




**Honoring
Earnest Boyce, C.E.**

for


**TWENTY YEARS OF
PUBLIC HEALTH SERVICE**

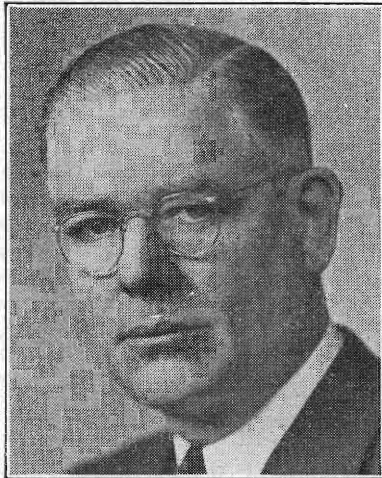
in

KANSAS



**K.P.H.A. Banquet
Wichita, Kansas
April 24, 1951**





EARNEST BOYCE, C. E.

HONORING EARNEST BOYCE

For his great contribution to improving sanitation conditions in Kansas, the Kansas Public Health Association pays special homage to Earnest Boyce, C.E., at its Ninth Annual Meeting April 23-25, 1951 at the Hotel Lassen, Wichita.

Mr. Boyce played an active part in public health work in Kansas from 1920 to 1941. During this period he brought to the people of Kansas a better understanding of the need for safe water supplies and for conserving their water resources through pollution abatement measures. His efforts caused many cities to build municipal water supplies and sewerage systems.

During his association with Kansas University and the State Board of Health, he trained a succession of young engineers who have served with distinction in solving sanitary engineering problems at the far corners of the earth. Through these men and by his work with national and international organizations, he has influenced and contributed to the betterment of sanitary conditions throughout the world.

Kansas is a healthier place to live because of Mr. Boyce—his colleagues in the Kansas Public Health Association consider it a privilege to honor him.

Vernon M. Winkle, M.D., President
Lewis M. Andrews, President-elect
Theresa Jenniges, R.N., Vice-President
Evelyn Ford, Secretary-Treasurer
and

The Executive Committee

In addition to the officers, the Executive Committee includes:

Thos. R. Hood, M.D.; Wilbur Palmer; H. S. Albaugh, M.D.; Geraldine Newell, R.N.; Homer Davis; Charles Sheetz.

MR. EARNEST BOYCE, Chairman Department of Civil Engineering and Professor of Public Health University of Michigan Ann Arbor

Earnest Boyce was born July 11, 1892 in Winterset, Iowa. He was graduated from Iowa State College, where he received both B.S. in Civil Engineering and Civil Engineering degrees. Later training at Harvard University earned him an M.S. in Sanitary Engineering. In 1917 he was commissioned a second lieutenant in the U. S. Army and served in this country and in France until he was discharged in 1919 with the rank of Captain. On September 21, 1919, he was married in Wauneta, Nebraska to Elsie Jane Green, also a graduate of Iowa State College. For the next year he was engaged in highway construction for Pritchett and Fry, in Little Rock, Arkansas.

Mr. Boyce came to Kansas in 1920 as an Assistant Engineer in the Division of Sanitation of the Kansas State Board of Health, working with Mr. Albert Jewell as Chief. Two historic events with which Mr. Boyce was associated soon followed: a dinner prepared and eaten in the Water Laboratory at the University honoring Dr. S. J. Crumline and described in his autobiography; and the "great upheaval" caused by the political tampering in June, 1923. In all matters the young engineer so proved his competence that, when Mr. Jewell resigned in 1924, he was appointed Chief Engineer and Director of the Division. Teaching the classes in sanitary engineering at the University of Kansas was one of his responsibilities and he held the rank of Associate Professor of Sanitary Engineering, until promoted to Professor in 1934.

Mr. Boyce left Kansas prior to our entry in World War II. From July to October, 1941, he was the civilian

consultant for Army Water supplies, Office of the Quartermaster General, Washington, D.C. Following that, he became an officer in the U. S. Public Health Service where he served with distinction. He was cited by Surgeon General Thomas Parran for his effectiveness in working with Congress.

In October, 1944, Mr. Boyce was appointed Professor of Sanitary Engineering at the University of Michigan; in 1947 he was promoted to his present position of Chairman, Department of Civil Engineering and Professor of Public Health.

During Mr. Boyce's years as Chief Engineer for the Kansas State Board of Health, much pioneering work was done in the field of sanitation. Improvements in sewage and industrial waste treatment processes, which were developed under Mr. Boyce's direction, played an important part in protecting the state's water resources. His outstanding contribution in this field was his influence in broadening the Kansas "Water and Sewage Law." He deserves the major credit for protecting the fresh waters of Kansas against oil field salt brines.

When Mr. Boyce was appointed Chief Engineer by the State Board of Health, El Dorado and Augusta had just abandoned the Walnut River as a source of water supply because of the high chlorides. Salt concentrations were so high in the Neosho River that Burlington, Chanute, and Oswego were forced to haul drinking water during the worst periods. In correcting this condition, he coordinated the skills and knowledge of other states and federal agencies to develop accepted methods of brine disposal—methods which have since been adopted throughout the country. The impetus he gave the program was so great that as late as 1949, Russell County, Kansas, has more deep brine disposal wells (the accepted method of disposal) than all of the other states combined.

