IN MEMORIAM

HUGENE PAUL SCHOC

At the close of the first academic year since his death, the influence of Dr. E. F. Schoch is still very much in evidence. Petroleum now is a source of chemicals as well as fuel; natural gas is so valuable it is no longer burned needlessly; lignite is proving of value as a fuel and as a potential source of chemicals; few cities or towns are without proper water treating facilities; the Department of Chemical Engineering at The University of Texas has become one of the best in the country and is furnishing leading engineers in industry, research, teaching and professional activities. These were all predicted and diligently sought by Dr. Schoch and their realization stands as a tribute to him who has long been considered to be the father of Chemical Engineering in the Southwest.

Dr. Eugene Paul Schoch, Professor Emeritus of Chemical Engineering and former Director of the Bureau of Industrial Chemistry died at the age of 89 years and 10 months in Austin, Texas on August 15, 1961. He is survived by two sons, Dr. Arthur G. Schoch of Dallas and Dr. Eugene P. Schoch, Jr., of Austin, by one daughter Dr. Margaret Schoch Eppright of Austin, and by six grandchildren. His wife, Mrs. Clara (Gerhard) Schoch preceded him in death in 1955.

Dr. Schoch was born in Berlin, Germany where his parents who were U.S. citizens were in temporary residence. They moved to Texas eight or ten years later and "Gene" Schoch grew to young manhood on a farm near the small community of Floresville. Much of his early education was received directly from his parents, and he entered The University of Texas shortly after it opened. In 1894 he became its first graduate in Civil Engineering. He worked for a brief time as a surveyor in the city of San Antonio, but upon learning that the pay of his Negro helper was greater than his, he returned to the University where he was granted his M.A. with a major in Chemistry in 1896. By that time he had determined upon his life's work as a teacher, and during the next several years served as an instructor in Chemistry at the University and as a graduate student at the University of Chicago during the summer. His senior professor at Chicago was Doctor Julius Stieglitz under whom he did his Ph.D. dissertation on "The Red and Yellow Merciric Oxides and the Merciric Oxy-Chlorides". This work was published in 1903, just one year after he received his Ph.D.

Dr. Schoch continued at The University of Texas where he was an instructor until 1906, Adjunct Professor from 1906 until 1909, Associate Professor 1909-1911, Professor of Chemistry 1911-1918, Professor of Chemical Engineering and Physical Chemistry 1918-1938, and Graduate Professor of Chemical Engineering from 1938 until the date of his retirement in 1953. He was named Emeritus Professor of Chemical Engineering in 1953. Dr. Schoch was primarily responsible for the organization of the Bureau of Industrial Chemistry and was its Director from 1914 to 1953, when it was combined with the Bureau of Engineering Research upon his retirement.

Dr. Schoch was a member of the American Chemical Society for over fifty years and of the American Institute of Chemical Engineers for almost forty years. He was the recipient of the first Southwest Regional Award, American Chemical Society in 1948. At its first meeting following his death, the Council (Board of Directors) American Institute of Chemical Engineers recognized his work and achievements by a special memorial resolution, a copy of which is included as an appendix to this resolution.
Dr. Schoch was a member of the Texas Academy of Science, The Texas Industrial and Research Council, The Cotton Committee of Texas, The American Water Works Association, Sigma Xi, Phi Lambda Upsilon, and a registered Professional Engineer in Texas. He was associate editor of the Journal of Physical Chemistry 1910 to 1923. He was listed in Who's Who, Who's Who in Engineering, and American Men of Science. He was a life member of the Texas Society of Professional Engineers, and was honored by being designated as the Travis Chapter's "Engineer of the Year" in 1954.

Dr. Schoch's personal and professional relationships with The University of Texas were such that each had great influences on the other. His initial teaching and research were in the field of Physical Chemistry, and he rapidly developed into an international authority in his profession. His research and publications in the field of theoretical electrochemistry received world wide acclaim as evidenced by the fact that in 1913 he was one of seven speakers (and the only one from the United States) invited to participate in an extensive conference on "Fusability of Metals" sponsored by the Faraday Society in London.

