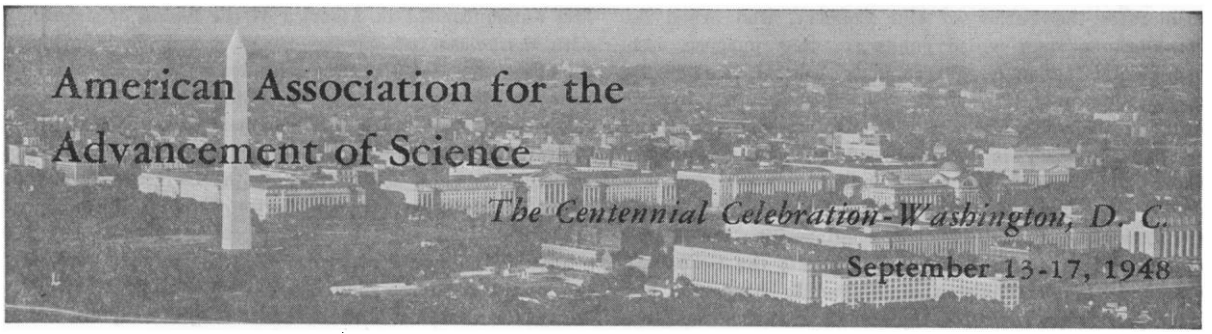


Westinghouse Science Writing Awards

Two $1,000 prize awards for excellence in science writing in newspapers and general-circulation magazines will be presented on September 16 to Frank Carey, science writer in the Washington, D. C., Bureau of Associated Press, and to Florence Moog, free-lance writer and assistant professor of zoology at Washington University, St. Louis.

Judged best among 78 newspaper entries, Mr. Carey's four-part article dealt with chloromycetin, the new antibiotic which has shown promise in combatting several of the rickettsial diseases, parrot fever, and one of the venereal diseases. The story told of the first isolation of the actinomycete producing the antibiotic from a sample of soil from Caracas, Venezuela, early experimental work with the product, and more recent work using it against epidemic typhus in South America and Mexico and against scrub typhus in Kuala Lumpur, Malaya. Mr. Carey has been a newspaperman since 1931, becoming a full-time science writer in 1943. In 1946 he received a Nieman fellowship from Harvard University.

From 102 magazine entries, the judges selected an article from the June 1948 issue of the *Scientific American*, entitled "The Biology of Old Age." In this Dr. Moog discusses physiological aspects of aging in living tissues and possibilities for increasing the effective span of human life. Dr. Moog has contributed articles to several newspapers and magazines and is at present engaged in research on biochemical embryology at Washington University.

Honorable mention will be given Herbert Yahraes for his article, "Static From the Stars," which appeared in the January 1948 issue of *Popular Science Monthly*. The story is devoted to the work of Grote Reber, especially that now in progress with the National Bureau of Standards, in which radiations from outer space are being recorded by a radio telescope. Mr. Yahraes has been editor of *PM*, but now is a free-lance writer on scientific and medical subjects.

The 1948 judges included H. L. Mencken, Clifton Fadiman, Rudolf Flesch, Edward Weeks, H. R. Aldrich, Detlev Bronk, John R. Dunning, and Morris Meister (chairman).

Presentation ceremonies honoring the winners and the publications which they represent will be held September 16 at the Statler Hotel in Washington, D. C.

Broadcasting the Centenary

Those unable to attend the Centennial Celebration of the Association this coming week may wish to follow radio reports of the meeting. Daily from Monday through Friday at 6:15 P.M., Daylight Saving Time (DST), Quincy Howe, of the CBS network, will bring to the listening audience excerpts and full reports of interviews with attending scientists and summaries of representative papers in his program, "Frontiers of Science."

Also to be heard over CBS is "Adventures in Science," moderated by Watson Davis, director of Science Service, which will be devoted to previews and postviews of the meeting at 3:15 P.M., DST, Saturday, September 11, and Saturday, September 18. Participants in the preview broadcast for September 11 include Ralph Cleland, chairman of the American Institutes of Biological Sciences, and Raymund L. Zwemer, executive secretary of the National Academy of Sciences.

