**What can DNA analysis find about you?**

My friend Elmer said he had just found a full sister that he did not know about. Wait, how is this possible? He already had one sister, a half-brother from his father’s side, and a half-sister from his mother’s side. His parents had been married for 50 years and his mother was still living and active. Elmer’s half-sister had taken the 23andMe DNA test and had found she had a close relative in Florida that she did not know anything about. The Florida relative said she was adopted and was looking for her birth relatives. The half-sister suggested that Elmer might be a closer relative, and should also take the test. The cost was only $99, so he signed up and the report said the Florida person was their sister. Although the DNA test may have some uncertainty at the far cousin range, there is no uncertainty at the sister range since there is a 50% overlap in the DNA.

Elmer then went to his mother who lived nearby and said to Mom, hey sit down, let’s talk. What about the unknown sister? Mom said "yes, in fact, I had a baby with your Dad before we were married." They had given it up for adoption. At that time, having a child without being married was just not done. Subsequently, Mom and Dad got married and had two more children. She had always wondered what happened to her daughter, but she was never told the adoptive parents' names, and the adoption records in that state are forever sealed.  She assumed she'd never find her, and so hadn't told any of us about it. After some contact and further discussion with the new sister, it was decided to get together for the Christmas holidays. She was surprised to find her birth family, and that her birth Mom was still living. Elmer found that his new sister was very much like his other sisters and got along very well with the family. They now get together as a family each Christmas at different locations.

What does this mean for me? I thought that I should also take the DNA test just to see what happens. I was pretty sure there were no hidden relatives out there, but why not give it a try? I did not mind the collateral effect that my DNA would now be available for research. Several years later, I mailed in the simple test. There were no surprises at all. The one close relative that allowed contact via 23andMe was my first cousin’s child, David, who showed a 6.18% DNA overlap. The theoretical value for that relationship is 6.25%. The other potential 1209 DNA relatives all had about 2% overlap or less and I could not find any relation to them in the history that was available (either mine or theirs).

There is also a section where the DNA is tested for potential genetic health problems. I did not have the genes tested for Alzheimer’s or Parkinson’s. None of my relatives have had those issues, and several have lived to be over 100 years old. I was likely to have age related lactose intolerance, and everything else was “variant not detected”. As expected, I was 100% European and 99.9% Ashkenazi Jewish. There is a check box on the form for people to self-identify whether they are Ashkenazi Jewish. Several potential cousins stated that they were not of Jewish descent. Maybe they do not know.

My friend Tom found that his son, who is half Chinese, had taken the test. Those results were split; half of the characteristics were European, half were Chinese. He just took his son’s report and doubled the European results to find his own DNA. When his son showed up with 25% Ashkenazi Jewish, he did not even know what “Ashkenazi” meant. He looked up the term in Wikipedia. Tom’s parents had emigrated from Germany after World War II. They came to this country and went to a Lutheran church. He knew his father’s family background, so therefore his mother was Jewish and had survived the Holocaust. She had never mentioned anything about being Jewish or the wartime experience.

Perhaps the next phase in my genetic exploration is to check my results with the Internet results from other DNA testing companies. The set of people tested appears to be quite limited. Later, I found out that my friend Julie had had a different experience. The DNA test found a first cousin that she had no idea about. The first cousin also had no idea how that relationship could have happened. However, Julie’s aunt lived in the same town and was 19 years old when the unknown first cousin was born. The aunt was never married and did not have any known children. The decision was to leave the research to the cousin who thinks his genetic mother was someone else. What actually happened is so far unknown and uncomfortable: Who was the genetic father? Was there a hospital error?