

Paving the Way With DNA

Edwin M. Knights, M.D. chronicles five genealogy success stories involving DNA testing

GENEALOGICAL INTEREST IN DNA REPORTED BY *FAMILY CHRONICLE* READERS

- I have already used DNA analysis in my genealogy: **18 percent**
- I hope to use DNA some time in the future: **18 percent**
- I may be interested, but don't know enough about it: **25 percent**
- I have no interest in using DNA analysis: **32 percent**
- Other comments: **7 percent**

THE USE OF DNA to supplement traditional methods of pedigree pursuit has intrigued many genealogists, especially those who genealogical efforts were frustrated by discouraging obstructions which have been lumped under the descriptive name of "brickwalls". More and more have turned to DNA, which up until now has largely meant Y-chromosome and mitochondrial DNA analyses for solutions to their problems. As these situations are unique for each family, and because DNA laboratories are pledged to honor the confidentiality of their research, it has been difficult for other genealogists to appreciate how problems were solved and why some genealogists are now so upbeat and enthusiastic about the capabilities of the proper applications of DNA to our field (see statistics above).

There have been numerous publications explaining the

nomenclature and the technical details of genetic research, there are websites which provide valuable assistance, and some laboratories have developed elaborate, beautifully illustrated explanations of their genetic analyses. There are also some excellent journal and magazine articles describing successful pedigree research, but the problems encountered are so diverse, that *Family Chronicle* decided it might be helpful if we could let genealogists who have used the DNA approach, explain how their projects were organized and point out factors which seemed to be responsible for successful outcomes.

Therefore, we've assembled a series of short discussions from genealogists who volunteered to share their experiences. Hopefully, some of these situations will be

somewhat similar to your own and their solutions will help you make practical decisions. Of course, their short descriptions may not cover the subject completely, so in some cases, they've included other valuable references or suggestions which will provide you with more details.

We are very grateful to these fellow genealogists for taking the time and making the generous effort to explain their objectives, their mechanisms of research, problems encountered and successes achieved. If you find this article helpful and would like more, we're confident there are other genealogists who'd be willing to add to our knowledge about intelligent and efficient ways to get the most from DNA research. Please let us know; we welcome your suggestions!



THE DAVENPORT LINES

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We are trying to get DNA samples from all the branches of the various Davenport lines around the world to see how we are related. For more information on the project and to see the results, go to www.DavenportDNA.com

A little background: Five Davenports appears in the Boston area in the 1600s. They were the Rev. John, Thomas of Dorchester, Humphrey of Barbados, Capt. Richard and Lancelot.

All were recorded as coming from England, although no genealogical connection has been found. However, researchers believed they were related, since they all used the same family crest. DNA testing has since shown the Humphrey line is not related, but the Rev. John and Thomas are. We have also found the Albermarle line of North Carolina matches these two.

There's been much research on the Davenports of Cheshire, England, going all the way back to Ormus De Davenport (one of many spelling versions) in about 1066AD. Some of his lines have been traced down to the present day, including the Bromley Davenports. One of the goals of the DNA project is to try to determine if there is a connection between the American Davenports and the ancient Davenport lines of Cheshire. If the link could be made, then the line could be extended back to Ormus. So, we set out trying to find Davenports of documented English descent, especially Bromley Davenports.

We did find English Davenports and some matched the American lines, but they were uncertain of their exact Cheshire connection. Finally, we found a Bromley Davenport who was willing to participate. And... his results are in. The Bromley Davenports match the others. This means the Rev. John, Thomas of Dorchester, the Albermarles and several other individuals of "unknown ancestry" all have a common Davenport ancestor with the Bromley Davenports.

Now that we have the Bromley Davenport results, we were able to develop a modal for the entire English Davenport line. It may change slightly as we get more results, but it should be fairly close. Comparing our tested lines to the new modal shows us that there is a close relationship:

- Thomas of Dorchester: One step away from modal.
- Rev. John: Two steps away.
- Albermarle: Two steps away.
- Bromley Davenport: Four steps away.