On Tuesday evening, September 14, at 8:30 P.M., DST, America's Town Meeting of the Air will be presented under the auspices of the Association through the usual ABC outlets. The participants include Fairfield Osborn, president of the New York Zoological Society; Brock Chisholm, director, World Health Organization; Harlow Shapley, director of the Harvard College Observatory; and Edmund W. Sinnott, president of the AAAS and director of the Sheffield Scientific School, Yale University. The subject of the Town Meeting forum will be "What Hope for Man?"

Other programs have been tentatively scheduled by the NBC and Mutual networks, as have a number of local and regional broadcasts, such as the Georgetown University Forum of the Air. The World Wide Broadcasting Foundation will beam recorded broadcasts of the Centennial meeting to foreign countries, including English and translated versions. Portions of many of the lectures and symposium discussions will be recorded by the Foundation for distribution to university radio stations and other local outlets.

The George Washington University

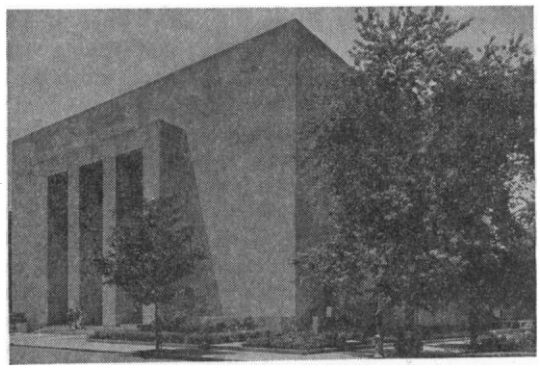
Four blocks west of the White House in the Nation's capital are situated the 45 buildings which comprise the campus of The George Washington University.

This nonsectarian institution of higher learning for men and women was founded in 1821. Its name com-

memorates the Father of Our Country, who urged its establishment and willed funds for that purpose. Although it is not under governmental control, it serves as a great national university. Its 19,500 alumni live in every state in the Union and in most foreign countries.

The University is composed of the Junior College; Columbian College, the senior college of arts and sciences; the Graduate Council; the School of Medicine; the Law School; the School of Engineering; the School of Pharmacy; the School of Education; the School of Government; the Division of University Students; the Division of Special Students; and the Summer Sessions.

Its educational policy is concerned with the democratic principle of educating individuals for all levels of leadership. A liberal arts groundwork is a prerequisite for specialized programs in all its schools.



Lisner Auditorium, used for University classes and functions and also for meetings of cultural and scientific groups. (Photo by Blakesless-Lane, Washington, D. C.)

The University seeks to use fully the opportunities afforded by its location at the seat of the National Government. At its very doors are departments of the U. S. Government, great national libraries, museums and arts collections, headquarters of national and international scientific, educational, and economic organizations. Within a slightly longer radius are the halls of the U. S. Congress, the Supreme Court, the Library of Congress, the embassies and legations of foreign nations, and bureaus, experimental stations, laboratories, and observatories that serve every science.

As these groups make consultants and source materials available to the University, the University provides them with trained specialists as employees and devotes attention in classroom and laboratory to their special problems. The University's research program is largely concerned with projects for governmental and private health and scientific agencies in Washington, D. C. Two years ago the University created the position of coordinator of scientific activities as an associate position to that of the director of its Graduate Council.

The University's new teaching hospital, which also functions as a research center, is a strategically located center where physicians of the Federal Government and the city can consult.

The George Washington University is proud that the first announcement in America of the fission of uranium with the release of atomic energy was made in one of its classrooms. University President Cloyd H. Marvin brought experts in this field to the University during the early 1930s and urged development of the Washington Conference on Theoretical Physics. It was at one of these conferences, held jointly by the University and the Carnegie Institution of Washington, that Dr. Niels Bohr, of Copenhagen, made this announcement.

During the war, University research included administration of a rocket plant near Cumberland, Maryland, where the Bazooka and other strategic weapons were developed.

