMPANY

New York, N. Y.

Booth Nos. 36, 37

The exhibit sponsored by The Macmillan Company this year contains about 900 volumes. Both undergraduate and graduate texts are displayed, along with many outstanding reference books, and technical and scientific books designed for the general reader. The following classifications are included: Agriculture, the Biological Sciences, Chemistry, Engineering, History of Science, Home Economics, Mathematics, Medical Sciences and Physics. Representatives of The Macmillan Company in attendance at the exhibit are: Mr. Charles L. Skelley, Mr. Joseph B. Bennett, Jr., Mr. Donald M. Nelson, Mr. Frank Driskill and Mr. Arthur Evans.

McGRAW-HILL BOOK COMPANY

New York

Booth No. 10

Advance proofs of important forthcoming books in the field of science are on display at the McGraw-Hill booth. You are invited to see at this booth also an exhibit of recent McGraw-Hill books in the fields of Agriculture, Astronomy, Biology, Chemistry, Economics, Forestry, Geography, Geology, Mathematics, Metallurgy, Photography, Physics and Psychology. Messrs. Curtis G. Benjamin, Kenneth B. Demaree and Whitman Daniels are in attendance at the booth.

METRIC ASSOCIATION

Booth No. 17

The exhibit of the Metric Association features the fundamental standards of length, mass and volume. Various rules and measuring devices using the metric system are displayed. A chart of the metric system, edited by the Metric Association, and the use of the system in derived measures such as specific gravity, mechanical equivalent of heat, watts and kilowatts, are exhibited. Emphasis is placed upon the use of the metric system in commerce and in the home, and upon the desirability of its world-wide adoption. Dr. J. T. Johnson and D. L. Barr are in charge of the exhibit.

NATIONAL GEOGRAPHIC SOCIETY

Washington, D. C.

Booth Nos. 20, 21

Work of Expeditions and Studies in Five Fields: Preliminary results of the work of five recent scientific expeditions and investigations under the sponsorship of the National Geographic Society are shown in the exhibit of the society. Rare fossil bones found in the Badlands of

South Dakota illustrate work in paleontology; art objects from a pre-Christian-era civilization in southern Mexico represent archeology; and photographs, charts and one of the largest spectrograms ever made, obtained during the total eclipse of the sun, present astronomical data. Unusual photographs and charts depict progress of a three-year investigation of auroras, and oceanographic studies of the sea bottom. Mr. McKerbey and Mr. Roy are in attendance.

NORTH TEXAS BIOLOGICAL SOCIETY

Booth No. 34

This exhibit portrays some of the notable research which is being conducted by members of the North Texas Biological Society: A movie of microscopic life in North Texas lakes is shown. Typical microfauna and flora of reservoir lakes are displayed under demonstration microscopes. Charts and specimens show the distribution of North Texas acridians. There is a paleoecological chart of the bathymetric distribution of cretaceous ammonites. Some member of the society is in attendance at all times.

NORTH TEXAS STATE TEACHERS COLLEGE

Department of Chemistry

Booth No. 22

The exhibit on the sweet potato endeavors to tell the story of the chemurgic industrial possibilities of the sweet potato. It is a rather startling fact that the poor, sandy soils of the South can produce twice as much wealth by growing sweet potatoes as the richest corn land in the Midwest can produce on the average with its fine corn. This exhibit strives to tell the story as well as to show a number of the actual products processed from the sweet potato in the Farm Industrial Laboratories of North Texas State Teachers College. Mr. Everett Scogin is in attendance at the booth.

UNIVERSITY OF OKLAHOMA

Department of Botany

Booth Nos. 32, 33

This exhibit presents the method, scope and results of a cooperative research project, directed by Dr. O. J. Eigsti, for more than 300 amateur experimenters using colchicine. Chemicals, treated and untreated plants, directions for experimenters, charts, maps, photographs and demonstration of technique form a vital part of this presentation. The educational aspects and effectiveness of such experiments are analyzed. The pollen tube method as used to test the effect of colchicine upon mitosis, and for other cytological studies, is to be demonstrated. Photomicrographs and microscopic slides illustrating the histological and anatomical effects of colchicine upon the tissues of *Vinca rosea* are displayed by Dr. G. L. Cross.

