

At a Meeting of the Faculty of Arts and Sciences on February 11, 2003, the following Minute was placed upon the records.

KENNETH VIVIAN THIMANN

Born: August 5, 1904

Died: January 15, 1997

Kenneth Vivian Thimann was a 20th century pioneer in the study of hormones and plant growth. He was a highly productive and innovative scientist, an inspiring teacher, a gracious and charming person, and a respected leader in the international scientific community.

Kenneth Thimann was born in Ashford, Kent, England on August 5, 1904 to Israel Felix Thimann, the vicar of the Congregational church, and Muriel Harding Thimann. He earned a B.Sc. in Chemistry in 1924 and a Ph.D. in Biochemistry and Plant Physiology in 1928 from Imperial College, University of London. His Ph.D. thesis concerned contributions of individual amino acid residues to the ionization of proteins.

In 1930, after two years as Research Fellow at Imperial College and Demonstrator in Bacteriology at Kings College, Kenneth Thimann became an Instructor in Bacteriology and Biochemistry at the California Institute of Technology. He intended to extend his Ph.D. research, but interactions with the plant physiologist Herman Dolk and graduate students James Bonner and Folke Skoog led him in new directions. Frits Went, in Utrecht, had shown that a substance – later named auxin (Gr. to increase) – is produced in minute amounts by seedling tips and causes the cells below to elongate. This substance, the first hormone recognized in plants, was also made by fungi. Since the fungus *Rhizopus suinus* produced more auxin when grown on a medium containing the amino acid tryptophan and because of auxin's chemical properties, Thimann deduced that the active compound might be indole-3-acetic acid (IAA). He demonstrated that synthetic IAA had the same biological and chemical properties as the fungal auxin.

Frits Went, Folke Skoog and Kenneth Thimann showed that, in addition to causing cell elongation, IAA had developmental effects: it enhanced formation of roots on cuttings and inhibited lateral buds. Thimann maintained a life-long interest in how plant hormones regulate the growth and development of plants.

In 1935 he joined the Harvard faculty as a lecturer and became an Assistant Professor of Biology the following year. Remarkably, in 1936 – just a few years after publishing his first paper on auxin (with Dolk) and one year after his appointment as a lecturer at Harvard – the American Society of Plant Physiologists gave him its highest award, the Stephen Hales Prize, for “his contributions to our knowledge of the chemistry and physiological significance of the growth hormones of plants.”

Kenneth Thimann and his contemporaries determined which features of the IAA molecule were responsible for its auxin activity. Synthetic growth regulators developed as a result of this line of work included the weed killer 2,4-D and its chemical relatives. The plant growth regulator

chemical industry, with its enormous effects on agricultural productivity, grew out of the identification of IAA as auxin, knowledge of the diverse physiological effects of IAA and the understanding of the relationship between chemical structure and biological activity of auxins.

At Harvard Kenneth Thimann became Associate Professor in 1939, Professor in 1946, Higgins Professor of Biology in 1962, Director of the Maria Moors Cabot Foundation for Botanical Research from 1958 to 1965, and Master of East House from 1962 to 1965. During WWII, he served the U. S. Navy as a civilian consultant on counter submarine warfare.

In his three decades at Harvard, numerous graduate students and visiting faculty contributed to Thimann's highly productive laboratory investigating the biosynthesis, metabolism, and interactions of naturally occurring plant growth hormones; plant responses to light and gravity; and plant biochemistry. This work set a course for molecular genetic investigations of development and plant growth later in the century.

In 1965 he retired from Harvard to help create the new campus of the University of California at Santa Cruz, where he created an outstanding collegial program for undergraduates. He served as Dean of the Division of Natural Sciences and Provost of Crown College. Retiring again in 1972, he continued experiments on plant senescence with his students in the Thimann Laboratories – named for him – at the University of California, Santa Cruz until 1989. He then moved to Haverford, Pennsylvania and continued doing research in the laboratory of his daughter, Professor Vivianne Nachmias, at the University of Pennsylvania. His last research paper was published in 1994.

Thimann wrote over 300 research papers and eight books, four of which are considered groundbreaking. His textbook, *The Life of the Bacteria*, illustrates the remarkable depth and breadth of his scholarship outside of his area of active research.

He was a leading scientific statesman. He served on numerous editorial boards and was a founding editor of *Vitamins and Hormones* and *Annual Reviews of Plant Physiology*. He was President of the American Institute of Biological Sciences, the Botanical Society of America, the American Society of Plant Physiologists, the Society of General Physiologists, the American Society of Naturalists, and the XIth International Botanical Congress.

Among his numerous honors were the Balzan Prize, election to the U. S. National Academy of Sciences, the American Academy of Arts and Sciences, the American Philosophical Society, and several foreign academies.

Thimann was a warm, encouraging mentor to students, younger scientists and colleagues. At Harvard his influence extended well beyond his research group. Thimann's students and guests joined in daily afternoon teas in the Biological Laboratories and Sunday evening gatherings at home with Ann and Kenneth Thimann and their daughters. These widely admired intellectually stimulating events were enjoyed and long remembered.

Kenneth Thimann had a great influence on the performance of science by force of person and personality through his gentle and engaging inquisitiveness. In 1991, Erasmo Marre of Milan

recalled a September, 1951 visit with Thimann ...“I had long talks with Kenneth Thimann – one of the most important events in my scientific life...In Thimann, I found the closest approximation to the ideal of a scientist: a range of biological interests extending far beyond the boundaries of plant life; a capacity to apply the modern developments in biochemistry and biophysics to physiological problems; a sincere and intense interest in the development of science all over the world; the capacity to establish a warm, friendly relationship with younger people; a wide humanistic culture; and a faith in the value of scientific research accompanied by an awareness of the intrinsic limitations of this type of knowledge.”¹

Kenneth Thimann died on January 15, 1997 leaving scores of students and colleagues wiser – and perhaps kinder too – for having known him.

Respectfully submitted,

I. Bernard Cohen
Mary Helen Goldsmith (Yale)
Everett I. Mendelsohn
Lawrence Bogorad, Chair

¹ Ann Rev. Plant Physiol and Plant Molecular Biology 42:1-20 (1991).