

door life. Very early he showed the strong interest in natural history which distinguished him later, and he collected all sorts of things. A minister once asked him which he liked better, books or bugs. "Bugs," said Bert, "for man made books but God made bugs!" He early showed the originality and nonconformity that later were such important elements in his character.

Blakeslee was fond of the water and was a skillful sailor of small boats on Narragansett Bay. For one summer he worked as deck hand on a private yacht.

His early education was at the East Greenwich Academy, where his father was principal and his mother preceptress. From here he entered Wesleyan University, where he was college tennis champion (almost of national amateur caliber), received his letter in football, made Phi Beta Kappa and won prizes in mathematics and chemistry. After graduating *cum laude* in 1896, he taught mathematics and the sciences in Montpelier Seminary, Vermont, for two years and the same subjects for another year in the East Greenwich Academy.

Teaching was very congenial to Blakeslee and he planned to continue as a preparatory school teacher. Feeling the need for more training, however, he decided to go to Harvard for some graduate work, particularly in botany and zoology. He took a master's degree there in 1900. During this year he came under the influence of two great botanists, W. G. Farlow and Roland Thaxter. They suggested that he try his hand at research in mycology, and Thaxter offered him an assistantship. After attempting several difficult problems without much success, he undertook the classification of the Mucors and gathered a large collection of cultures of these fungi. In attempting to get zygospores for taxonomic study, he observed that they were found only under certain conditions, and this led him to the discovery that to produce zygospores in most species it was necessary to bring together two strains of opposite sexual type, (+) and (-). Such heterothallism, with its suggestion that these simple fungi reproduced by sexual fusion, was a completely new and sensational idea and has had an important influence through the years,

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both in mycology and genetics. Whether these differences should be regarded as truly sexual in the strict sense may be debated, but Blakeslee so regarded them. For this work he was awarded the Bowdoin prize at Harvard. He received his Ph. D. degree in 1904. This discovery of heterothallism and the publication of his thesis established Blakeslee's reputation as an original investigator. He had found something—research—which was much more exciting than schoolteaching, and to it he devoted himself with energy and enthusiasm for the rest of his life.

During his first year at Harvard he held a teaching fellowship in botany and from 1900 to 1902 he served as instructor at Radcliffe. For two summers he was assistant at the summer school at Cold Spring Harbor, Long Island. He spent the summer of 1903 in Venezuela collecting for the Cryptogamic Herbarium of Harvard.

The Carnegie Institution recognized his ability by a grant which made it possible for him to spend two years abroad, working chiefly in the laboratory of Professor Klebs at Halle. Here he carried on his work with fungi and was able to prove that in some of the *Mucors* sex determination was made in the zygosporangium, all spores from one zygosporangium being either (+) or (-). In other forms, however, this determination occurs later, so that both types are formed in the sporangium coming from one zygosporangium.

During his first visit to Europe Blakeslee gained much more than scientific knowledge. He learned to speak German and made the most of his opportunities to meet European botanists and visit universities. For the first time he had a chance to acquaint himself with the wealth of art that Europe had to offer, and it made a great impression on him. His letters to his mother show how interested he became in it and the many museums he visited. He gathered a wealth of anecdotes and experiences, too, with which he later regaled his friends, such as the story of his temporary arrest for dashing out into the street and scraping up horse-droppings into a paper bag. He had difficulty in persuading the police that he wanted this material as a means for finding new fungi!

On his return to the United States, Blakeslee went back to Harvard for a year as instructor in botany. Positions were scarce and in 1907 he took the post of Professor of Botany and Director of the Summer School at what then was little more than a farm school, the Connecticut Agricultural College at Storrs (now the University of Connecticut). He was the only Ph. D. on the faculty at that time, but entered on the work with his usual enthusiasm, and spent there eight pleasant and profitable years. He took an active part in the life of the college and proved himself a remarkably fine teacher.

After going to Storrs he found it difficult to carry on his Mucor work, and he also felt that his research should be more in harmony with the nature of the institution. He therefore cast about for problems, but at first failed to find a suitable one. He often remarked that for several years he was almost sterile scientifically. In his course for forestry students, however, he developed keys for the identification of trees in their winter condition, and in cooperation with the horticulturalist at the Experiment Station, C. D. Jarvis, he wrote in 1911 a bulletin entitled "New England Trees in Winter," fully illustrated by photographs which the authors took at various places in New England. The bulletin was later published (1913) as a book, *Trees in Winter*, and became one of the best of its kind. Blakeslee lectured rather widely on trees and aroused much interest in their study during a time of year when they are without their distinctive foliage. In connection with this work he did the first of his genetic experiments with higher plants by making some crosses between a number of tree species, one of them resulting in what was probably the first hybrid pine produced in this country.

He continued to serve for several years as Director of the Summer School, which was widely attended by schoolteachers and others. He always had a party at the conclusion of the course, and one year thought it would be appropriate, at an agricultural college, to serve cider. In the summer, however, all he could find was some hard cider. He masked its vigorous flavor by adding copious amounts of sugar, and it was generously distributed and consumed. Nature was

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