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FROM THE ARCHIVES: March 6, 2003

Surname **DNA** Testing Helps Families Find Ancestral Roots

By **KEN WELLS**
 Staff Reporter of THE WALL STREET JOURNAL

Jim Wells, a longtime University of Kentucky mathematics professor, went to bed one night pondering a maddening and fruitless decades-long search for the origins of an ancestor. He woke up the next day to have his history handed to him in an e-mail.

"It's astonishing," says the 70-year-old Mr. Wells of the recent revelations regarding his fifth great-grandfather, John Wells, who turned out, as Mr. Wells had suspected but could never prove, to be a Pennsylvania Quaker with British roots. "It just didn't seem possible we would ever learn his origins."

Mr. Wells, of suburban Lexington, Ky., was part of something called the Wells Family Project, organized by a determined armchair genealogist named Orin Wells. It enlisted an intriguing new tool called surname **DNA** testing.

The technology, built on advances in the science of **DNA** over the past 15 years, relies on research showing that the Y-chromosome element of **DNA** passes from father to son unchanged over the generations. Hence it serves as a highly accurate marker of paternity. In Jim Wells's case, by volunteering a blood sample to a testing lab, he threw his **DNA** into a pool of scores of other Wellses, many of them from 24 American Wells families with meticulous genealogies going back to the 1600s.

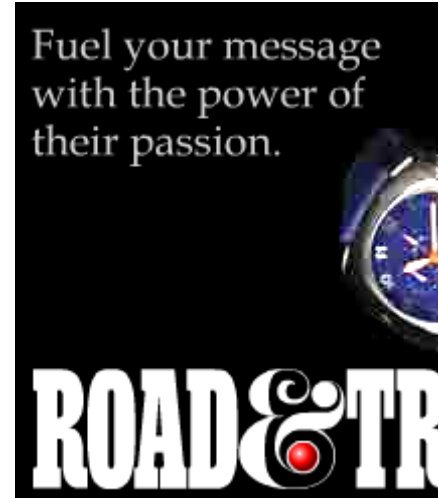


The idea: "Orphans" such as Mr. Wells might make a genetic connection to one of these families and, by comparing what he knows of his own family with the new data, fill in missing pieces. By doing that, Mr. Wells not only verified his theories about John Wells but found out his actual roots go all the way back to one Henry Wells, an English immigrant who came to Pennsylvania around 1684. (The Wells Family Project helped this reporter find his own branch of the family tree. [Read the full article.](#))

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Until a few years ago, surname **DNA** testing was the province of universities and research laboratories but not commercially available. Now, three labs, Relative Genetics Inc. of Salt Lake City, Family Tree **DNA** of Houston and (Ancestors of Oxfordshire, England, have sprung up to serve a growing consumer market. Though the Wells project, with more than 250 participants, is the largest to date, a number of other surname **DNA** projects are already under way in the U.S. and abroad, says K Duerinck, a Rochester, N.Y., genealogy enthusiast who tracks such things on his Web site.

He organized his own surname **DNA** project about two years ago to answer a question that was unanswerable by conventional means because ancient records that might have shed light on the matter had been destroyed in fires: Was his family related to one or more of some 28 ancient English clans with surnames spelled similarly to his? He rounded up a dozen volunteers representing a wide range of those names.

To date, the tests, conducted by Family Tree **DNA**, show that the Duerincks are related to at least two of those clans, the Durincks and the Diericks. "We're talking about an established relationship to thousands of people," says the 46-year-old Mr. Duerinck.

To see a glimmer of surname **DNA**'s possibilities, some 60% of all Americans are not in their family trees. Ancestry.com, with almost a million paid subscribers, is not only the most popular genealogy site, with 600 million page visits a month, but the fourth largest Web subscriber service (excluding pornography sites).



Orin Wells

Still, the commercial surname-**DNA** market has had some hiccups. Ancestry.com, after briefly offering surname **DNA** tests through a joint venture with Relative Genetics, has pulled back. For one thing, the tests are expensive, at about \$200 a person. Also, the **DNA** databases aren't yet large enough to be of much use to a researcher looking for his roots. Most of the surname **DNA** business comes from clusters of people -- groups as small as four or five and often related to the Wells Family Project -- who already have some notion of their lineage and can use **DNA** to be sure.

DNA (short for deoxyribonucleic acid) is the blueprint of all life and has long been used by forensic experts to link suspects to crimes and by lawyers to establish paternity. More recently, **DNA** sampling has emerged as a method in so-called deep genealogy, which has allowed African-Americans to broadly trace their origins to African tribal regions or even specific tribes by following genetic markers known as haplotypes -- genetic markers unique to groups of individuals.

Surname **DNA** got a big boost in 2000 when Brigham Young University, with Mormon philanthropist James LeVoy Sorenson, launched a **DNA**-collecting program. Its primary goal is to determine "the genetic composition of major populations throughout the world," according to its Web site. (Dutiful Mormons have long been interested in the origins of their ancestors, and genealogy has helped find them.) The project is seeking 100,000 donors from at least 500 populations scattered over the globe.

In Kent, Wash., Orin Wells, a computer consultant who had gotten into genealogy earlier in order to solve a mystery in his own family tree, heard about the BYU project and pitched researchers there on the usefulness of including a Wells surname project as a

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special case study" to test the practical usefulness of surname **DNA** testing.

Since 1988, he has presided over the Wells Family Research Association, a not-for-profit organization that has been a Web clearinghouse and bulletin board for the collection of the dozens of early U.S. Wells families. With hundreds of thousands of names, the trees represent one of the largest surname collections in the U.S., and a significant resource against which the relationship of people named Wells could be tested.

BYU agreed, and the testing has since been taken over by Relative Genetics, a corporate spinoff of the BYU project. Mr. Wells hopes to broaden the project to at least 600 globally. Of the more than 180 participants who have seen results so far, about 65 as of Jim Wells have been connected to baseline families. The results have also discovered some people from the Wells lines they thought they belonged to but redirected them or to at least five new family branches that have been brought to light by **DNA** results.

The Wells Family Project uses what is called a 26-marker Y-chromosome test. **DNA** from blood samples or cells scraped from the inner wall of the cheek, is run through a sequencer that generates numbers for each of the markers. If all 26 of your marker numbers match 26 of another participant's markers, chances are extremely high that you share a common ancestor within a few generations. Matches of 23 to 25 markers prove relationship up the family tree. Less than 23 markers and you aren't related at all.

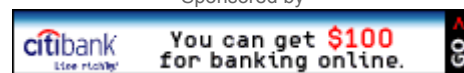
In some cases, results have delivered bad news. In five instances so far, participants learned that they aren't Wellses at all -- or at least, their **DNA** doesn't match any of the Wellses in the project.

Write to Ken Wells at ken.wells@wsj.com

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