The president of the University is assisted by a vice-president, Maj. Gen. Ulysses S. Grant, III. The Board of Trustees includes such distinguished contributors to science as Gilbert Grosvenor, editor-in-chief of the *National Geographic Magazine*; Alexander Wetmore, secretary of the Smithsonian Institution; and Charles Stanley White, surgeon.

Georgetown University

Simultaneously with the adoption of the Constitution of the United States in 1789, John Carroll, kinsman of the signer of the Declaration of Independence and first Archbishop of Baltimore, established Georgetown University. In 1805 the administration of Georgetown University was transferred to the Society of Jesus. In 1815 the University was chartered by Act of Congress; in 1833, empowered by the Holy See to grant degrees in Theology and Philosophy as a Pontifical University; and in 1844, incorporated by Act of Congress. The Graduate School dates from 1820; the Astronomical Observatory, from 1843; the School of Medicine, from 1851; the School of Law, from 1870; the University Hospital, from 1898; the Dental School, from 1901; the Training School for Nurses, from 1903; the Seismic Observatory, from 1911; and the School of Foreign Service, from 1919.

The purpose of Georgetown's professional education departments is to impart high ethical ideals united with a comprehensive technical training in the legal, diplomatic, medical, dental, and nursing professions within a realistic social perspective.

The purpose of Georgetown's Graduate School is to provide the student the opportunity to enter into an atmosphere of inquiry and research in the natural and social sciences, political and moral philosophy. In fields of study leading to the doctorate, research activity is patterned after a fabric having the principles of scholastic philosophy as its warp and the scientific method as its woof.

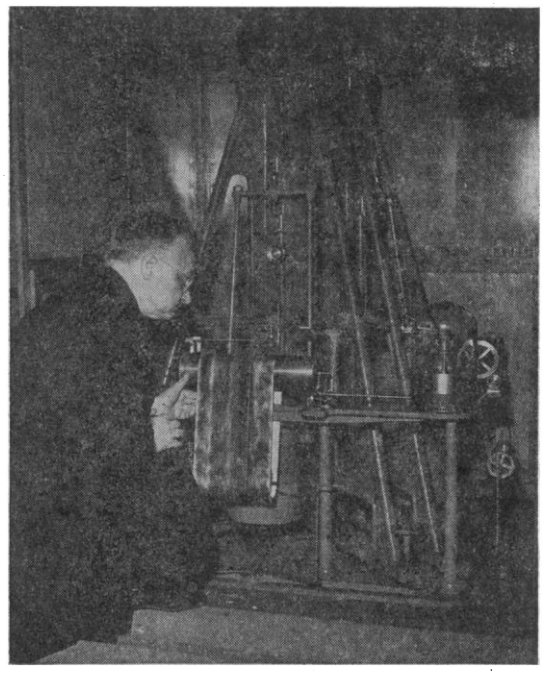
The University is administered by the president, Very Rev. Lawrence C. Gorman, S.J., and Board of Directors composed of the dean or regent of each School within the University.

Notable scientific achievements and important investigations under way in the Graduate School include the following:

Astronomical Observatory—a study of the space distribution of stars in a small region of the constellation Cygnus; an investigation of the use of color excesses of

Cepheid variable stars for the determination of interstellar absorption at distances of one to two thousand parsecs; observations of the times of contacts of the total eclipse of May 20, 1947. Under way: a star-count analysis of a region north of the constellation Cygnus; an investigation of the color excesses of Cepheid variable stars in the southern Milky Way on plates taken with the Georgetown 3″ and Mt. Wilson 5″ cameras in Brazil in April and May of 1947 covering an extensive region through the constellations Centaurus, Crux, Carina, and Vela; an investigation of the energy from the sun at radio frequencies; a study of the photographic extinction for blue and red light with a check on the consistency of magnitude standards in several Harvard Standard Regions.

Seismological Observatory—special method of attack for deep-focus earthquakes, the development of new principles and techniques in connection with the stereographic projection in order to make its application to the problem of the seismologist speedier, more general, and at the same time to escape bad intersections (all completed).



Rev. Frederick W. Sohon, S. J., chairman of the Department of Mathematics and director of the Seismological Observatory, inspecting a Mainka bifilar seismograph. (Picture by Reni Photos.)