As a teacher Dr. Schoch was both vigorous and effective. None in his class ever complained of not being able to hear and all will recall his personal demonstrations of the kinetic motion of gases when he would run from one side of the lecture room to the other "bumping" against the wall as he related changes in kinetic energy and pressure to changes in temperature. He took particular delight in teaching freshman classes and his first book, entitled Special Experiments and Discussions in Introductory Chemistry appeared in 1905. Even in his earlier days Dr. Schoch was renowned for keeping up with new developments and was diligent in presenting them to his students. He began early to support the then-new Arrhenius theory of ionization, and in later years recalled with a smile how as a young instructor he was visited by a delegation of professors who remonstrated with him about his advocacy of such "radically new, unproven and probably invalid theories".

Dr. Schoch, along with the late Professors Henry Winston Harper and James Robinson Bailey, developed the Department of Chemistry at The University of Texas into a strong vigorous organization and layed the foundation for what has now become one of the foremost departments of chemistry in the United States. Although in the early days research was frequently considered to be closely akin to frivolity and a definite distraction to teaching duties and responsibilities, these three professors insisted that they have time available to them for research. At that time the University was operating on a three-terms-per-year basis and without formal sanction or approval of the University administrative officials but with their personal knowledge, Professors Schoch, Harper and Bailey arranged that two of them would do all of the teaching in any given term while the other was completely free to pursue research activities. Thus each of them had a three months "research leave" each school year.

Even as he taught and did research in the area of theoretical chemistry, Dr. Schoch began to be concerned about the industrial development of the state and the use of its natural resources for the benefit of its citizens. He told the story that the helplessness of a theoretical chemist in such emergency was very forcibly brought to him by a visit from a family friend and neighbor from near Seguin. After a long period of drought and crop failures the neighbor visited him in Austin as a representative of the people of the community asking him as the eminent Professor of Chemistry at The University of Texas to assist them in developing their farm land such that better crops could be grown. Physical Chemistry and theoretical electrochemistry were not the answer to that community problem and although Dr. Schoch continued his research and study in these fields, he also began research that he hoped would be of more immediate benefit to the people of the State of Texas. His studies began to change from physical chemistry to the field of "Industrial Chemistry" which later became recognized as Chemical Engineering. This transition from a Physical Chemist to a budding Chemical Engineer is indicated by his publications from 1915 to 1940. As a result of this interest The Bureau of Industrial Chemistry was created at The University of Texas in 1914 with Dr. Schoch as its director.

As soon as he felt himself able, Dr. Schoch began to teach a course in Chemical Engineering and in 1918 his title was changed to Professor of Chemical Engineering and Physical Chemistry. The first bachelor's degree in Chemical Engineering was granted in 1919. Interest and enrollment increased at a steady pace, and in 1940 the department was separated from the Department of Chemistry and became a full fledged degree-granting department in the College of Engineering. The Chemical Engineering Building was completed and occupied in late 1941 and the departmental curriculum accredited by the Engineers Council for Professional Development and the American Institute of Chemical Engineers in 1944. All of these moves were direct results of Dr. Schoch's vigor and leadership.
Dr. Schoch's interests were not confined to the lecture room and the laboratory. He was a vigorous and accomplished musician and while still a very young man on the staff, he organized and became the first director of the University Orchestra. Later he organized the University Longhorn Band, giving his own money to purchase the necessary instruments from a local pawn shop. Dr. Schoch was director of the band for many years, and after giving up that position became faculty sponsor until the time of his retirement.

Physically vigorous himself, Dr. Schoch felt that every man could work his best only if he were a regular participant in physical exercise. He and his family were regular swimmers at Barton Springs and later at Deep Eddy. He was a staunch advocate of physical training for the students and was one of the outstanding faculty tennis and handball players. He played handball until he was approximately 70 years of age and urged but did not necessarily demand that all of his graduate students play with him. Later when his daughter, two sons, and son-in-law, all of whom were M.D.'s persuaded him that handball was becoming a little rigorous for him he "graduated" to the game of golf which he admitted played for exercise and not for score. Incidentally, for about ten or more years, his regular partner at golf was his brother Mr. William Schoch who was some nine years his senior.

Dr. Schoch's research studies in the broad area of Chemical Engineering were as vigorously pursued as were other activities of his lifetime. He sought diligently to gather such information as would be needed to make the various raw materials of the state usable and useful as a basis for industrial development. His particular studies centered around such diverse things as water treatment, lignite, potash minerals, and natural gas. Specific studies on the last named material were started about 1929 or 1930 when tremendous quantities of the gas were being burned in flares in the state's oilfields and thus were being wasted. Dr. Schoch foresaw the time when methane so burned would be in great demand as raw material for chemical manufacture and was a vigorous advocate of its conservation. He realized, however, that the impetus for conservation must come through increased value of product rather than through legal limitations on production and wastage. During the ensuing years he and some forty or fifty graduate students sought to use some type of electric discharge in the conversion of methane and similar hydrocarbons to acetylene and other useful materials. His research was not the "try this and if it fails try something else" variety but was based on a conscientiously sought group of fundamentals from which, if soundly developed, industrial processes might evolve.