PRENTICE-HALL, INC.

New York

Booth No. 7

Approximately two hundred widely used books in the fields of *Physics, Chemistry, Mathematics, Physiology, Geology* and *Geography, Psychology, Education, Engineering, Home Economics, Agriculture,* and *Management* are on display. Special attention is directed to such books as THE PHYSICAL SCIENCES, PROCEDURES IN EXPERIMENTAL PHYSICS, SEMIMICRO QUALITATIVE ANALYSIS, SEMIMICRO EXPERIMENTS IN GENERAL CHEMISTRY, COLLEGE PHYSICS: *Abridged* and COLLEGE ALGEBRA. Literature on new and forthcoming books is available. Mr. Norman Arnold and other members of the Prentice-Hall organization are in charge of the display.

RCA MANUFACTURING COMPANY

Booth No. 52

This exhibit consists of continuous motion pictures on the subject of the electron microscope, stereoscopic viewing devices to illustrate the latest three-dimensional accomplishments of the microscope, as discussed in the Zworykin-Hillier paper, and photo enlargements of studies of insects made by means of the microscope, as discussed in the Richards-Anderson paper. (Both of these papers are on the Monday, Dec. 29, program of the American Association of Physics Teachers.) The electron microscope may itself be seen by scientists obtaining special passes which are issued at this booth. In attendance are E. T. Jones, P. C. Smith, J. P. Taylor, W. M. Witty and C. E. Davis.

W. B. SAUNDERS COMPANY

Philadelphia, Pa.

Booth No. 48

The exhibit includes a complete line of text-books and reference books dealing with the medical and biological sciences. Of special interest are the new text-books, "Human Anatomy and Physiology" by Millard and King, "Vitamin K" by Butt and Snell, "Physical Medicine" by Krusen; and the new editions of "Textbook of Bacteriology" by Jordan and Burrows, "Developmental Anatomy" by Arey, "Fundamentals of Chemistry" by Bogart, "Personal Hygiene Applied" by Williams, and "Public Health and Hygiene" by Bolduan. The representatives present during the convention are Messrs. John A. Behnke and Paul E. Koerfer.

SCIENCE CLUBS OF AMERICA

Booth No. 49

At the exhibit of the Science Clubs of America, an international organization of amateur scientists which is sponsored by Science Service of Washington, D. C., one may meet some of the nation's outstanding young scientists as well as honorary members of the American Association for the Advancement of Science. An interesting feature of the exhibit is the drape backdrop made from a single width weave of spun glass (fiberglas) 72 inches across, emblazoned with the insignia of the Science Clubs of America. The exhibit includes photographs portraying science clubs activities, a display of THINGS of Science, newspaper releases and *Science News Letter.* Material of interest to all science club sponsors is available.

THE SCIENCE LIBRARY

Publications of 1941

Booth Nos. 30, 31

This display is a popular part of the annual exhibition of the American Association for the Advancement of

Science. It is a collection of approximately five hundred volumes issued during 1941 by more than fifty publishers. Those attending the meetings and exhibition are invited to visit the Science Library. It is a convenient place for members to meet their friends. Tables and comfortable chairs are conducive to a leisurely examination of the books. Reprints from the January, 1942, issue of *The Scientific Monthly*, in which the publications are catalogued, are distributed without charge to those interested. Miss Dorothy Amann, librarian of Southern Methodist University, is in charge.

THE SOUTH-WESTERN BIOLOGICAL SUPPLY COMPANY

Dallas, Texas

Booth No. 53

This exhibit displays biological specimens and demonstration preparations in a colorful manner. On display are a Texana Invertebrate Test Collection of one hundred specimens, Parasitological material, Flexible Crayfish and Flexible Grasshoppers, Isely Insect Breeding Cage, Texana Inexpensive Insect Boxes, New Style Terrariums and other developments of interest to biologists. Mr. and Mrs. Ottys Sanders are in attendance.

