

Bernard Ogilvie Dodge was born April 18, 1872, on his father's farm near Mauston, Wisconsin, and died August 9, 1960, at the age of 88, in New York City. He was a member of the National Academy of Sciences, member of Sigma Xi, Fellow of the American Association for the Advancement of Science, Fellow of the American Academy of Arts and Sciences, Foreign Member of the Linnean Society of London, Honorary Member of the British Mycological Society, Vice-President of the 7th International Botanical Congress at Stockholm, President of the Mycological Society and of the Torrey Botanical Club, recipient of the Golden Jubilee Award of Merit of the Botanical Society of America, author of a textbook on Diseases of Ornamental Plants, and of over 150 papers dealing with the life histories, cytology, morphology, pathology and genetics of the fungi and with insects and other animal pests of plants.

Dodge, more than any other individual, laid the foundation for the genetics of *Neurospora* on which Tatum and Beadle based their work on the biochemical genetics of *Neurospora* for which they received the Nobel Prize.

When he received the Golden Jubilee Award of Merit of the Botanical Society of America, the citation read, "Bernard Ogilvie Dodge, whose perceptive researches into the taxonomy, evolution and pathological relations of the fungi have not been surpassed but only overshadowed by his discovery and exploration of *Neurospora* as a principle of genetical truth."

Dr. Dodge's father supplemented the income from his farm by some teaching in the local schools. Though without either a high school or college education he had a great interest in, and wide acquaintance with, the writings of Shakespeare, Byron, Chaucer, Spenser, Pope, Dryden, Tennyson and others and would recite entire scenes from Shakespeare to his attentive family. At the same time, he enjoyed reading Peck's *Bad Boy* or Josiah Allen at Saratoga and on one occasion called his sons from the field to hear him read dramatically an account of the Sullivan-Kilrain prize fight.

Dr. Dodge's mother bore her husband five sons and two daughters and lived the life of a pioneer's wife. She had no more schooling than that provided by a district school, but she saw beauty in the common labor of the day, inspired her children with a love for music and at sixty-nine undertook the translation of a 61 page Spanish story into English.

His mother and father were happy in their family life and though limited in formal education were inspired by a love of literature, music and learning. This must have had a great influence in molding the attitudes and determining the motivation of Dr. Dodge.

Bernard Dodge spent the first twenty years of his life working on his father's farm. He recalled that at the age of ten a bumper crop of sorghum required operation of the mill day and night during the rush period of syrup making. At such times his father, two older brothers and he worked 18 hours at a stretch. His job was to stand on the circling horse-power platform and drive the horses, walking sideways to avoid dizziness. Dodge's stretch began at midnight -- you can imagine the reluctance with which a boy of 10 came from his warm bed to drive the horses of the sorghum mill. That winter, he had his first regular job -- walking over a mile to the schoolhouse each morning with temperatures far below zero at times -- to sweep out the schoolhouse and build the fire, at five cents each school day.

Perhaps because his help was needed on the farm, Bernard Dodge did not complete his high school education until he was 20 years of age. He taught school and then entered the University of Wisconsin as a special student in 1896, but before the college year was completed his funds were exhausted and he found it necessary to return to teaching. By the time he was 28 he could afford to resume his formal education and spent a year meeting the requirements for graduation from the Milwaukee Normal School. To recoup his finances he once more returned to teaching, serving as high school principal at Algoma, Wisconsin.

In 1906 he married Jennie S. Perry, and in 1908 at the age of 36 returned to the University of Wisconsin where he completed the requirements for the Ph. B. degree in 1909.

In high school, Dodge had a three month's course in botany in which each student was required to collect and identify 75 plants, using the keys of Gray's *School and Field Botany*. Dodge far exceeded the number required. As a special student in 1896 at the University of Wisconsin, he became interested in the lower plants, especially the liverworts, largely because of the instruction given by Charles R. Barnes. Then, while principal of the Algoma High School, on the way back from collecting for his class *Spirogyra* and *Hydrodictyon* in a local swamp, he met an elderly Bohemian tailor with his dog, his pipe and a basket, leading his cow in for the evening milking. Dodge learned that the curious objects in the basket were "Pilze" and that they were "Gut für essen." For the first time he found out what a mushroom looked like. His interest aroused by this chance meeting, he collected fungi in the vicinity of Algoma, sent specimens to the University of Wisconsin for identification, bought Atkinson's book on mushrooms, and Mrs. Dodge presented him for Christmas, MacIlwain's "One Thousand Edible Mushrooms." This chance meeting with the old Bohemian tailor was, in Dodge's opinion, the lucky accident which led to his long and happy years investigating this fascinating group of plants.



