DNA USA: A Genetic Biography of America

by Bryan Sykes

reviewed by Anne D Holden

Bryan Sykes has spent his career weaving together the story of human history with DNA. His many works—beginning with his 2001 bestseller, The Seven Daughters of Eve—have introduced readers to the history of our humanity hidden within the human genome. And while he has largely focused his efforts on Europe, Sykes crosses the Atlantic this time around, putting together what he calls “a genetic biography of America” in DNA USA.

The past three decades have been witness to a fundamental change in how scientists study human origins. In 1982 a team of geneticists found that DNA extracted from people alive today could be used to trace the origins of our species. They focused on a type of DNA called mitochondrial DNA. Unlike the 23 pairs of chromosomes that we inherit from both our parents, mitochondrial DNA is only passed down from a mother to her children. The scientists reasoned that they could compare small genetic differences—called mutations—in the mitochondrial DNA of people worldwide and use those to construct a “family” tree of our species.

These revolutionary techniques began to transform the fields of anthropology and archaeology. Many scientists shifted their focus from the field to the lab. And Oxford geneticist Bryan Sykes was smack dab in the middle of it. He spent the final decades of the 20th century exploring the genetic history of humans through their maternal ancestry.

But your maternal ancestry—as viewed through the lens of mitochondrial DNA—is just one branch of your family tree. And the last ten years have seen major advances in technology that allow us to examine the entire human genome for clues into genealogy. Prompted by these advances, Sykes ventures across the Atlantic to piece together the complex genetic history of America.

DNA USA begins with an examination of the various ethnicities that make up America, including American Indians, Eastern European Jews, and African Americans, among others. His discussion of each group is accompanied by a review of previous research—archaeological, historical, and genetic—that has helped to shape our understanding of its genetic and cultural makeup. Spaced throughout this examination are chapters that explain the science behind genetic ancestry, as well as the growing popularity of using genetics to trace one’s more immediate ancestors, a field known as “genetic genealogy.”

This is where Sykes excels. His chapter on the earliest arrival of humans to North America—whose descendants would come to be known as American Indians or Native Americans—is compelling, as Sykes brings to life these hardy people who made the trek—by
boat or by land or a combination of both—into North America. His descriptions of the genetic histories of both Eastern European, or Ashkenazi, Jews, and African Americans are equally thoughtful and heartfelt. And while there are some scientific inaccuracies (a curious diagram of a maternal genetic tree of Africa is taken from a scientific paper that is woefully out of date), Sykes has an uncanny ability to take facts that would otherwise seem dull—a detailed history of the first stone tools to arrive in America—and make them shine.

The next section, however, is where the narrative begins to falter. Here, Sykes embarks upon a journey to collect DNA samples from a small group of Americans—each representing a distinct American region—to paint a complete genetic picture of modern-day America.

Sykes explains that this trip, unlike his previous research trips, would not be meticulously planned or data driven. Instead, he would let this one “be guided by chance events from the start.” Unfortunately for the reader, however, this translates to a rambling and somewhat confusing journey. Sykes dedicates so much time to his travel diary that one cannot help but wonder whether he is trying to channel the travel writer Bill Bryson.

Sykes planned to run his samples through a type of DNA analysis developed by the Mountain View, California-based genetic testing company 23andMe. Called an “ancestry painting,” the analysis examines all 23 pairs of chromosomes and puts different chromosome segments into three color-coded categories: African, Asian (which includes Native American), or European. Sykes’s hope is that he can then use this data to paint a complete genetic portrait of each individual tested.

Sykes begins his journey in Boston, collecting samples from members of the New England Historical Society. For reasons not clearly explained, Sykes lets each individual tested choose a celebrity pseudonym, such as Betty White, Clark Gable, and so on. This adds a layer of confusion to the project, as the ethnicity (and even the gender) of the individual does not necessarily match their celebrity pseudonym: the individual referred to as “Johnny Depp” is female, for example.

Sykes continues making his way across the country—Chicago, Wyoming, Utah—all the way to San Francisco. Among his stops is the genetic genealogy company Family Tree DNA in Houston, which sounds particularly interesting, but he never really explains the purpose of his visit there. And throughout his travels, his observations about America and Americans—including the current political landscape—seem juvenile and simplified, especially for an American audience.

In the final section, Sykes visits with each individual and shows them their test results. Are they surprised when they find something unexpected—such as a piece of DNA that traces back to Africa when their family tree is strictly European?

The answer is, unsurprisingly, yes. But here is where the reader is shortchanged. We are given no answers as to the reasons for these surprising results (a history of slave ownership? a family story that hinted at an interracial relationship?) But most significantly, the reader is not given any insight into what the test results mean in the larger context of the genetic biography of America. And given that “A Genetic Biography of America” is the book’s subtitle, this represents a severe oversight.
The second half of *DNA USA* is disappointing overall. The reader has just spent the last few hundred pages following along with Sykes's meandering—and somewhat confusing—journey, receiving no satisfaction of understanding the true genetic makeup of Americans. Sykes notes at the end of his last chapter, “my hope is that you will come away with feeling that you have glimpsed another world.” And indeed that is all the reader gets—just a glimpse. A disjointed, rambling glimpse into the genetic history of America.

**ABOUT THE AUTHOR**

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