Research to Dr. Schoch was a way of life and not to be taken lightly. He was not content with anything short of the unquestioned best and continued studying a problem long after many forgot all about it. His fellow research workers and students soon became accustomed to being awakened at one or two o'clock in the morning by a telephone call from Dr. Schoch about some knotty problem of the day, week or even month before.

Throughout his entire professional career Dr. Schoch had the capability of inspiring young men and women to do better things. "Dr. E. P.'s boys" as they very fondly called themselves are now scattered throughout the world as leaders in their chosen and respective areas. It was they who initiated the E. P. Schoch Lectures in Chemical Engineering in his honor at the end of his more than half a century of service to the University. These lectures now in their eighth year, are given by outstanding authorities and have been financed personally by Dr. Schoch's ex-students in order that they might show their love and affection for him. Initially conceived to run for a period of five years the unanimous decision was reached at the conclusion of the fourth series that they would be continued indefinitely.

Although Dr. Schoch and The University of Texas have been almost synonymous, his activities have been far more widespread than such would indicate. He served as a consultant in many areas and on many occasions he was highly effective as a technical witness and his services were sought in that capacity. He was consultant in the design, construction, and operation of a number of water treating plants throughout the state and in many of the early studies which led to the modern production of the oil and gas industry in Texas. It was his study of the thermodynamic relationships between hydrocarbon liquids and vapors and interpretation of such data which led directly to the current legal distinction between an oil well and a gas well.

In every sense a "Doctor of Philosophy" Dr. Schoch taught and lived for the betterment of the community in which he lived and the profession which was both vocation and avocation. He was a fundamentally religious man who
practiced his belief that not only was there no conflict between science and religion but that God was most surely directing man’s efforts to use the principles of science as a route to a better life for all. No heritage did he leave which was greater than this.

W. A. Cunningham, Chairman
W. R. Woolrich
R. F. Dawson

RESOLUTION ON THE DEATH OF E. F. SCHOCH

WHEREAS, the passing of Dr. Eugene F. Schoch in Austin, Texas on August 15, 1961, removed from the rolls of the American Institute of Chemical Engineers a member of great personal and professional respect; and,

WHEREAS, throughout his life he exemplified the high standards of ethics which the Institute, of which he was a long-standing member, has always advocated; and,

WHEREAS, it is fitting that the Institute should recognize and express its appreciation for the many and lasting contributions he has made to the profession of Chemical Engineering as an inspiring teacher, as a leader of research whose objective was to develop new engineers as well as knowledge, as a stalwart and forceful practitioner of his convictions that Engineering was of no value unless it served mankind, as a vital force in the industrial growth of the Southwest and the development of the Institute in that area, and as one who was at all times willing to forego personal gain for the advancement of The University of Texas;

THEREFORE BE IT RESOLVED that the Council of the American Institute of Chemical Engineers at its meeting on October 26, 1961, records his passing with a great feeling of loss and sorrow; and,

BE IT FURTHER RESOLVED that this Resolution be made a part of the Minutes of this meeting and that copies be sent to the Chancellor of The University of Texas and to the family of Dr. Eugene F. Schoch.

SPECIAL NOTE

During the last 30 years of his life Dr. Schoch’s interests were devoted to his study of the conversion of natural gas by electric discharge. Some 40 Master’s theses and 27 Doctoral dissertations were written on this subject by students working under his direction. In anticipation of discoveries of possible commercial value, all patent rights were assigned to The University of Texas and, with the cooperation and approval of cognizant officials, none of the work described in the theses and dissertations was published. Some of Dr. Schoch’s ex-students are now undertaking, voluntarily, the momentous task of studying these records with the intention of publishing at least a few summarising articles covering the work.

Filed with the Secretary of the General Faculty by Professor W. A. Cunningham, Chairman of the Special Eugene Paul Schoch Memorial Resolution Committee, July 14, 1962.

Distributed among the members of the General Faculty by the University Stenographic Bureau, September 8, 1962.