At the University of Wisconsin, he came under the influence of R. A. Harper, at that time one of the great figures in American botany, who was soon to transfer to Columbia University. At Harper's suggestion, Dodge decided to undertake graduate work and accepted a minor position as Assistant and Research Fellow in Botany at Columbia. At the age of 40, Dr. Dodge received the degree Doctor of Philosophy.

The accidental meeting with the Bohemian tailor and his basket of mushrooms aroused Dr. Dodge's interest in the fungi and the discovery, by accident, that heat induced the germination of the ascospores of Neurospora, made genetical study of that fungus possible.

When Dr. Dodge initiated his graduate work at Columbia University, he reported to The New York Botanical Garden for research on the fungi. He was assigned the Ascombolaceae. However, he had difficulty in germinating the ascospores of Ascombolus. One day, free space in the laboratory was at a premium and Dr. Dodge set some petri dish cultures of Ascombolus ascospores in an oven which was not in use at the moment. A colleague, without Dr. Dodge's knowledge, started the oven and the ascospores were exposed to heat. To Dodge's surprise and delight the ascospores germinated. Dr. Dodge found that heat induced the germination of the ascospores of Neurospora also.

He remained at Columbia as Instructor of Botany until 1920. These eleven years in poorly paid minor positions must have been difficult indeed for a married man approaching 50 before they ended; not to mention his wife whose whole-hearted support and sympathetic interest were major factors in making it possible for Dr. Dodge to pursue his chosen field during these years. In 1920 he accepted an appointment as Plant Pathologist (in fruit diseases) in the Bureau of Plant Industry of the United States Department of Agriculture and spent eight satisfying years in Washington. It was here that Dodge initiated his studies of Neurospora.

By 1928 The New York Botanical Garden had decided that it required a plant pathologist to maintain the health of its living collections and Dr. Dodge was appointed. He remained in this position until he retired in 1947 to become Pathologist Emeritus and Consultant in Mycology. After retirement, he continued to work in his laboratory until a few months before his final illness, making his way several times each week by subway, nearly an hour's journey, from his apartment in the vicinity of Columbia University to The New York Botanical Garden.

Dr. Dodge's concern with fungi as causes of disease extended from plants to animals, including man. From 1928 to 1939 he served as Consultant in Mycology for the Presbyterian Hospital, New York City, and from 1929 to 1950 he was Lecturer in Dermatology for the College of Physicians and Surgeons in New York City.

For about 20 years he was responsible for the practical control of plant diseases and insect pests at The New York Botanical Garden -- the rose garden was his special care and delight -- and along with this burden pursued research in plant pathology, cytology and genetics. In addition to all his other interests, Dr. Dodge was a Plant Pathologist. During the nine years he served with the U. S. Department of Agriculture he was author and co-author of publications which included diseases of raspberries, blackberries and dewberries. He always felt that his studies in systemic infection of rusts were among his best researches and he never lost his interest in the rusts. With his appointment at The New York Botanical Garden, his attention turned to the diseases of ornamental plants, especially those of iris, Japanese cherries, roses, geraniums, cedars, marigolds, opuntias, Pachysandra, delphiniums and many others.

I never pass a young plane tree on the streets of New York and note the metal guard which protects the lower two feet or so without thinking of Dr. Dodge. The Park Department of the City of New York asked Dr. Dodge to determine the cause of the death of the lower part of the trunk of young street-planted plane trees. He found it was caused by the visits of dogs.