It is important to remember that it isn't necessary to match the Bromley Davenport exactly. His line has mutations away from the original, just like all the rest. So the Rev. John may be six steps from Bromley, but he is only two from the perceived modal. Our next step is to find more Davenports with documented connections to England to help fine tune the process. So if you know of any Davenports, please point them to our DNA project.

Y-DNA SUCCESSES WITH THE RIGGS/ RIGG SURNAME

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The Riggs/Rigg DNA Study Group was established about three years ago as my attempt to solve scholarly genealogical problems in Riggs family researches, the paper records proving inadequate. Several of the problems have been solved, some with surprising results. Furthermore, the process has been intrinsically satisfying and apparently enjoyable to all participants.

I was personally motivated to validate or invalidate the family legend that said my ancestor Bethuel Riggs was a descendant of Edward Riggs, immigrant to Roxbury, Massachusetts in 1633. In our terminology, the problem was, "Is Bethuel an Edwardian Riggs?" The Study Group results have proved that indeed he is Edwardian. See full documentation in my article for *New England Ancestors* 6 Summer 2005: 46-48.

The major results of the Riggs/Rigg Y-DNA Study Group to date are:

1. The Y-DNA signature of Edward Riggs of Roxbury is established.
2. Bethuel Riggs is Edwardian. This does not establish his line of descent from Edward.
3. Known brothers, Silas and James Riggs, are Edwardian. This does not establish that they were Bethuel's brothers.
4. Nathaniel Riggs, previously believed to have been adopted, was a biological son of Nathaniel Riggs, youngest son of Bethuel.

I invite Riggs or Rigg men to join the Riggs/Rigg Y-DNA Study Group, regardless of major family clan. Instructions may be found at www.familytreedna.com/public/RiggsYDNA, which is a public site associated with our testing company, Family Tree DNA, which I highly recommend.

It is easy to join our group. One simply places an order with Family Tree DNA for a test, and asks to join the Riggs (or Rigg) group. The Y-chromosome tests available are on 12, 25, 37 or (new) 67 markers, which are specific locations on the Y-chromosome. Most of our contributors are now at the 37-marker level, but there is certainly no prejudice against any of the others. Once a sample (from scraping the inside of one's cheek) has been returned to the testing company, it typically takes several weeks to receive the results. I see my task as Group Administrator to help members interpret the string of numbers constituting a result. With each new result, I distribute a spreadsheet to the members displaying the accumulated results, arranged, I believe, in a tutorial way.

We are just now starting to use the high-resolution 67-marker tests. The Edwardian signature has now been established on 67 markers. We have established the existence of several other "clans" of Riggses, which have Y-DNA signatures that are clearly not Edwardian and which also differ markedly from one another. Conversely, we have detected, but not yet proved, that two Riggs families, presupposed not to be Edwardian, probably are.

CONRAN DNA

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My husband and I went to Ireland to the Donovan Clan Reunion in June of 2000, where he met 32 second-cousins. From Cork, we drove to Wexford. There, I found a lovely Conran family. My cousin, John, was interested in the genealogy of his family but hadn't had time to do much. I agreed that it was time-consuming, but fascinating.

We visited two cemeteries in the area looking for common first names. "Nicholas" and "Michael" seemed to repeat in each generation in my family; "John" and "William" seemed to repeat in his family. John was surprised to see a "Michael" on a monument in St. Anne's cemetery erected by his great-grandfather. He knew there were Conrans in a very old cemetery which he had never visited. This is now called St. Mullins, but had been St. Molings Monastery and holy well, a heritage site in County Carlow. "Come over here, cousin" I heard, as John looked at two low, moss-covered stones and a monument in the same plot. "John, born in 1738" and "William, born in 1756" were inscribed on the old stones. The 12-foot monument had been erected to Nicholas by his son, "Michael of Grange". The townland of Grange was where the Conrans had their land. The names meant a great deal to me — "Grange" made the difference for John.