SPENCER LENS COMPANY

Buffalo, N. Y.

Booth Nos. 42, 43

The Spencer exhibit displays several recently developed instruments, including a projection device to assist in reading material on microfilm called the Microfilm Reader, a new Polarimeter, a new Universal Microscope Lamp for producing different types of illumination and Fluorescent Accessories for the examination of T.B. bacteria. The standard instruments, microscopes and projection equipment, for which Spencer is well known, are also on display. Three Spencer representatives are in attendance—Mr. W. L. Reynolds of Dallas, Mr. C. M. Osborne of St. Louis and Mr. E. V. Finnegan of Chicago.

THE UNIVERSITY OF TEXAS

Booth Nos. 14, 15

The University of Texas presents a display of research projects on foods consisting of Dr. Roger Williams's study of vitamins, Dr. Jet Winters's study of low-cost diets and Luis H. Bartlett's new quick-freeze machine. Dr. E. H. Sellards of the Bureau of Economic Geology presents a display on the Odessa meteor—model of the crater, photographs, samples of meteorites. Also included are samples of native Texas building stone, ceramics and fine clays.

THE UNIVERSITY OF TEXAS

Division of Physiology

Booth No. 25

This exhibit, presented by Dr. E. J. Lund, his associates and students, consists of unique equipment especially built for carrying on experiments in measuring the production of electricity by polar tissues, the absorption of electricity by roots, the effect of gravity on the electric potential of plants, the potentials in a single cell, and the absorption of water by a single cell. Dr. Lund or his associates are in attendance at the booth to demonstrate the equipment to visiting scientists.

TEXAS POWER AND LIGHT COMPANY

Dallas

Booth No. 59

This exhibit describes the various natural resources of the State of Texas. On a colored map the locations of mineral deposits throughout the state are indicated and samples of each are displayed. The Texas Power and Light Company, which serves a 52-county area within the state, through its Industrial Research Division is making an extensive study of the resources of Texas, and is aggressively promoting an industrial and agricultural development based upon their utilization. This exhibit calls the attention of visitors to the economic opportunities of the area. Messrs. J. L. Tullis and O. K. King, Jr. are in charge.

TULANE UNIVERSITY OF LOUISIANA

Department of Tropical Medicine

Booth No. 44

"Histoplasmosis: A Systemic Fungus Infection"—The distribution of reported cases, the life cycle of the causative organism, the pathology and symptomatology of the infection, and the laboratory methods of diagnosis are demonstrated on wall charts. Microscopic demonstrations show the histopathology, the fungus in a bone marrow smear and a tissue section, and material from cultures maintained at 37° C. and room temperature.

THE UNIVERSITY PRESSES

A Cooperative Exhibit

Booth Nos. 26, 27

This exhibit shows recent books and journals representative of contributions to the general field of science. Some three hundred books on the sciences and a representation of general, recent publications dealing with history, economics, literature, and other new publications by the various university presses are included. Among the cooperating university presses are Yale, Michigan, Duke, Oxford, Columbia, Cornell, New Mexico, Iowa State, Chicago, Pennsylvania, Stanford, Illinois, Minnesota, Princeton, Harvard and Oklahoma. Mr. L. J. Carrel, of the University of Oklahoma Press, is in attendance.

JOHN WILEY & SONS, INC.

New York

Booth No. 54

The display consists of the recent books published in all the fields of science and technology covered by the publications of the company. New books of interest are Buerger's "X-Ray Crystallography," Merriman's "To Discover Mathematics," Miller's "Unconsciousness" and Blatt-Gilman's "Organic Syntheses," the Collective Volume I, appearing in its revised edition. The company is represented at the exhibit by Mr. W. B. Wiley and Mr. W. G. Stone.