

upon protoplasm as the "medium of vital manifestation" rather than the physical basis of life and thus establish a better foundation upon which to build the

social and personal progress of human beings. Humanity has been admonished to seek life rather than things.

OBITUARY

HENRY TITUS KOENIG

1891-1934

BORN, Pittsburgh, Pa., July 14, 1891, son of George F. and Barbara Dinkle Koenig. Graduated from Tarentum High School in 1908. Obtained B.S. degree in chemistry, University of Pittsburgh, June, 1912. From 1912 to 1914 associated with fellow classmate, the late Glenn Donald Kammer, and with the late Dr. Charles H. Viol, in laboratory of Standard Chemical Company, Pittsburgh, in pioneer work on radium recovery from carnotite ore from Colorado, resulting in a method for profitable radium recovery from this ore. In 1914-15, studied under Professor George H. Hulett at Princeton; while there, with Dr. Willy A. Schlesinger, established experimental laboratory of radioactivity. The two incorporated the Schlesinger Radium Company, which began operating in 1915. In this laboratory, in Denver, Koenig developed luminous materials which were employed by the U. S. Government during the World War. In 1919, Koenig, while on leave of absence, spent six months with Professor Herman Schlundt in the University of Missouri. He continued as chief chemist for the Schlesinger Radium Company until 1921. While there, he developed methods for increasing the radium recovery from 50 per cent. of the content of the ore to 88 per cent., thus obtaining about one gram of radium from 200 tons of handpicked ore. Then the rich ore from Katanga in the Belgian Congo was announced. Koenig was called by the Union Miniere of Oolen in Brussels, Belgium, to apply his recovery methods to the richer ore. At the same time he installed apparatus for the recovery of radium emanation, or radon. The Belgian development cut the price of radium in half and the American industry ceased. After the Belgian development, he spent about three months with Madame Curie and frequently visited Professor Aartz in Holland. In 1923, he returned to America, when his interest shifted from radium to vanadium, and in the service of the U. S. Vanadium Company in Colorado, he developed the chloride-bisulfate roasting process for vanadium recovery. He patented the process, which was commercially successful. During 1923-24, his process for forced precipitation of potassium yielded phosphorus-free ferro-vanadium. Following this, he spent four months with Professor Colin G. Fink of Columbia, and then joined Harry Payne Whitney at the Hudson Bay Mining and Milling Company. As chief chem-

ist, he developed methods for treatment of complex sulfide ores containing gold, silver, copper and zinc and was co-patentee of the process. During this association, which lasted until 1931, plant construction involving almost twenty million dollars developed. In the fall of 1931, he opened consulting laboratories in Denver, Colorado, which he continued until his death, May 20, 1934.

Koenig made the same sacrifice as his fellow pioneers who had entered the radium recovery field—succumbed to the insidious effects of radium when only 43 years of age. He is deserving of the highest tribute for his pioneer venture into an unknown and dangerous field, and for his valuable contributions there and the other developments cited.

He is survived by his mother; a sister, Mrs. George H. Spacke, of Denver; another sister, Mrs. Louise von Warren, of San Diego, California; and a brother, Walter J. Koenig, technical director of the Sloane-Blabon Corporation of Philadelphia.

ALEXANDER SILVERMAN

RECENT DEATHS

DR. NATHANIEL LORD BRITTON, for thirty-three years, until his retirement as director emeritus in 1930, director-in-chief of the New York Botanical Garden, previously professor of botany at Columbia University, died on June 25. He was seventy-five years old.

JOHN MERTON ALDRICH, associate curator of insects in the National Museum, died in Washington, D. C., on May 27, at the age of sixty-eight years.

PROFESSOR LEONARD P. DICKINSON, head of the department of electrical engineering at the University of Vermont, died on June 3 at the age of sixty years. Before going to Vermont fourteen years ago, he had served on the faculty of Lafayette College, of Rhode Island State College and of Robert College, Constantinople.

PROFESSOR RICHARD THORNTON FISHER, director of the Harvard Forest at Petersham, Massachusetts, died suddenly on June 9, at the age of fifty-eight years.

DR. HARRIET W. BIGELOW, head of the department of astronomy at Smith College, died at Soerabaja, Java, on June 29. Miss Bigelow was sixty-four years old.

DR. JAKOB JOHANNES SEDERHOLM, director of the

Geological Survey Commission of Finland, died on June 27, at the age of seventy-one years.

THE death is announced at the age of eighty-three years of Dr. J. P. van der Stok, director of the Section of Oceanography and Maritime Meteorology at the de Bilt Meteorological Institute, near Utrecht, in 1899-1923, formerly director of the Magnetic and Meteorological Observatory, Batavia.