Dr. Dodge's interests were wide-ranging. In his later years he was fascinated by phyllotaxy, the Fibonacci series and other designs in nature. He would bring pine cones, snail shells, plant stems and other objects to the laboratory and pore over them in his spare time, calling the attention of others to their wonders. But Dr. Dodge was essentially a teacher, and nothing pleased him more than to enthuse some beginner or colleague for the subject in which he took so great an interest, and few could resist him. It is impossible to list all those who felt his influence. They include Carl Lindegren, I. H. Herskowitz, Myron Backus, S. F. Pady, Jesse Singleton, Esther Zimmer Lederberg, Marjorie Swift, Alice Aronescu, F. Li Tai, Thomas Laskaris, George Bistis and many others. One of his great satisfactions was to receive in 1958 a letter signed by eight members of the Algoma High School Class of 1908 sending him greetings and expressing their gratitude for his patience, guidance and personal interest in them when he was their teacher and acknowledging the effect on them of his ideas and ideals and of his intense desire to impart his knowledge.

Dr. Dodge was a big man physically as well as mentally. Blond, blue-eyed, fine-looking, he was over six feet in height and weighed 190 pounds in his prime. He was proud of his strength and recalled that in his youth he carried 120 lbs. of wheat on his shoulder at threshing time. He was modest to an extreme, a bit shy, not aggressive, friendly, cheerful, good-natured, never bitter -- though some of his experiences might have so inclined a lesser man. I never heard him make a mean remark about anyone. He played no instrument but loved good music. His quick, at times almost jerky, motions made one a little reluctant to be a passenger in his automobile (in 40 years of driving he never had an accident) and one was always a bit surprised that he could pick a single spore from an ascus with no more equipment than a sharpened sewing needle fixed in a simple wood handle.



His mental processes were quick also, often to the confusion of others whose habit of thought was more pedestrian. At one time, he enjoyed a good cigar and smoked a pipe but gave up smoking completely in the early '30's as one individual's protest against what he considered to be an unjustified increase in the price of tobacco. He was inclined to be a conservative in politics. Formal religion does not appear to have been important in the lives of his parents -- none of their seven children was baptized; he himself was affiliated with the Episcopal Church.

Dr. Dodge's career illustrates how a man favored by good health and a fine mind may overcome difficulties which would have frustrated completely one less highly motivated than he was.

An early introduction to the "work ethic," parents inspired by a love for education, the loyal and sympathetic support of his wife ("my Jennie," as he called her), interested and cooperative colleagues, accidental occurrences of which Dr. Dodge took full advantage, all played a role in shaping Dr. Dodge's career, but he himself was the architect. His life is an inspiration to all of us who find in teaching and in research in science such great satisfaction and especially to young men and women who look forward to engaging in the same pursuits.

#### Articles about Bernard Ogilvie Dodge

- Seaver, F. J. 1947 Bernard Ogilvie Dodge. Bull. Torrey Bot. Club 74: 197-198.
- Rogers, D. P. 1953 Dr. Dodge's Neurospora. Garden J. N. Y. Botanical Garden 3: 140-142.
- Pirone, P. P. 1961 B. O. Dodge's contribution to plant pathology. Bull. Torrey Bot. Club 88: 120-121.
- Robbins, W. J. 1961 Bernard O. Dodge, mycologist, plant pathologist. Science 133: 741-742.
- Robbins, W. J. 1961 Bernard Ogilvie Dodge. Bull. Torrey Bot. Club 88: 111-115.
- Ryan, F. J. and L. S. Olive 1961 The importance of B. O. Dodge's work for the genetics of fungi. Bull. Torrey Bot. Club 88: 118-120.
- Tatum, E. L. 1961 Contributions of B. O. Dodge to biochemical genetics. Bull. Torrey Bot. Club 88: 115-118.
- Rickett, H. W. 1961 Bernard Ogilvie Dodge (1872-1960). Taxon 10: 65.
- Nelson, C. T. 1962 Bernard Ogilvie Dodge. Bull. N. Y. Acad. Med. 38: 117-119.
- Robbins, W. J. 1962 Bernard Ogilvie Dodge. Biograph. Mem. Nat. Acad. Sci., U. S. 36: 84-124.

The following consists of excerpts from an unfinished autobiography:

Dodge, B. O. 1960 How come. Garden J. N. Y. Botanical Garden 10: 205-206.