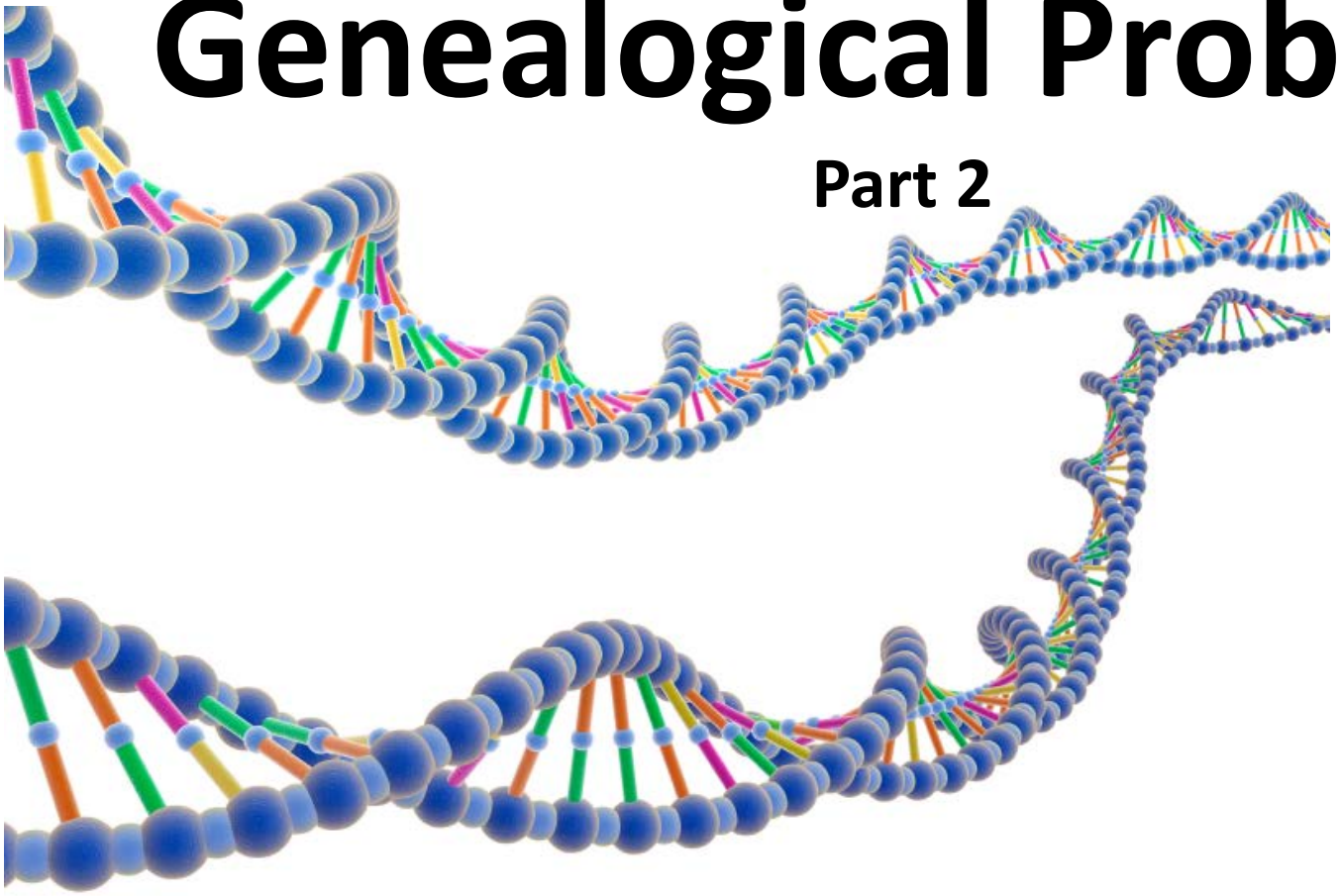
Using DNA to Solve Genealogical Problems



Part 2

Earl Schultz
(Some slides by
Willi H. Wiesner, Ph.D.)

