Using genetics to study history

Y chromosome

Mitochondrial chromosomes

One difference between the Y chromosome and the other chromosomes is the Y doesn’t pair with a homolog during meiosis. It pairs with the X chromosome at its ends (the pseudoautosomal region) and disjoins from the X chromosome during meiosis.

Because there is no sequence similarity along the length of the X and Y chromosomes, crossing over does not change the arrangement of alleles.

Crossing over rearranges chromosomes.

But, the Y chromosome is inherited unchanged.

Differences on autosomes (or the X chromosome) are useful for determining paternity after one generation.

But determining paternity becomes more complicated with subsequent generations because of crossing over. But not with the Y chromosome!
Sally Hemings’, children

For Jefferson and Hemings history, check out http://www.monticello.org/plantation/hemingscontro/hemings-jefferson_contro.html

The Story

Sally Hemings, a slave of President Thomas Jefferson, had six or seven children. In 1802 James Callender, a scandalmonger, published an article accusing President Jefferson of fathering the Hemings’ children. Arguments for: Children looked like Jefferson; Jefferson and Hemings were in France or at Monticello together nine months before the birth of each of the children; Jefferson freed Sally’s children and other members of her family. Madison claimed that Sally told him that Jefferson was his father and the father of his five siblings.

Arguments against: Jefferson’s denial; Jefferson’s personality; difference in age; Madison and Eston were born after scandal; former Monticello manager claimed another man was often seen leaving Sally’s quarters.

There are two oral histories:
The Jefferson/Randolph oral history: Peter Carr fathered Sally’s children.
The Hemings oral history: Thomas Jefferson fathered Sally’s children.

Jefferson fathered slave’s last child

There are ongoing legal and academic controversies over the paternity of US President Thomas Jefferson, although a majority of historians believe that Sally Hemings, one of his slaves, had six or seven children. The paternity of these children has been a subject of debate among historians. The Story

Go to syllabus for Foster et al. correspondence

Conclusions

Thomas Woodson was not the son of Thomas Jefferson or Peter Carr.

Eston Jefferson could have been the son of Thomas Jefferson.
Although the relationship between Jefferson and Sally Hemings has been for many years, and will surely continue to be, a subject of intense interest to historians and the public, the evidence is not definitive, and the complete story may never be known. The Foundation encourages its visitors and patrons, based on what evidence does exist, to make up their own minds as to the true nature of the relationship.

The Thomas Jefferson Foundation

The New York Times
Thursday, March 1, 2007

Study Raises Possibility of Jewish Tie for Jefferson

Article Tools Sponsored By
By NICHOLAS WADE
Published: February 28, 2007

Was Thomas Jefferson the first Jewish president? Researchers studying Jefferson’s Y chromosome have found it belongs to a lineage that is rare in Europe but common in the Middle East, raising the possibility that the third president of the United States had a Jewish ancestor many generations ago.