In the Spring of 2001, the Charlotte County Genealogical Society and the Latter-day Saints (LDS) collaborated on a DNA project. There was a limit of 200 participants who had to have five generations of their genealogy well-documented. I did not get into this project but later learned that the participants did not receive any information from the testing.

Family Tree DNA would do DNA testing on individuals using the University of Arizona lab. It would cost about \$200 US for each test and take six weeks. John, in Ireland, was very willing. I pre-

sumed I could have my DNA compared with John's. I had to have a male Conran, preferably a first-cousin. I asked a male first cousin, whom I had never met, and he refused. Within the week, his son e-mailed me and said he would be honored to submit his DNA.

Kits were sent to Kevin and John. Each was to swab the inside of his cheek, place the specimen in a container, and mail it to Family Tree DNA in Houston, Texas. I sent my check, asking for a copy of the results. Less than six weeks later, the results were sent to the three of us. The 12 markers were identical on the two charts. I was so happy to have this documentation, because it is difficult to get documents from Ireland for this time period.

The literature included from Family Tree DNA stated that before the Industrial Revolution, a generation was 18 years. So John, born in 1738, is most likely the father of William, born in 1756. Whether this John is the common ancestor of John and Kevin Conran is the question.

SOME EXPERIENCES FROM THE PIKE DNA PROJECT

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The Pike DNA Project started in July 2004 and now includes 41 people. Based on the 36 test results, we've identified 16 genetically distinct families with the Pike surname or variants. Full details are on our project's website, www.math.mun.ca/dapike/family_history/pike/DNA.

Family Tree DNA has performed Y-DNA testing for us. Their 12-marker test can often distinguish unrelated families, but is not foolproof in this regard. For example, we've a few DNA results that match 10 of 12 markers. At first, we were encouraged because it suggested a close genetic match where none was suspected, but with the extra precision of 25 markers, these 10/12 scores turned into scores of 15/25, ruling out any relationship within the past 500 or so years. Because of situations like this, we recommend

testing at least 25 markers. Most of our participants have tested for 37 or more markers.

Although most project members currently have no matches with other project members, we've had some exciting developments. One person's Pike ancestry had been traced to a William H. Pike who lived most of his life in Berrien County, Michigan (but was born in New York in 1835) and turned out to have a perfect 25-marker match with a man who lived in Keokuk County, Iowa (but was born in Ohio around 1828). The result reunited long-lost cousins who are now trying to find when and where their family lines separated.

Twelve (nearly one third) of our project's members have DNA results showing they belong to a single extended Pike family. Before considering DNA, seven had already established they were descendants of the John Pike who settled in Massachusetts in 1635. With DNA results from descendants of both John's sons (and from four of his grandsons), we've been able to determine the most likely 37-marker values for John, giving us a firm grasp on the genetic signature for John's family. We've observed a few mutations (mostly among the markers in the 37-marker suite) which we hope will help people lacking documented connection to John refine their search for traditional records (that is, first establishing a genetic match with a branch of John's family tree).

In John's extended family, current thinking is that several are distant cousins of John, rather than his descendants. Four share a common value on one marker in the 12-marker range, but each of John's documented descendants shares a different value for this marker. Further, one of these four has a Pike ancestor known to have come from England in the 1860s. More DNA results from additional Pikes will help us understand the situation better.

Most project members live in North America and were stuck in their genealogical research. Before joining our project they knew nei-

ther old family origins nor whether their Pike family was related to new world ones. DNA testing revealed Massachusetts to be home to at least seven unrelated Pike families, and Iowa to at least four. As yet, we have few participants from the British Isles, so there is no good estimate of the number of Pike families descended from any particular county there, but at least we know Pikes in the parish of Ashmansworth, Hampshire in the early 19th century were related to those in Whiteparish, Wiltshire in the late 16th century.