Using Y-DNA

- Y-DNA is the paternal parentage test; all direct male descendants from a male would share the same Y-DNA and should have the same SURNAME
- Use Y-DNA to discover name changes, adoptions, illegitimacies and distant history for your male line
- Can discover origins of the family

Y-DNA Matches

- Possible close match: the person matches on the maximum number of markers tested
- If they match on a lower number of markers but not at the higher number, then they are less likely to be a close match
- If they haven't tested at the highest level, then both you and he should test the maximum number of markers to see if the relationship continues.

Y-DNA Acceptable GD

No. of Markers	Acceptable Genetic Distance to Match
37	GD = 4
67	GD = 7
111	GD = 11

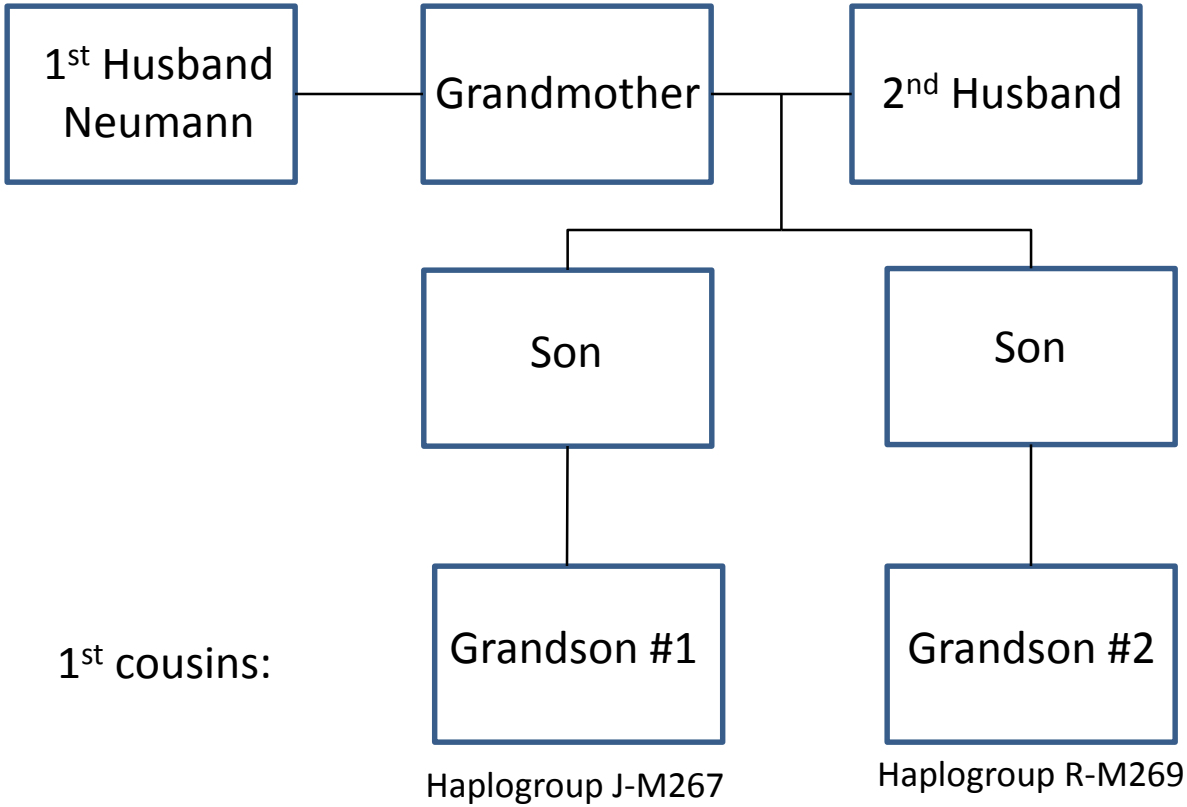
The formula used to determine the acceptable GD level is based on assumptions that are not always accurate. Use it as a guide only.

Have they also done a Family Finder (FF) Test?

Use Y-DNA with Family Finder

- Lohmeyer is a GD=4 match to Schultz on 37 markers. He does not match at 67 markers. Therefore he is not a close match.
- However, he has also done a FF test and on that he is around a 5-6th cousin with shared 55 cM of DNA.
- Lohmeyer's ancestors were never in Poland but came from the same area of Germany as Schultz's other Y-DNA matches.
- My Theory!!