Biochemistry—development of precise and highly specific tests for cysteine and its congeners (cystine and glutathione) and methionine; highly specific tests for guanidine, asymmetrical dimethylguanidine, creatine, and creatinine; highly specific tests for various amines formed from amino acids by microorganisms. Under way: discriminating tests for streptomycin and its fission products; tests for penicillamine and penicillin; differentiation of alloxantin and alloxan by colorimetric tests and by the spectrophotometer; retardation of tryptic digestion by food constituents such as dihydroxyphenylalanine; methods for the estimation of nicotinic acid; identification tests for various new antibiotics; a chemical warning test in cancer; intermediate metabolism of sugars.

Studies completed or currently being conducted in the Medical School include:

Anatomy—analytic study of nuclear configuration of the thalamus and subthalamus; volumetric analysis of the cerebellar nuclei; volumetric analysis and cytoarchitectural analysis of the primate lateral geniculate body; cytoarchitectural analysis of the primate visual cortex. Under way: anatomical substratum of color vision; anatomical study of afferency in the sympathetic innervation of the extremities; histological analysis of brain tumors; cytoarchitectural analysis of the mammalian inferior olive; effect of age on the degeneration and regeneration of peripheral nerves.

Physiology—the physiological effects and isolation of a new embryonic androgenic hormone; physiological effects of light on the reproductive tract; synergistic effects of progesterone and testosterone on the female reproductive tract; possible mechanism of cocaine action as a local anesthetic in blocking pain; medium concentration in relation to the water content and electrical properties of nerve; effects of increasing osmotic pressure on growth and respiration of protozoa cultures; acetate metabolism in flagellates; maintenance of mean pulmonary arterial pressure after extreme right ventricular damage; effects on respiration of compression of the thorax; physiological effects of the parathyroid glands during embryonic development (all under way).

Medicine—establishment of endocrine laboratory and metabolic ward for research on the endocrine and metabolic aspects of cancer; establishment of bacteriologic research laboratory for the study of the newer antibiotics.

Pharmacology—colorimetric tests for the detection of barbiturates, the study of the antidotal effect and clinical life-saving use of picrotoxin and metrazol in barbiturate poisoning. Under way: the use of drugs in the study of development and in regeneration; the mechanism of action of cholinesterase, cholinesterase inhibitors, and sympathetic and parasympathetic blocking agents.

Anesthesiology—development of the hypospray or jet gun for administration of penicillin, streptomycin, various sedatives, stimulants, and local anesthetics. Under way: use of the hypospray for administration of radioactive isotopes experimentally in animals; research on certain vasopressor and vasoconstrictor drugs; nutritional studies dealing with various types of protein therapy utilizing various preparations of essential amino acids; the use of fluorine as an anesthetic agent.

Biological Chemistry—the rate of absorption of amino acids and their value in nutrition, including nitrogen balance studies in humans and animals; the action of the enzyme pepsin on casein and other proteins; development of methods for separation and determination of androsterone and testosterone and their utilization in studies of the blood of individuals receiving these hormones for the treatment of endocrine and metabolic disturbances;

isolation of the protein of dental enamel from normal and carious teeth; studies on the enzyme activity and hydrogen-ion concentration of human saliva; investigation of the ascorbic acid content of saliva from normal and carious mouths (all under way).

Bacteriology—the effect of streptomycin on histoplasma capsulatum, an attempt to evaluate the role of streptomycin as a therapeutic drug; the cultivation of *Neisseriae gonorrhoeae* in synthetic media (all under way).

Roentgenology—study of the normal and pathological physiology of the gastrointestinal tract with particular reference to the physiology of the mucosal pattern; the use of bronchograms in the study of the chest to discover the early stage of bronchogenic carcinoma; cooperation with the Cancer Detection Clinic to find the early stage of cancer in the body (all under way).

Radioactive Isotope Research—the study of the introduction and distribution of newer compounds of calcium in the animal by means of radioactive calcium (Ca^{45}) as a tracer material; the use of radioactive phosphorus (P^{32}) in the treatment of polycythemia vera; the use of the hypospray gun in radioactive calcium (Ca^{45}) tracer work for pattern distribution and absorption rate of Ca^{45}; the use of heavy metals as therapeutic agents in the treatment of cancer.

