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Chelmsford a scientific hotbed? Well...

Scientific study on sex-determining genes may seem to have little connection with inhabitants of Chelmsford.

But such is not the case.

Newspapers have recently reported that scientists at the Massachusetts Institute of Technology (MIT), the University of British Columbia and the University of Helsinki have identified a gene, TDF, located on the Y-chromosome that triggers the mechanism that determines whether a fetus will grow into a male or a female.

It was in 1905 that a former Chelmsford woman, Nettie Maria Stevens, was the first to publish the fact that sex is determined by X and Y chromosomes.

(Dr. Edmund B. Wilson, working independently, published a similar finding a short time later.)

Nettie Stevens' ancestors settled in Chelmsford in 1663 and for five generations lived on Old Westford Road at the corner of School Street. Some of her forebears had moved to Westford and thence to Cavendish, Vt. where Nettie was born in 1861. After her mother's death, the family returned to the Forge Village section of Westford.

She attended the Westford schools and Westford Academy (a private academy at that time), graduating in 1880. She and her sister, Emma, completed the college preparatory course with nearly perfect grades in all subjects.

Nettie taught Latin, English, math, physiology and zoology at the high school in Lebanon, N.H. for three terms before entering Westfield Normal School. She passed the four-year course in two years with the highest academic score of her class (a 9.5 score

The way It was

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out of a possible 10 in arithmetic was her lowest score).

She then taught at the Minot's Corner District School (1883-1884), moving on to a teaching position at Westford Academy.

The Stevens family moved to Chelmsford in 1893, taking up residence at what is now No. 23 Billerica Road, and Nettie served as librarian of the Free Public Library (predecessor of the Adams Library) for a brief period, resigning to accept a teaching position at Howe High School in Billerica.

In 1896 she traveled to California and enrolled at Leland Stanford University where she earned her bachelor of arts and master's degrees.

Although her father and sister had moved to California, she left them in 1900 and came back east to Bryn Mawr College. After being there only six months, she was given a fellowship to study at the Naples Zoological Station and the Zoological Institute at Wurzburg, Germany. Returning to Bryn Mawr, she received her Ph.D. in 1903. She was the recipient of a grant to continue her research in 1904 from the Carnegie Institute.

A research professorship was created at

Bryn Mawr for her but she was never able to occupy it. She died in Baltimore on May 4, 1912 at the age of 50 of breast cancer. Her funeral was held in Westford and she is buried, with her family in Fairview Cemetery in Westford.

She published almost 40 professional papers during her short career. Known for her clarity, Dr. Stevens was a woman of strong will, enormous drive, precise and persistent in pursuit of her goals. Her life was dedicated to scientific research and teaching.

A scholarly paper entitled *Nettie Marie Stevens 1861-1912: Her Life and Contributions to Cytogenetics*, by Prof. Marilyn B. Ogilvie of Oklahoma Baptist University and Clifford J. Choquette of Chelmsford was published in the Proceedings of the American Philosophical Society in 1981.

Although Nettie left no heirs, the present writer is proud to be one of her cousins.

George Adams Parkhurst is a Chelmsford historian whose family has lived in town since 1654.