Who is the child's father?



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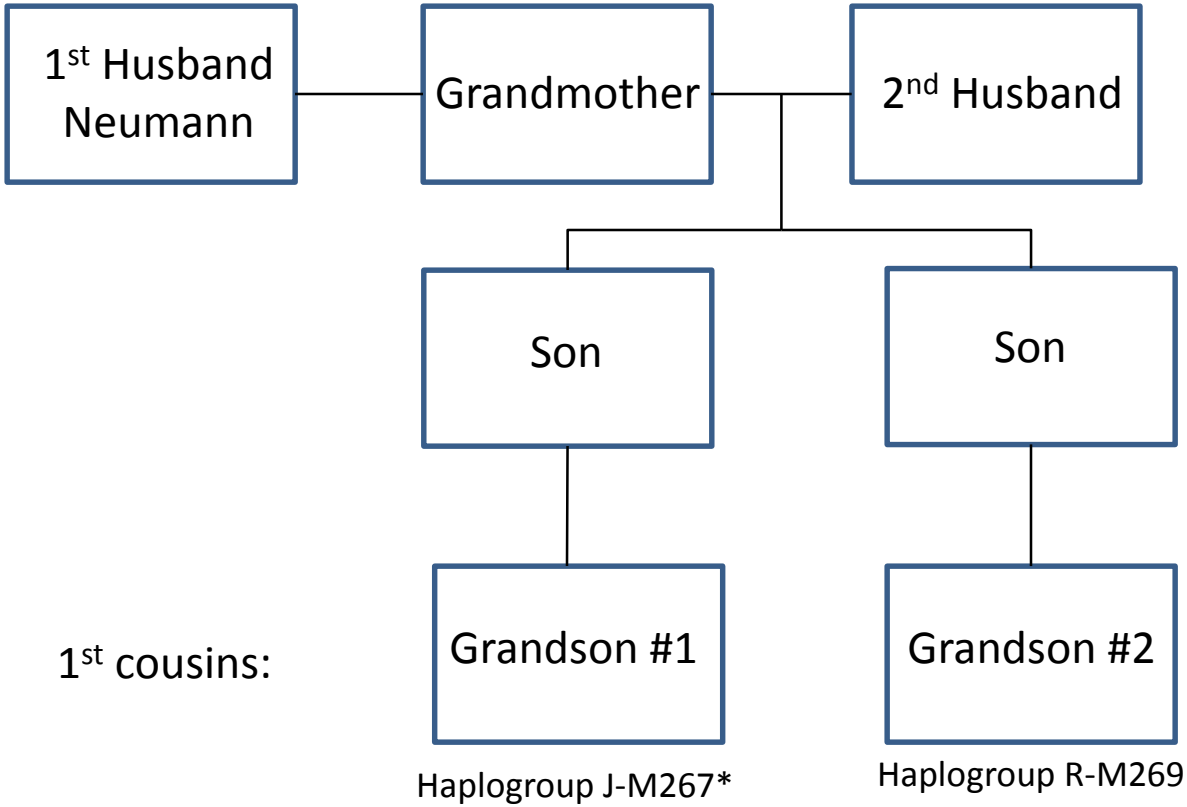


Haplogroup J-M267 is from Jews from North Africa. It is quite rare. Some members of the J-M267 Haplogroup Project are Neumanns.

GedMatch: Exploration of DNA "A DNA Geek's Dream Site"

- GedMatch is a FREE service that allows those who have been tested by FTDNA, 23andMe, or Ancestry to upload their Autosomal DNA data for comparison with others (about 130,000 regular users)
- Features include one-to-many comparisons, one-to-one comparisons of DNA segments (including X), modification of thresholds, triangulation – those who match two kits, phasing, 3-D chromosome browser, various admixture utilities (ethnic composition), archaic DNA matches, Gedcom uploads and search, etc.
- Some additional features are available for a $10/month donation

