

# Paul E. Klopsteg, President-Elect

George R. Harrison

In its choice, each year, of an outstanding scientist to hold in succession its three top offices, the American Association for the Advancement of Science takes pains to have the various disciplines of science represented more or less evenly, in rotation, and also to keep some balance over the years among persons with experience in university, Government, and industrial scientific work.

In choosing Paul E. Klopsteg as its president-elect, the Association has been greatly aided in its problem of securing balanced representation by the fact that he has had long experience in all three types of service and has been an engineer as well as a scientist and an administrator. Dr. Klopsteg achieved distinction as president of the Central Scientific Company and as professor of applied science at Northwestern University and director of research at Northwestern Technological Institute and has served the Government in many capacities. Now, although ostensibly retired at the age of 68, he still serves actively as associate director for research of the National Science Foundation.

This wide range of experience has made Klopsteg's abilities invaluable to the armed services and to various other Government agencies throughout his career. It will enable him to bring to his presidency of the Association an unusually mature outlook and a firm understanding of current issues. Having already served two full four-year terms as a director of the Association, he knows its problems thoroughly. He has been on its Executive Committee since 1953 and has been a member of its Building Committee and its Investment and Finance Committee. He remains chairman of its Committee on Public Information in Science.

Not the least of the assets Klopsteg brings to his new office is a proven ability and willingness to participate actively in a seemingly endless series of committee meetings of the Washington type, some lasting for days on end. He does this amiably and with extreme con-

scientiousness, occasionally whiling away a particularly tedious stretch by solving a mathematical puzzle in surreptitious notes to a colleague, but forswearing, to a remarkable degree, the temptation to daydream about his happy home on Appletree Lane in Glenview, Illinois, where he might be carrying out his hobbies of archery, photography, shopwork, and gardening.

Klopsteg obtained valuable experience for his work as an officer of the Association through a series of important posts in other scientific societies. He was cofounder of the American Association of Physics Teachers in 1930 and served as president of that association in 1953. He was also, for 15 years, a member of the Governing Board of the American Institute of Physics and was chairman of its Board of Governors and its chief policy officer from 1938 to 1945.

Paul Ernest Klopsteg was born in Henderson, Minnesota, on 30 May 1889, son of the Reverend Julius Klopsteg and Magdalene Kuesthardt Klopsteg. His early days were spent in and near his birthplace, and he was graduated from the University of Minnesota in 1911, with a Bachelor's degree in electrical engineering. He showed an early interest in instrumentation and served as an assistant in the physics department of the University from 1911 to 1913, obtaining his Master's degree in that year, when he was given an instructorship. In 1916 he obtained his Ph.D. in physics and was soon made an assistant professor.

In 1917 Klopsteg left the University to become a development engineer with the Ordnance Department of the U.S. Army, serving at Aberdeen Proving Ground through 1918. After World War I he took a position as head of technical advertising at the Leeds & Northrup Company in Philadelphia. There he stayed until 1921, when he left to become director of research and manufacturing for the Central Scientific Company in Chicago. He was elected president of that company in 1930 and served in this capacity until 1944, when he became professor at Northwestern University, a position which he held until he

reached the age of retirement in 1954.

In his capacities as director of research and president of the Central Scientific Company, Klopsteg made an immense contribution to American science by sponsoring and aiding in the development of a large number of new instruments and by improving many basic types of apparatus needed for teaching and for research. Of particular importance was his contribution to the development of the Cenco series of mechanical vacuum pumps, including the Hyvac and the Hypervac. I remember interrupting a transcontinental journey to call on him at his office in Chicago late one evening in the early 1930's, and finding the entire factory deserted except for President Klopsteg, who was busily making tests on a new pump model. He was greatly interested in providing new apparatus for the better teaching of physics and of science in general, and his vast knowledge of instrumentation lent much force and prestige to his direction of the company. In 1940 he received the Modern Pioneers award of the National Association of Manufacturers, and in 1942 he received an honorary Sc.D. degree from Northwestern University.

Klopsteg's unusual proficiency with instrumentation led to his being promptly selected, at the time the National Defense Research Committee was formed, in mid-1940, as vice chairman of its Instruments Section. This was a part of the division of N.D.R.C. of which Karl T. Compton was chairman, and the Instruments Section was assigned responsibility for all instruments and devices not in the purview of other branches of the committee. Among the weapons the scientists of this section came up with were the azon and rason dirigible bombs (which had to be rescued several times from pre-military oblivion). After Pearl Harbor the National Defense Research Committee was reorganized and combined with the Committee on Medical Research, the whole being set up as the Office of Scientific Research and Development. Klopsteg then became chief of the Physics Division, in charge of special devices—a post in which he served with great distinction from 1941 to 1945.

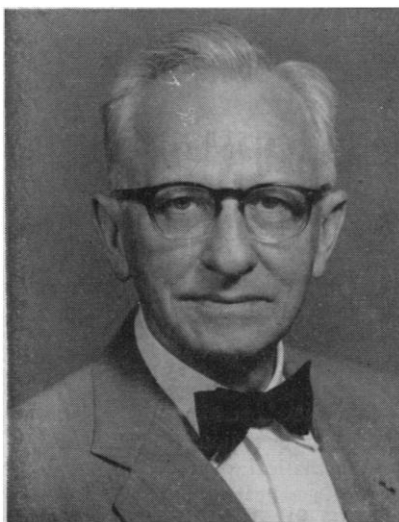
Early in 1944 he was appointed, in addition, assistant chief of the Office of Field Service, an Office of Scientific Research and Development organization under Karl Compton, which had the function of improving communication between the O.S.R.D. and the military commanders in the field, of expediting the provision of new scientific devices to the theatres of operation, and of determining the needs of the field commanders for scientific and medical help. Klopsteg was sent to the Hawaiian area, where he arranged for the setting up of a research section for General Richard-

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son. In the summer of 1944 he went out to General MacArthur's headquarters in Brisbane, Australia, where he took over the direction of a research section that had been set up by one of his colleagues a few months before. Soon after the Hollandia campaign he moved with MacArthur to the new general headquarters in New Guinea. For his very important war work, Klopsteg was awarded the Presidential Medal for Merit in 1948.