During the Centennial Celebration members and friends of the AAAS are invited to visit the Georgetown College Observatory to view a display including:

(1) A photographic mosaic of the entire Milky Way approximately $22' \times 3'$. The southern portion of this mosaic is made from the plates taken by the Georgetown astronomers in Brazil during April and May of 1947. All of the photographs were made with the same lens and camera.

(2) Three enlargements of the total eclipses of 1932, 1937, and 1947 which were taken with the Georgetown Ross type camera.

(3) The first instrument purchased by Georgetown in 1841.

(4) The diary of Georgetown Observatory, which was begun in 1841 by Fr. James Curley.

(5) Some rare old books of the original library of Georgetown Observatory, such as a first edition of Newton's *Principia*.

(6) Enlargements of one or two photographs of the Georgetown astronomers on different eclipse expeditions.

(7) A copy of a seismograph record showing an earthquake recording.

(8) Some photographs of ancient and modern seismographs.

American University

The American University, of which Paul F. Douglass is president, was incorporated by act of Congress on February 24, 1893. The purposes of the founders was to establish in Washington an institution devoted entirely to graduate studies which would incorporate into its program the opportunities and resources which exist in the national environment.

The American University, enrolling during the year almost 5,000 students, conducts its operations from two locations—a 75-acre wooded campus occupied chiefly by the College of Arts and Sciences and located in the northwest heights of Washington at Massachusetts and Nebraska Avenues, and the School of Social Sciences and Public Affairs, located on F Street between 19th and 20th Streets. The School of Social Sciences and Public Affairs is organized in an undergraduate and graduate division. The Graduate Division carries forward the original purposes of the University. Graduate instruction is limited to the social sciences in the fields of communication, economics, history, international relations and organization, public administration, political science, sociology and public welfare, and statistics.

The major research of the University is devoted to the study of the interaction of government, business, and administration at the point where the definition of sound policies creates the need for competent administration.

The University is in the process of completing plans for the construction of a new Public Affairs Center to extend from 19th to 20th Streets on F Street, midway between the White House and the Department of State.

The University of Maryland

The Univeristy of Maryland, a sprawling educational center straddling the Washington-Baltimore Boulevard 10 miles north of the Nation's capital is in the middle of a $16,000,000 building program that will give it one of the finest physical plants in the country.

Two of the oldest educational centers in the country are incorporated into the history of the University of Maryland, the Maryland Medical School, organized as the College of Physicians and Surgeons in Baltimore in 1807, and the Maryland Agricultural College, chartered at College Park in 1856.

The steady individual growth and recognition of the two institutions led to their merger as the University of Maryland in 1920. The school now has two branches, with Medicine, Law, Pharmacy, and Dentistry located in Baltimore, and Agriculture, Arts and Sciences, Business and Public Administration, Education, Engineering, Home Economics, Military Science, Physical Education, Recreation, and Graduate Studies located at College Park.

Today the University has an enrollment of over 11,000 (nearly four times the prewar enrollment) and is increasing its facilities to accommodate the estimated permanent student body of about 10,000.

President H. C. Byrd, one of the state's best known and most colorful personalities, greeted the postwar boom in education with the announcement that everybody who is qualified and who wants an education should be accorded the opportunity to obtain one. Forthwith he directed all of the facilities of the University of Maryland toward that end.

Scientifically, the university has made innumerable contributions to both the state and the country, and its vast laboratories and research departments are never idle.

Foremost on the list of recent construction is the Glen L. Martin wind tunnel, completed this summer at a cost

of over $1,000,000. The tunnel will be the center of government and private research in aeronautics. With wind velocities up to 300 mph and a capacity for handling models with wing spans of 8′, the tunnel is one of the most efficient of its type. It is equipped with new-type IBM machines for computation and reduction of data obtained in tests.

Among the University's most recent and outstanding contributions to science is the development of the new antimalarial, pentaquin, by Nathan Drake and his staff of the Chemistry Department. The new drug, known as SN-13276, was discovered during the war. It is more active and from one-third to one-half less toxic than pomaquine, a drug discovered by the Germans which formerly was the chief antimalarial used.

