

Quiet Pioneer

How a “little country girl” became a towering figure in Medical School history

BY WHITLEY HILL

PART I OF II

IN THE 1890S, AS SHE PLAYED IN the fields and forests around her log home in Petersburg — a small farm town in southeastern Michigan — the world must have seemed a fascinating place to a tiny, brilliant girl named Elizabeth Caroline Crosby. Life abounded everywhere: turtles and fish; cats and dogs and farm animals; neighbors and classmates with their eccentricities and singular patterns of behavior. Crosby’s long career as a comparative neuroanatomist began in those fields and took her to laboratories, classrooms and lecterns around the world. In her remarkable 64-year association with the University of Michigan Medical School, she laid the foundation for today’s neuroscience and is estimated to have taught — and inspired — more than 8,000 medical students.

Crosby was born on October 25, 1888. She learned to read before she learned to walk. In school, she discovered she loved math and puzzles.

In 1907, Crosby entered nearby Adrian College. Within three years, she had completed a teaching degree and fallen in love with science. She decided to seek out C. Judson Herrick, Ph.D., a well-known neuroanatomist at the University of Chicago.

“I was a very scared and not too well-prepared little country girl who had never seen an elevated train,” Crosby recalled years later. She went directly to Herrick’s office and told him that she’d come all the way from Adrian to study biology with him. Though he felt she was unprepared, Herrick was swayed by her confidence. He allowed her to work in the dissecting room with the medical students and gave her permission to attend his medical course in neuroanatomy. Within weeks, she was working

vertebrates,” as she once put it), Crosby found her life’s work. She earned a Master of Science in 1912, took a fellowship in anatomy from 1913-14, and graduated *magna cum laude* with a Ph.D. in 1915, all at the University of Chicago. Her thesis, “The forebrain of *Alligator mississippiensis*,” published in the *Journal of Comparative Neurology* in 1917, was considered a major contribution to her field.

Crosby’s next step was to return home to Petersburg — her parents were in poor health — and take a

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at the level of medical students with far more formal preparation.

In neuroanatomy (“the great and glorious sweep of the evolution of the brain from the lowest to the highest

job as principal of the high school. She taught Latin, zoology, math and English, and even coached the boys’ basketball team. She continued her research in the family garage, where

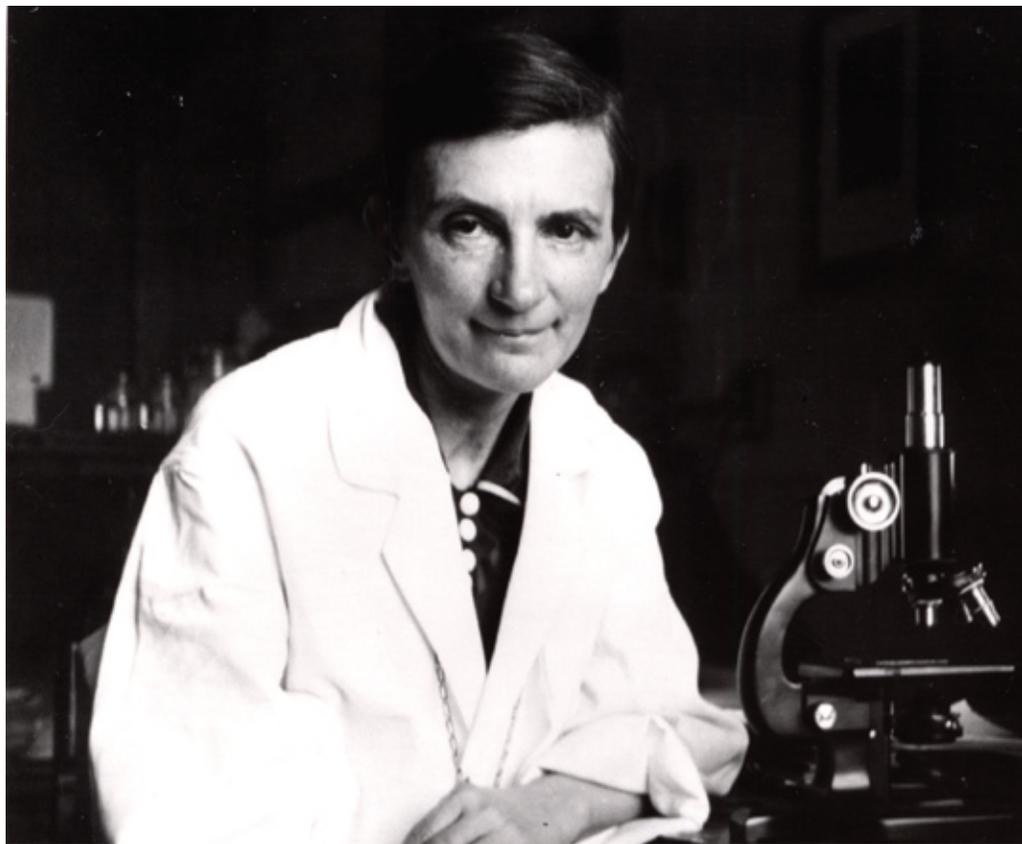
she kept alligators in a wash tub. But Crosby was desperate to return to a proper academic setting.

In 1920, Crosby walked into Michigan's Department of Anatomy and asked if she might be granted a corner in which to work. G. Carl Huber (M.D. 1887), director of the anatomical laboratories, knew of Crosby and hired her as a junior instructor in the anatomy and histology labs. The two fell into an easy and companionable research partnership and went on to publish six papers about reptile brains, and about the structure of the optic tectum in reptiles and birds.

Crosby was a master teacher from her very first class at Michigan. Although she prepared copious notes, she never referred to them. Kind, clear and patient, she was loved by her students and she loved them back.

Crosby worked long hours, often seven days a week, and lived simply in a series of rented rooms. But her work and her increasing renown opened the world to her. She made regular trips to Europe for further study. In 1925, C.U. Ariens Kappers, professor and head of the Institute for Brain Research in Amsterdam, asked Crosby and Huber to translate and revise his seminal work, *The Comparative Anatomy of the Nervous System of Vertebrates, Including Man*, a task that took 10 years. The resulting volume was so detailed and all-encompassing that some say it effectively marked the end of the descriptive phase of neuroanatomy.

But this achievement also marked the beginning of Crosby's most turbulent years at Michigan. In 1934,



TOP: Crosby the scientist **RIGHT:** The “little country girl” from Petersburg, Michigan

Huber died. Without her mentor and collaborator, Crosby began to doubt her value to the Medical School. At the same time, she was being actively recruited by other institutions. Over the next few years, she resigned at least five times — and each time was convinced to stay. After one such exchange, she wrote to Bradley Patten, Ph.D., the new chair of anatomy, “... if you urge me to stay again I shall no longer feel that you are keeping me because you don't know what else to do. I doubt if anyone knows how much this has worried me.”

Whether Crosby was genuinely experiencing a crisis of confidence or was simply aware that her gentle, deferent, unassuming nature could work to her favor is difficult to say, but in 1936, she became the first female professor in the Medical School.

Crosby continued to weigh other options, however. In 1939, in a move



grudgingly approved by the Medical School, she traveled to the University of Aberdeen, in Scotland, to organize the first courses in histology and neuroanatomy there. When she returned to Michigan in 1940, she brought with her something completely unexpected: a daughter.

(To be continued in the summer 2008 issue of Medicine at Michigan.)