A CORRESPONDENT writes from Canada: "Geological and academic circles will experience a great loss in the death of Dr. Stuart Raeburn Kirk, who died in Winnipeg, Manitoba, on May 15, 1934. Dr. Kirk

has been assistant-professor of geology in the University of Manitoba since 1927. During that time he served as field-officer for the Geological Survey of Canada and made some notable contributions on the stratigraphy of southwestern Manitoba. Dr. Kirk graduated from St. Andrews University, Scotland, in 1922. After securing his doctor's degree there in 1925, he studied under a Commonwealth Fund fellowship at Yale University from 1925 to 1927. Dr. Kirk had established an enviable reputation as a teacher and as a paleontologist and his death at the early age of thirty-four years is regretted in a large circle of friends and in the scientific world at large."

SCIENTIFIC EVENTS

KING GEORGE'S BIRTHDAY HONORS

THE King's birthday honors list, as recorded in *Nature*, includes the names of the following men of science and others associated with scientific work and development. *Baron*: Sir Hugo Hirst, chairman and managing director of the General Electric Company, Ltd. *G.B.E.*: Sir John Reith, director-general of the British Broadcasting Corporation. *K.B.E.*: Dr. F. G. Banting, Dominion of Canada, discoverer of insulin. *Knights*: Major R. G. Archibald, director of the Wellcome Tropical Research Laboratories, Sudan; A. W. Flux, honorary vice-president (past president) of the Royal Statistical Society; Albert Howard, lately agricultural adviser to the States in Central India and Rajputana; Dr. W. H. Moberly, vice-chancellor of the University of Manchester; Dr. C. E. Saunders, lately Dominion cerealist, Dominion of Canada, discoverer of Marquis, Ruby, Reward and Garnet Wheat; Professor G. Elliot Smith, professor of anatomy in the University of London (University College). *C.B.*: Dr. R. E. Stradling, director of Building and Road Research, Department of Scientific and Industrial Research. *C.M.G.*: A. C. Bagshawe, secretary of the Department of Agriculture and Lands, Southern Rhodesia; Professor R. S. Troup, director of the Imperial Forestry Institute and professor of forestry in the University of Oxford, for services to forestry in the Colonies. *C.I.E.*: F. Canning, chief conservator of forests, United Provinces; P. E. Aitchison, chief conservator of forests, Bombay Presidency; W. McRae, director and Imperial mycologist, Imperial Institute of Agricultural Research, Pusa. *C.B.E.*: Dr. W. L. Balls, chief botanist, Egyptian Ministry of Agriculture; L. St. L. Pendred, editor-in-chief of the *Engineer*; Dr. L. J. Spencer, keeper of minerals, British Museum (Natural History). *O.B.E.*: Dr. S. G. Barker, for research services to the Empire Marketing Board; A. D. Cotton, keeper of the Herbarium and Library,

Royal Botanic Gardens, Kew; Miss E. H. Ekins, principal of Studley Horticultural and Agricultural College for Women; Miss Annie Lorrain-Smith, for contributions to mycology and lichenology; Dr. C. Raeburn, assistant director of the Geological Survey Department, Nigeria. *M.B.E.*: F. G. Harcourt, curator of the Botanical Gardens and Agricultural Superintendent, Dominica, Leeward Islands; J. D. Kennedy, sylviculturist, Nigeria. *I.S.O.*: G. E. Greig, lately senior warden of mines, Federated Malay States.

PRINCETON UNIVERSITY GEOLOGICAL EXPEDITIONS

THE department of geology of Princeton University will send out sixteen expeditions this summer to study various phases of geology in Canada, Newfoundland and parts of the United States, ranging from the Adirondacks to the mineral regions of Utah, according to an announcement made by Professor Edward Sampson.

The annual Scott Fund expedition is this year being divided into sections. One will continue research in the Big Horn Basin region in Montana. Dr. Glenn L. Jepsen and Professor William J. Sinclair will direct the division in work in vertebrate paleontology. Professor Erling Dorf will be at the head of the second section, which will examine the deposits of some of the earliest known fossil fish in the vicinity of Bear-tooth, Butte, Montana.

Under the leadership of Professor Benjamin F. Howell, another group will work near Denver on Cambrian faunas between there and the Red Lodge Basin region of Montana. Near Red Lodge Professor Howell will join Mr. Steven K. Fox, who will work on the Cretaceous stratigraphy of the Big Horn Basin, correlating events in Montana and Texas. Also, working in this neighborhood will be Professor William T. Thom, Jr., one of the directors of a large expedition doing general geological research in this district.