Finding the Source of Matching DNA

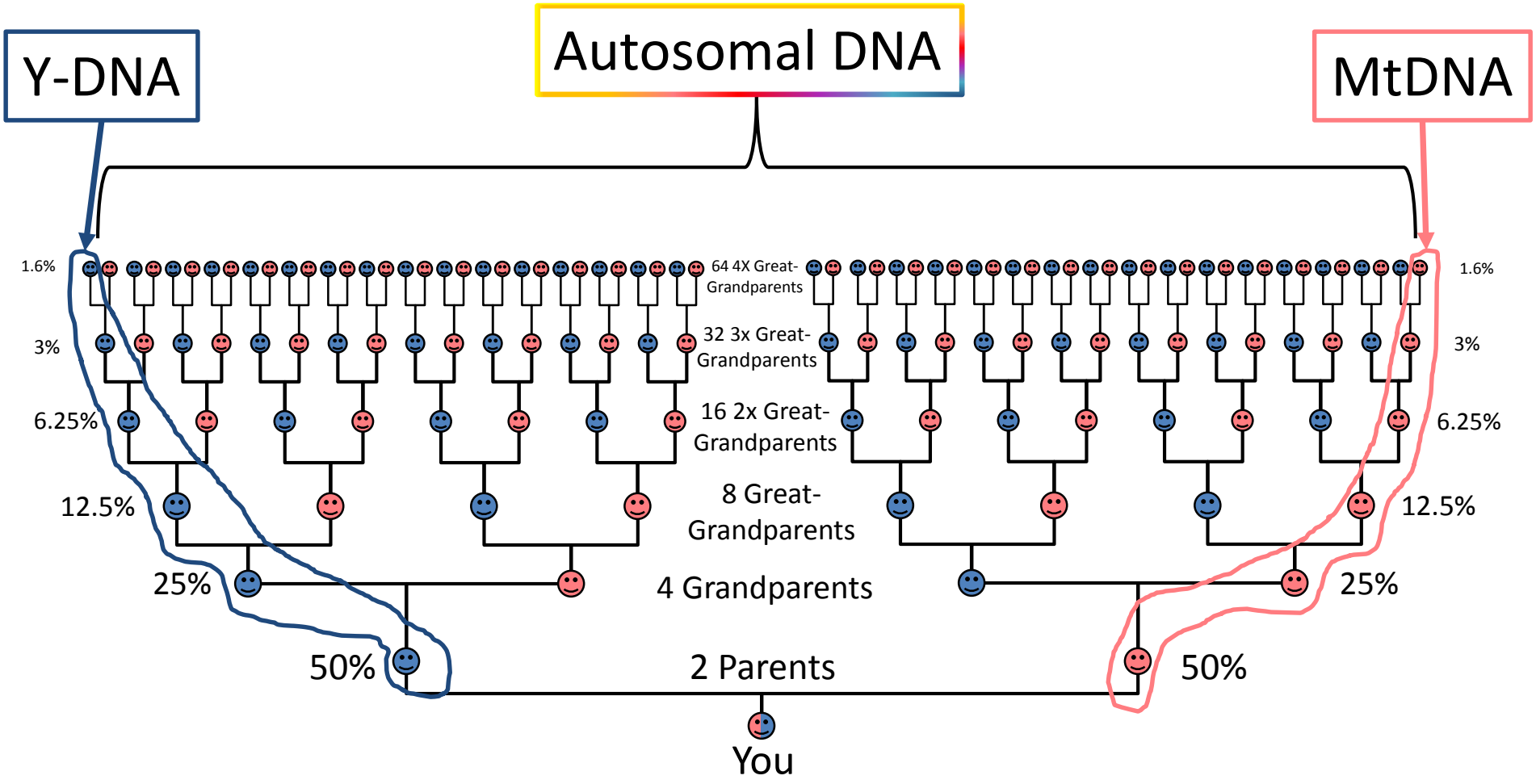
- Phasing (GedMatch) – having one or, preferably, both parents tested
- Triangulation
  a) Known Cousins
  b) Network of DNA Cousins
- X-Chromosome

Autosomal DNA (Family Finder)

