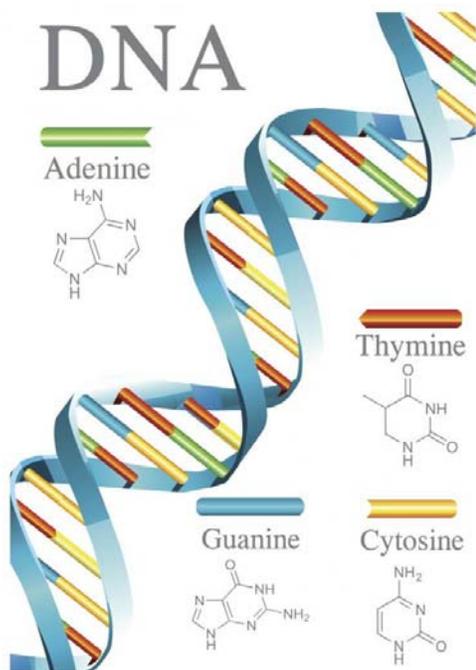


Think Twice Before You Call Someone a Neanderthal

In speaking to groups about family history research and my personal search for my lost Irish roots, I make it a point to give a short overview of the use of DNA testing as a genealogical tool. I do not promote testing nor do I discourage it and my talking points are those of a reasonably well-informed layman, not a scientist or geneticist. My objective is to provide the basics and, in particular, to insure that the women in my audience understand that genealogical DNA testing for them is different from testing for men. While the method for sampling (usually an inner cheek swab) is the same for males and females, the type of DNA that is analyzed and the level of ancestral indications derived from that analysis are not. How so?

In what could be a new chapter in the saga "Men are from Mars, Women are from Venus," the differences get all the way down to the hereditary material in the chromosomes passed to us by our parents. Not to go too far into the weeds, male offspring inherit a Y-chromosome from their father and an X-chromosome from their mother. Female offspring do not inherit the Y-chromosome from their father and instead inherit an X-chromosome from each parent. Genealogical DNA-testing for men analyzes paternal hereditary markers in their Y-DNA and is focused on determining paternal ancestral lineage. For women, testing analyzes maternal hereditary markers found in their mitochondrial DNA, known as MtDNA, and yields information about theoretical ancient maternal origins. It should be noted that the specificity of ancestral indications resulting from Y-DNA testing is at a significantly higher level than the results of MtDNA testing and that these tests are most valuable in confirming (or refuting) passed down family history or genealogical research done through traditional sources such as birth, death, marriage, and census records.

In addition, new and more sophisticated tests such as FamilyFinder (familytreedna.com), AncestryDNA (ancestry.com) and 23andMe (23andme.com) are expanding the breadth of opportunities to trace one's overall genetic ethnicity, mining maternal and paternal DNA from one test sample. This type of testing is known as autosomal DNA analysis. I refer to it as the "spit" test as, rather than a cheek swab, test-takers must deposit their saliva in a plastic tube. Autosomal testing focuses on 22 pairs of chromosomes that are inherited from our parents, an equal number coming from



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our mother and our father. Autosomal DNA also contains random bits of DNA passed down from grandparents, great-grandparents and the like, those contributed fragments being smaller with successive generations. Autosomal testing provides an opportunity to explore all the branches of our family tree, the results revealing estimated percentages of our ethnic and geographic origins and even our connection to a Neanderthal ancestor.

At this point it is time for me to confess that, in my zeal to know as much as possible about my own genetic and ethnic origins, I have participated in testing with FamilyTreeDNA, AncestryDNA, 23andMe, and NatGeo. I told myself that taking multiple tests and comparing the results would lend more clarity and credibility to my results and there was truth in that. Beyond that, however, I hoped to possibly connect with DNA cousins (others who had tested and had some level of commonality of results with me) and, through that process, discover more about my elusive Irish ancestry. While I had finally succeeded in tracing my grandmother's maternal line back to County Sligo and my famine emigrant great-great-great-grandparents, I had no such success with my grandmother's paternal Irish line.

After having taken the tests with four companies, I can say that I found the results provided by AncestryDNA and 23andMe to be the best in my opinion. NatGeo did tell me that my DNA includes some small remnants of my most ancient ancestry. Those fragments, 60,000 years or more old, revealed that I am 1.7% Neanderthal. That revelation provoked something less than a serious scientific reckoning on my part. Instead, a typical image of a stooped hairy brute popped into my mind, followed by a recollection of having once (or twice) referred to a rude, obstinate family member as a "Neanderthal." Oops!

In addition to doing the autosomal DNA test with AncestryDNA and 23andMe myself, I also asked my mother to do the same testing. This would give me a point of comparison that would allow me to determine more conclusively which of my ethnic results came from my mother and which came from my father. If possible, it is advisable to test a parent or grandparent for this reason. Inherited DNA is not a clean copy of a person's two parents. There is a process of "recombination" that makes our DNA unique—even siblings do not have identical DNA.