In July 2006, a large gathering of Pike families at Pike's Peak celebrated its sighting by Zebulon Montgomery Pike in 1806.

HILDRETH FAMILY PROJECT

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My personal involvement with genetic DNA testing dates back to May 2001, when my 12-marker results became available. Of course, the test was essentially meaningless until at least one other male sharing my surname also received his results. That person happened to be a sixth-cousin. Through conventional research, we both believed we shared the same fifth-great-grandfather. It was commonly believed that my fourth-great-grandfather, Jonathan, born 1727, was an older brother to William, the fourth-great-grandfather of the Hildreth male with whom I was comparing samples. Although my fourth-great-grandfather, Jonathan, was believed to be one of several brothers fathered by Isaac Hildreth, no birth record has ever been found proving he was one of Isaac's sons. He might have been an orphaned male taken in by the family, or perhaps an adopted son. Fortunately, test results showed I and the other Hildreth matched perfectly in all 12 markers. Essentially, this gave me the genetic DNA evidence confirming my Hildreth lineage that paper research traces back to Richard Hildreth, born in England in 1605.

Since my initial test, a total of 19 males with the Hildreth sur-

name have joined the project and taken the basic 12-marker test. All but two were shown to be related and belonging to the same genetic group. As genetic DNA testing continued to evolve, 25, 37 and recently 67-marker tests have become available from Family Tree DNA. This is the genetic DNA testing company that I initially chose to work with and who I believe is the world leader in DNA testing and research. In addition to the 19 Hildreth males who had the original 12-marker test, nine have added the 25-marker and seven the 37-marker tests. The two who have taken the 67-marker enhancement, including myself, are now awaiting those results.

Conventional research shows the vast majority of Hildreths in America are descended from either Richard Hildreth, born in 1605 in Gainford, County Durham, England and died in 1693 in Chelmsford Massachusetts, or Thomas Hildreth, born c.1605 as above and died in 1657 in Southampton New York. Although some antiquarians believe these two were brothers, no evidence has been found to support this contention.

Unfortunately, based on the current state of DNA testing, it is not possible to prove that which we want to learn: Whether there is a sibling relationship between Richard and Thomas Hildreth, although it does indicate they were closely related. In employing genetic distance charts developed by Family Tree DNA, I've found some results to be incongruous, when compared to known relationships developed by conventional genealogy research. I've been advised by Family Tree DNA that some of these apparent incongruities are the result of "Paladromic markers" which move a little more differently than a standard marker. Accordingly, there may be some upgrading or refining of the scoring of current genetic distance charts in order to deal with these "special" markers. I've also found the very interesting percentage probability tables showing the time to the

most recent common ancestry (MRCA) developed by Family Tree DNA statisticians to be questionable and difficult to reconcile and comprehend in some cases, when compared to information using conventional genealogy. I have concluded that there are reasons for this that while complex, are plausible.

An intriguing aspect of Y-DNA testing is that it can also be used to identify the person's major population group and provides information about the ancient origin of the male line. The Hildreth name has been determined to belong to Haplogroup G2. At present, Haplogroup G2 appears to have a mid-eastern origin. Considerable ongoing research is being done by many in this field of population origins and family migrations, and I am especially interested in learning how and perhaps when my family arrived in England.

I would be remiss if I did not state that understanding certain aspects of this subject and interpreting results is very complex and difficult for the lay person and has presented me with many unanswered questions and frustrations. In spite of this, and given the inability of DNA testing to supply some relationship answers I had originally hoped could be provided, my overall experience over the past five years has been positive, and worthwhile, and I look forward to further progress and new developments in this ever evolving and exciting field.

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Retired pathologist Edwin M. Knights, M.D., has covered genetic genealogy for Family Chronicle and other magazines since 1996. He co-founded Gene-Saver, creating lyophilized archival DNA which doesn't require refrigeration. He recently surveyed genealogists' experiences with DNA for the N.E. Historic Genealogical Society.