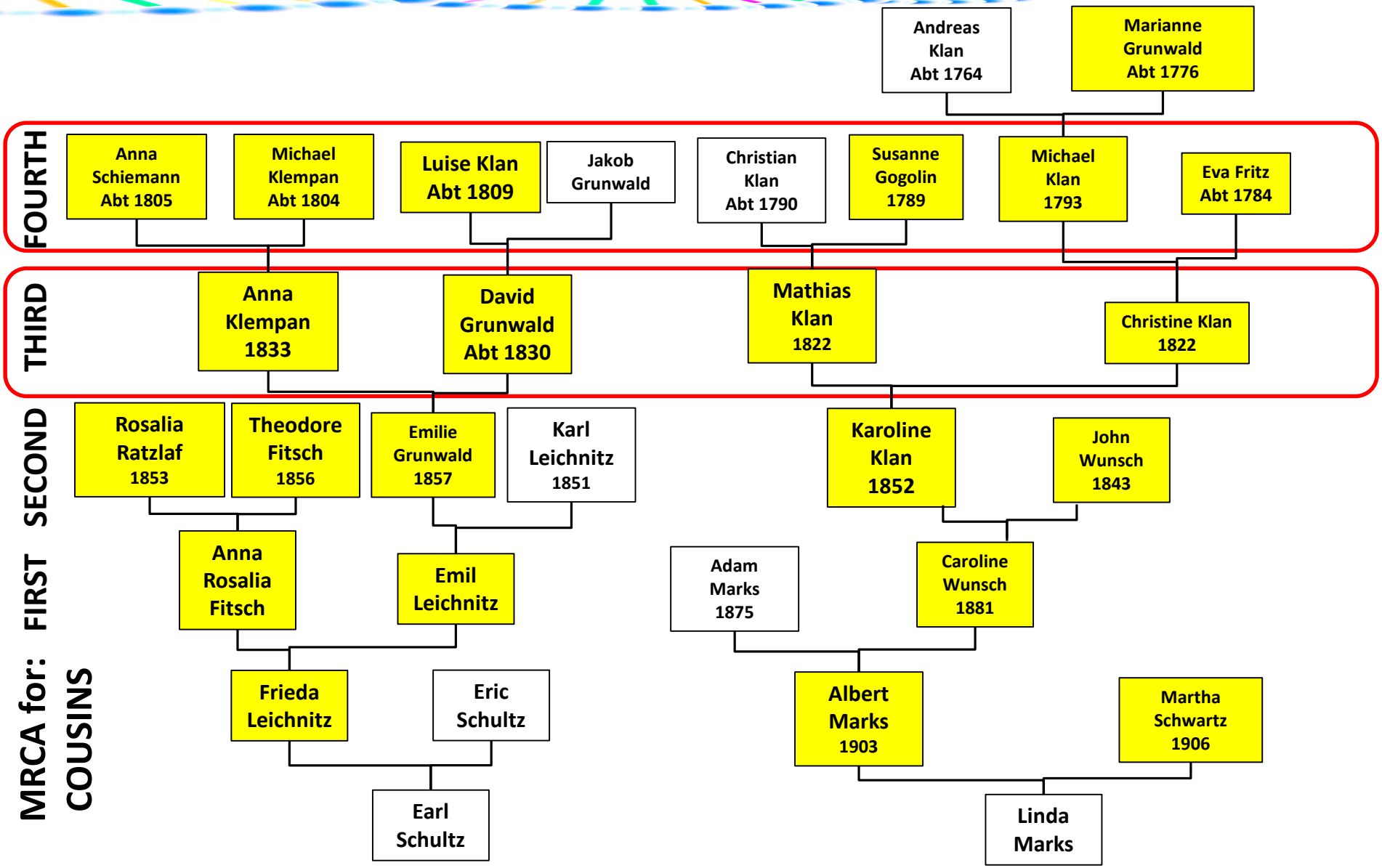
- Gedmatch for analysis

1. Look for matches to one side of your family or the other / check for common DNA segments
2. Identify the ancestral line
3. Count back the number of generations predicted by the DNA analysis
4. Research the resulting families, identify the children and follow them forward to the present