My mother did both tests as I asked. Unlike some tests that use a cheek swab sample, AncestryDNA and 23andMe require a saliva sample. One of my favorite memories is a Thanksgiving Day a few years ago when my 83-year-old mother came to my house for the traditional dinner. After welcoming her, taking her coat, and getting her comfortably settled in a recliner in my living room, I ambushed her and asked her to deposit her saliva in the provided plastic tube. As I cheered her on and checked the fill line on the tube, she gamely got it done.

DNA testing is a personal decision and is not for everyone, but I am glad I did it.

So, what did I find out about my ancestry and my mother's? The results did not conflict with our ancestry as we knew it—unlike the man in the AncestryDNA television commercial who finds out that he must abandon his lederhosen in favor of a kilt. But, as to my elusive Irish roots, my mother's test results not only confirmed our Irish ancestry but also revealed that, in addition, she had a significant (but smaller) percentage of Great Britain ancestry, likely the result of the immigration of Scots and English to Ireland during the "plantation" period and the mixing of the gene pool that resulted. My own results showed no "Great Britain" percentage so, had my mother not tested, I would not have known about the part of her genetic makeup that did not make it to me (at least not in a detectable amount).

In addition to that, we both had results for "Europe West," probably representing primarily my maternal grandfather's German roots. We also shared the following interesting small percentage results: Iberian Peninsula, European Jewish, Europe East, West Asia/Caucasus and North Africa. In a nutshell, the small fragments seem to tell the story of ancient emigration out of Africa to the Middle East and then west to the Spanish peninsula and ultimately north to what is now Great Britain and Ireland. When my maternal grandparents married, two "pure" lineages, one Irish and the other German merged and contributed the first ingredients to the ethno-genetic stew that would eventually be me. My father, born in Italy, contributed more spice to the stew when he and my mother married. (His Italian contribution came through clearly in my test results—a big 39 percent.) Since my West Asia/Caucasus and North Africa percentages were somewhat higher than my mother's, I surmise that I also inherited some amount of that ancestry from him.

I haven't had a lot of close DNA matches on AncestryDNA, 23andMe or FamilyTreeDNA but I know of other people who have had great luck in making extended family connections through the DNA testing process. I hope that as more people test, I may yet find someone who can unlock more of my Irish family history. There is no doubt that the science will continue to advance and open the door to even more discoveries about the history and origins of humankind. In addition, as the absolute number of people tested increases, the ability to fine-tune the interpretation of results to more accurately point to geographic origins and patterns of migration will bring more definition and clarity. DNA testing is a personal decision and is not for everyone but I am glad I did it. When I do genealogy talks, I often proudly tell the audience that I am a "mutt." Well, DNA testing has not only confirmed that, it has revealed that I am a stew of many more ingredients than I imagined and I am delighted to know that. Did I mention that my husband is of "pure" Polish ancestry? Our children . . . not so much!



*"Our ancestors dwell in the attics of our brains
as they do in the spiraling chains of knowledge
hidden in every cell of our bodies."*

— Shirley Abbott

Maureen Wlodarczyk

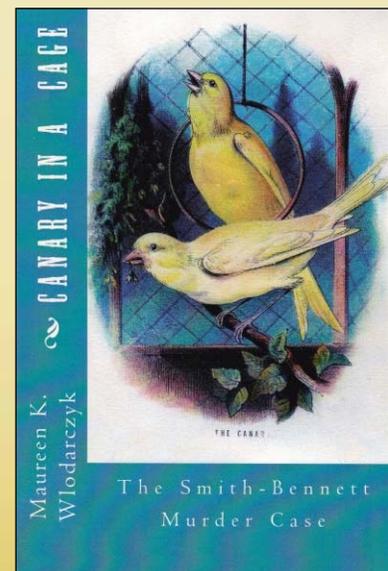
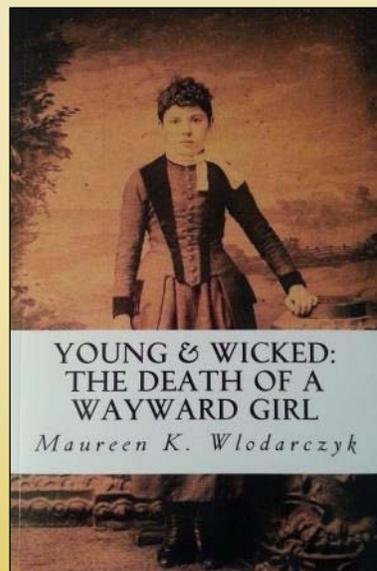
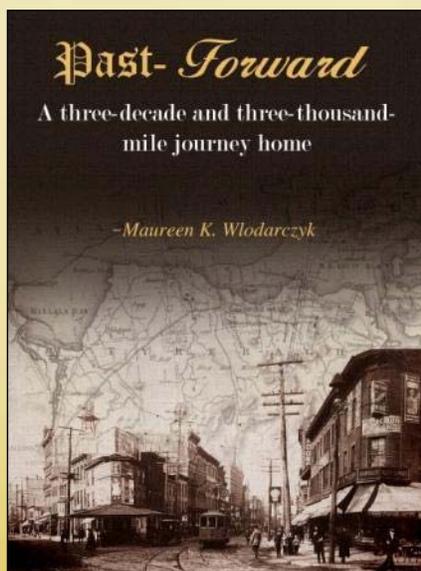
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