Perhaps the most intensive research is carried out by the College of Agriculture and the State Extension Service under the direction of T. B. Symons. A day does not go by that a new development is not announced that will make the life of Maryland's thousands of farmers either easier or more profitable.

Experiments are currently under way in the Physics Department on the measurement of specific heat at high temperatures, on cosmic radiation, and on physics in the solid state.

The University of Maryland rapidly is reaching the peak of its physical development, but its scientific contributions will continue to grow with the new facilities that are becoming available with every new building that is added.

The Office of Naval Research

On May 19, 1945, the U. S. Navy began putting into effect the most extensive peacetime scientific research program ever undertaken. Almost three months before the atom bomb fell in Hiroshima, Secretary of the Navy Forrestal established the Office of Research and Inventions to assure the Navy a well-coordinated research effort in every field of basic science.

Renamed the Office of Naval Research and given statutory permanence by Congress under Public Law 588 in August 1946, it is now headed by Rear Adm. Paul F. Lee, USN, who is assisted by Capt. C. M. Bolster, USN, deputy and assistant chief, and Alan T. Waterman, deputy and chief scientist. The office now has under way far-reaching research programs in the following physical sciences: nuclear physics, physics, chemistry, electronics, mechanics and materials, geophysics, fluid mechanics, and mathematics. The medical sciences are also a part of the program and include human ecology, physiology, biochemistry, microbiology, psychophysiology, psychology, biophysics, and dentistry. In the naval sciences, research is progressing in undersea warfare. The Research Group, directed by Capt. W. H. Leahy, USN, is responsible for the initiation and supervision of the research program.

Virtually every outstanding scientific laboratory in the country, whether it be part of a big industrial plant or part of a university's science department, is working on some phase of the research program of ONR. Leading scientists of the country are guiding this tremendous scientific effort in the interests of the Navy and the national security.

ONR maintains at Navy Department headquarters in Washington and also in branch offices in key cities and in England a Research Group consisting of engineers, physicists, chemists, and mathematicians working closely together to insure an adequate program of fundamental research in the natural and applied sciences for the Navy. These scientists constantly review and appraise contracts for basic research with industrial laboratories, private research institutions, and universities.

To coordinate further the research activities of the Navy, the Naval Research Laboratory was made a part of ONR (see *Science*, August 20, p. 177).

The Special Devices Center, located at Sands Point, Long Island, and directed by Capt. George O'Rear, USN, is also part of ONR. It is responsible for the conduct of research and development in the fields of synthetic training and human engineering in order to find effective ways of teaching unskilled personnel how to use the new and complex weapons of the modern Navy. Its work consists basically of 5 major phases: synthetic training devices, research in human engineering, development of research tools, tactical evaluators, and teaching aids.

A nation is no stronger than the strength of the scientific core from which it can draw in times of emergency. As Mr. Forrestal said in establishing the Office of Naval Research: "Wars are fought primarily with weapons which are developed before the fighting begins. . . . If a nation is to be scientifically prepared, its preparedness must be worked out in peacetime."

The Navy's long interest in science and its years of systematic research are proof that it has long believed in being scientifically prepared. The Navy's responsibility for the national security makes it imperative that it constantly explore all fields of science for the new powers which scientific research may bring.

The General Electric Company held a Whitney Day Ceremony on August 21 at its new Research Laboratory in Schenectady in honor of the 80th birthday of Willis Rodney Whitney, founder of the laboratory and its director from 1900 to 1932. The ceremonies began with a tour of the laboratory, and this was followed by an assembly in the foyer with speeches by C. G. Suits, vice-president and director of research; L. A. Hawkins, consultant; W. D. Coolidge, director emeritus of the laboratory and consultant; and E. A. Luebke, who spoke for the Whitney Club.

High light of the ceremony was the unveiling of a portrait of Dr. Whitney by Dr. Coolidge, his successor (see cover). Shown gathered around the portrait are (left to right) Dr. Suits, Dr. Whitney, Tran Mawicke (the artist), Dr. Coolidge, and Dr. Hawkins, the principal speaker on this occasion.