One of my most vivid wartime memories is of my peace-loving colleague Klopsteg shooting with a bow and viciously-tipped arrow at an old telephone directory in a San Francisco hotel room, while he and I were waiting to fly the Pacific to our respective assignments. Klopsteg has for many years been an enthusiastic toxophilite and had at that time already written numerous scientific papers on the theory and design of the bow. He had written a book entitled *Turkish Archery and the Composite Bow* and another called *Science Looks at Archery*. He had been chairman of the Board of Governors of the National Archery Association. As an ardent archer he had never shot an arrow in anger, or with any thought but of precision of aim. Now one of the needs of jungle fighting had been the development of a silent means of dispatching sentries at Japanese outposts, who at that time were eager to disembowel armed opponents or field-serving scientists with equal prejudice.

Klopsteg and I proceeded together to Hamilton Field, where, after several cancellations of flights of the Army's trans-Pacific planes, which were ferrying pilots across to New Guinea in great numbers, I saw Klopsteg off for Hawaii in a B-24 bomber. This was identified to us as being the plane that had carried Eleanor Roosevelt to the Antipodes a few months before. My own turn came a day later when I took off, also in a B-24 identified as "Eleanor Roosevelt's plane." This ferried me to Australia in some sixty hours, stopping once or twice a day at some available island for fuel and emergency repairs. Four months later, when Klopsteg came to Brisbane to relieve me, we saw on arrival at the airport for my departure a B-24 coming in from a trans-Pacific flight, which was soon identified to us as "Mrs. Roosevelt's plane." When I commented to Klopsteg that all B-24 bombers seemed to have been used by Mrs. Roosevelt, it developed that this particular plane (596) had flown him to Hawaii in one 14-hour flight, had returned immediately to the mainland, had then promptly ferried me to Australia during the following three days, and had, with three or four other planes, kept up



Paul E. Klopsteg

this schedule almost continuously in the intervening four months.

During Klopsteg's years as president of the Central Scientific Company he had made wide contact with the American scientific community. The mass of material waiting to be published in physics archives journals each year was, in 1930, growing at so alarming a rate that it became important to work out new publication procedures. Also, the various physics societies were showing signs of going off in divergent directions. The industrial and the university physicist were beginning to forget that they had much in common. In 1931, Karl T. Compton of Massachusetts Institute of Technology, George B. Pegram of Columbia, Paul D. Foote of the Gulf Oil Co. Research Laboratories, and others joined in founding the American Institute of Physics, an association dedicated to the unification of American physics and the effective publication of physics journals, which grouped together the American Physical Society, the Optical Society of America, the American Acoustical Society, the American Association of Physics Teachers, and a number of other societies of physicists.

The American Institute of Physics now serves as the publisher of nine physics journals and is an active clearinghouse for American physics. Its membership of about 20,000 includes most American physicists. Klopsteg, soon after its founding, became a member of its Board of Governors and eventually served as its third chairman, following Karl T. Compton and John T. Tate.

At the conclusion of World War II, Klopsteg left his part-time position as chief of the Special Devices Division of the Office of Scientific Research and De-

velopment to become chairman of the Prosthetics Committee of the National Research Council, where he contributed greatly to its valuable work on the development of improved artificial limbs. He remained in this post until 1956 and continues as a member of its successor committee, the Prosthetics Research Board.

During the latter part of the war Klopsteg had decided to give up his connection with the manufacture of scientific instruments and had accepted a position of great responsibility with Northwestern University, which, at the time, was establishing its Technological Institute. As adviser to the dean of the institute, he was put in charge of research activities and remained in a professorial capacity until his so-called retirement. During this entire period Klopsteg kept up his service with the Government. He was appointed a member of the Board of Governors of the Argonne National Laboratory in 1949 and, later, became its chairman. He has also served as a member of the Personnel Security Review Board of the Atomic Energy Commission, since 1953, and on numerous other committees.

On the founding of the National Science Foundation, Klopsteg became its assistant director for physical sciences. Since 1952 he has been an associate director, becoming associate director for research in 1957. In one capacity or another he has served as a close advisor to Dr. Alan Waterman during the entire period since the founding of the National Science Foundation. These and his other governmental duties have required almost continuous commuting between Chicago and Washington for the past 17 years. But Klopsteg is a seasoned traveler, for, in addition to his several trans-Pacific flights, he and Mrs. Klopsteg encircled the globe in 1951, going to Pakistan, where he was an invited adviser to a commission appointed by the Punjab Government to study its university system and science education at the lower levels.

In 1914 Klopsteg married Miss Amanda Toedt of Laurel, Iowa, and was long a happy paterfamilias with their three daughters, Marie, Irma Louise (who died in adolescence), and Ruth.

Dr. Klopsteg brings to his new office the vigor and energy that have characterized his activities for many years. The Association can expect him to be a dedicated and able president-elect and president. We are all fortunate that he has responded to the call to cap long service on the Board of Directors with an additional period as one of the triumvirate of leaders that directs the fortunes of the Association.