The major expansion of oil production occurred after this, yet in six years of brine control activity (the program was authorized by the legislature in 1935) the chlorides in Kansas streams were reduced so that in most places they were no longer a hazard to municipal water supplies.

A high level of sanitation was promoted in Kansas by the construction of 147 new municipal water supplies, 96 new sewer systems and 99 new sewage treatment plants. Certainly the provision of safe drinking water and the removal of sewage from the back yards of these cities exerted a major influence upon the health of Kansans.

During the past three or four years, the Minnesota Health Department has attracted national attention by its numerical rating of public water supplies. Mr. Boyce was rating Kansas supplies in 1930. By using these ratings and other techniques he established a new level of water sanitation which we accept as commonplace today. As an example, he brought about the conversion of seven sizeable city supplies which were distributing unfiltered river water to modern, safe water purification-filtration systems.

Mr. Boyce recognized the importance of swimming pools, not only from a public health but from a safety viewpoint, and promulgated the first swimming pool regulations. The hydraulics and health hazards of cross-connections were determined and a study initiated of such connections in all the hospitals in Kansas. The report, prepared 15 years before the Kansas Hospital Licensure Law, is a monument to the early work in this field.

The introduction of the Standard Milk Ordinance and early work leading to its adoption by several Kansas cities was done under Mr. Boyce's leadership. He also recognized hazards to industrial workers and established an industrial hygiene service.

Some of the first studies on mottled enamel were con-

ducted at Chetopa by Mr. Boyce. This was done cooperatively with the medical and dental professions. Upon discovery of the cause, research was initiated by Mr. Boyce in the Water and Sewage Laboratory on methods of removing fluorides from water.

For improving the sanitation in rural areas, under his direction, 65,000 sanitary privies, serving two-fifths of the state's rural population, were built in cooperation with the Civil Works Administration. A countless number of rural wells were improved as the result of a cooperative program carried out with the Agricultural Extension Service of Kansas State College.

Many of the water and sewerage plants in our larger cities were designed and built during the 20 years Mr. Boyce served with the State Board of Health. In many instances the State Board of Health was forced to issue orders to the municipalities to provide adequate treatment for their wastes, yet as testimony to Mr. Boyce's fairness in dealing with the communities, none of them today harbour any resentment against the Board or the Division. Space will not permit us to tell the interesting side lights that took place in connection with many of these developments. Suffice to say, many humorous and interesting incidences are hidden in the records.

Mr. Boyce made a major contribution, not only to Kansas, but to the entire country in the training, guidance and generous support of a succession of young engineers who have served with distinction in sanitary engineering across the nation. Many of these men first were students of civil engineering at Kansas University while Mr. Boyce was teaching the courses in sanitary engineering, and later served as assistant engineers with the State Board of Health under Mr. Boyce's direction and supervision. Men trained by him hold some of the most important positions today

in industry, consulting practice, and public office. A short time ago six of the 48 state sanitary engineers were graduates of Kansas University—four were his students and the fifth worked with him during his early days with the State Board of Health.

In addition to training persons enrolled in the regular university curricula, Mr. Boyce utilized the facilities and opportunities of the University and State Board of Health for the training of waterworks superintendents, waste treatment workers, swimming pool operators and sanitarians engaged in public health activities. Schools from three days to one week in length were held annually for these groups, beginning in the early 1920's. Much of the know-how of water and sewage plant operators in Kansas today was obtained at those schools held during Mr. Boyce's 17 years of service as Chief Engineer of the Kansas State Board of Health. The schools made a substantial contribution to the quality of these essential public health services which are being provided Kansans today.

Mr. Boyce promoted interest in professional organizations and strengthened their activities. While in Kansas he was an officer in the Kansas Water and Sewage Works Association, the Kansas Engineering Society and the Kansas Section of the American Society of Civil Engineers. On the national level, he was secretary, vice-chairman and chairman of the Engineering Section, American Public Health Association, and chairman of the Conference of State Sanitary Engineers. He has been and continues to be active on committees of the American Society of Civil Engineers and the American Waterworks Association.

In his capacity as Chairman, Department of Civil Engineering, University of Michigan, and Professor of Public Health, he has established an outstanding sanitary engineering research laboratory, has served as special consultant

on several national commissions and is regarded as one of the outstanding sanitary engineers in this country. Mr. Boyce has served as consultant to the Inter-American Affairs Committee, a part of our State Department. He made a special trip to Caracas, Venezuela, in 1947 to lecture to the sanitary engineers of Central and South America and to study sanitary conditions. He is now a member of the American Public Health Association Governing Council, elected at large. This year he is vice-president of the Federation of Sewage and Industrial Wastes Associations.

Mr. and Mrs. Boyce have one son, James Earnest. He is an Assistant Professor of International Relations at Massachusetts Institute of Technology, now on leave for two years of special work with the State Department in Washington, D.C. James Earnest and Elizabeth Crafton-Boyce are the parents of two sons, James Marshall and Stuart Crafton.

For integrity, courage and earnestness of purpose, for the Kansans who have been spared disease because of your leadership in improving sanitary conditions, for the many friends you have made for public health, for wise counsel given generously from rich years of experience, for leadership in training and stimulating engineers and other sanitary workers, for great influence upon the national and international practice of sanitation—we, your friends of the Kansas Public Health Association salute you, Mr. Boyce.