X-Chromosome Inheritance



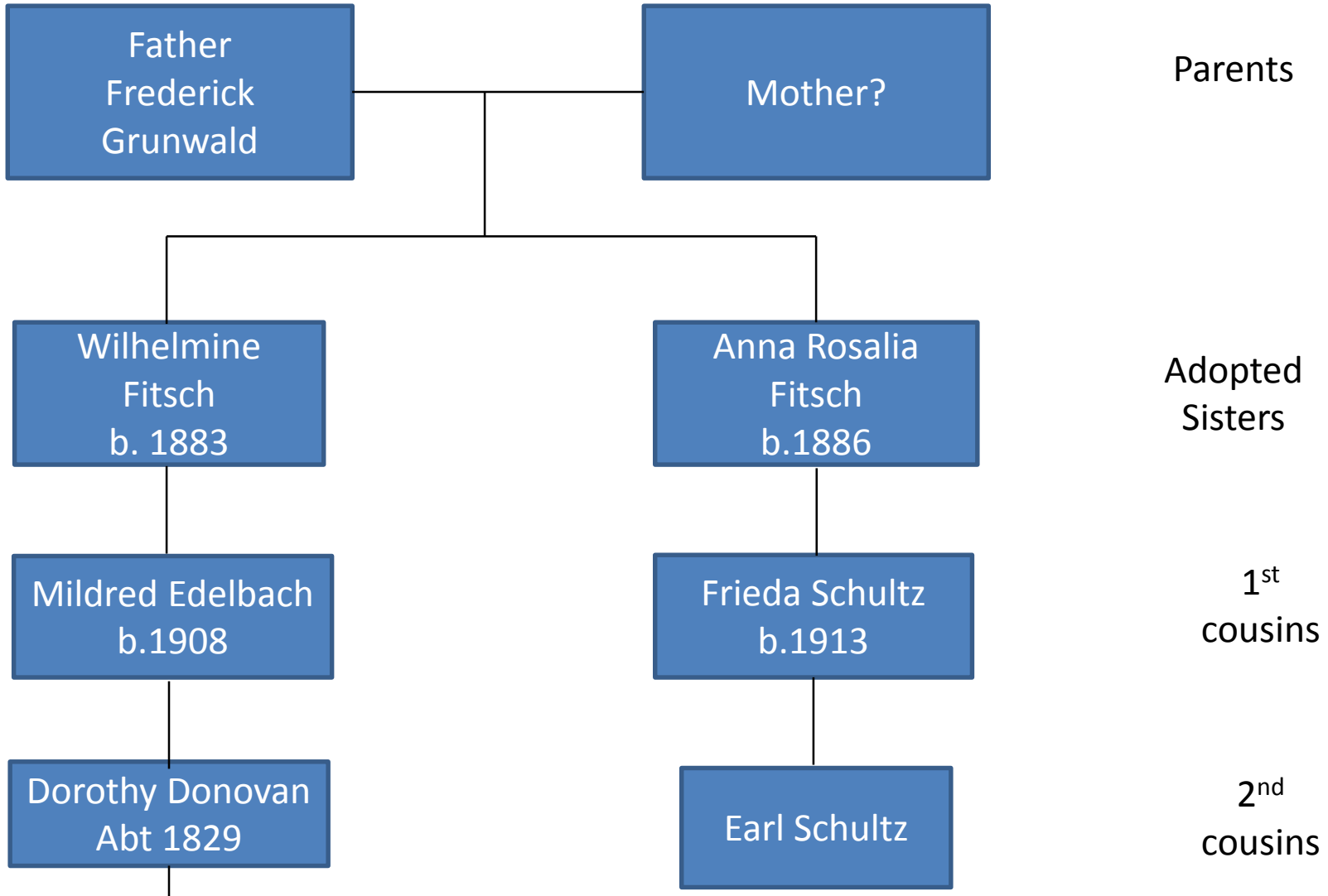
Tracing the X-Chromosome: An Example



Earl and Linda are identified as 3rd to 5th cousins by 23andMe and as 4th cousins by GedMatch

Solving Maternal Line Problems

- Other than curiosity, mt-DNA tests are best used to solve Maternal line problems
- If you need to know who the mother may have been, an mt-DNA test may be the best way to solve it
- Family Finder will prove a relationship but not the type of relationship in most situations
- Mt-DNA testing requires a direct female line to the possible mother by a male or female



Wilhelmine's birth should be in the church books but hasn't been found yet. Anna's birth has been falsely recorded. An mtDNA test would prove they had the same mother and then Anna's mother would be known when Wilhelmine's birth is found.