

Cousins

Genealogy + DNA

Presentation by Lee Macklin

Cousins

Genealogy
Perspective

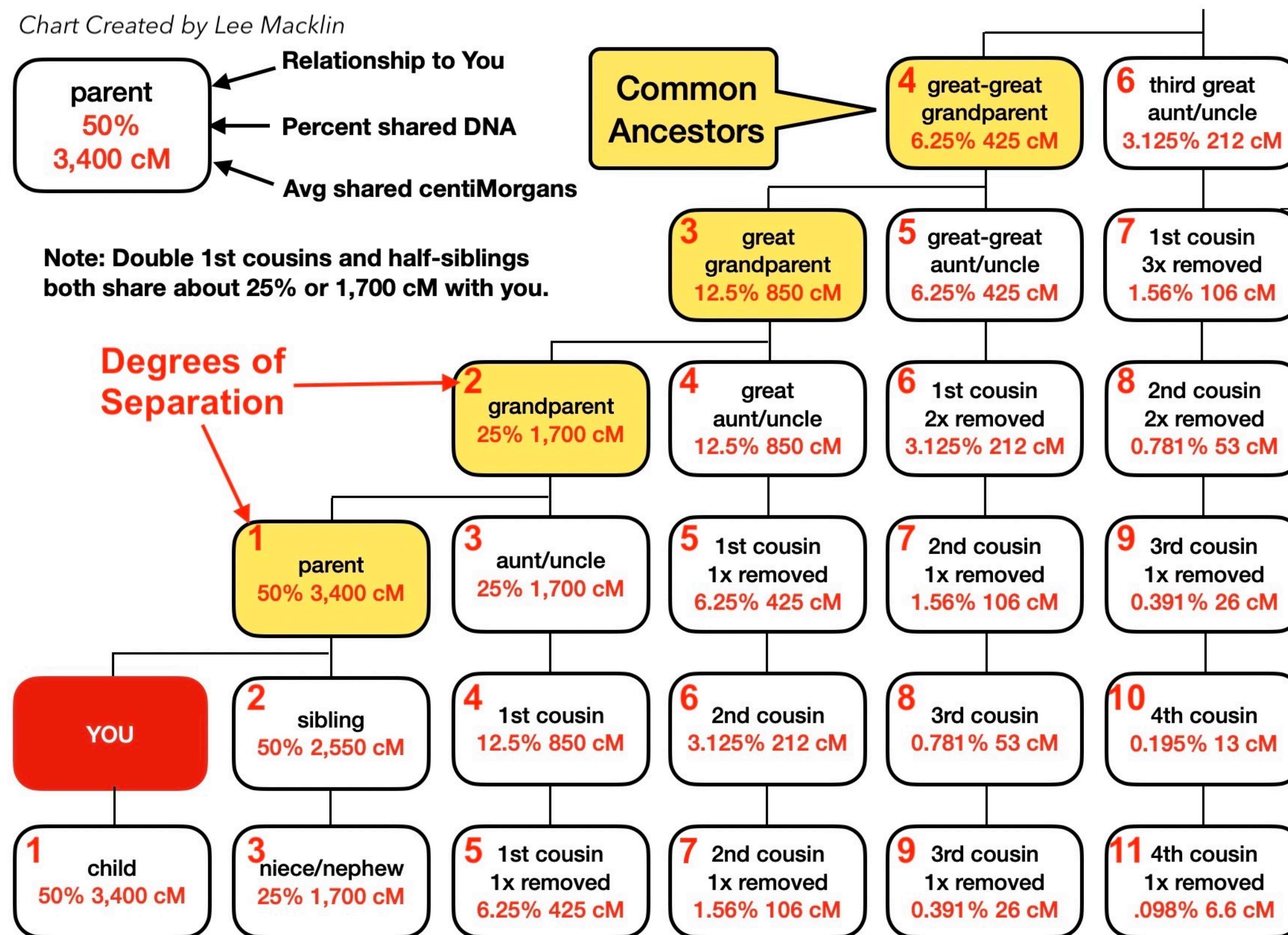


Degrees of Separation

A diagram showing a rounded rectangular card with a black border. Inside the card, the text is as follows: "parent" in black, "50%" in red, and "3,400 cM" in red. To the right of the card, three labels are listed vertically: "Relationship to You", "Percent shared DNA", and "Avg shared centiMorgans". Three black arrows point from each of these labels to the right side of the card, corresponding to the three lines of text inside.

Relationship to You	Percent shared DNA	Avg shared centiMorgans
parent	50%	3,400 cM

Note: Double 1st cousins and half-siblings both share about 25% or 1,700 cM with you.



Cousins Defined

Ancestry Categories

✧ *Broad Definition*

- ✧ *A person belonging to the same Extended Family*

✧ *Narrow Definition*

- ✧ *The son or daughter of an Aunt or Uncle (First Cousin)*

Self/Identical Twin

0 degrees

Parent/Child

1 degree

Full Sibling

2 degrees

Close Family

2 or 3 degrees

Half-Sibling, Aunt/Uncle/Niece/
Nephew, Grandparent/Grandchild,
Great-Grandparent/Great-Grandchild,
Double-Cousin

Extended Family

4 - 9+ degrees

Practically All Cousins

Types of Cousins

- ✦ *Full Cousins*
- ✦ *Removed Cousins*
- ✦ *Half Cousins*
- ✦ *Double Cousins*

Each type has a **distinct position** in a genealogy tree

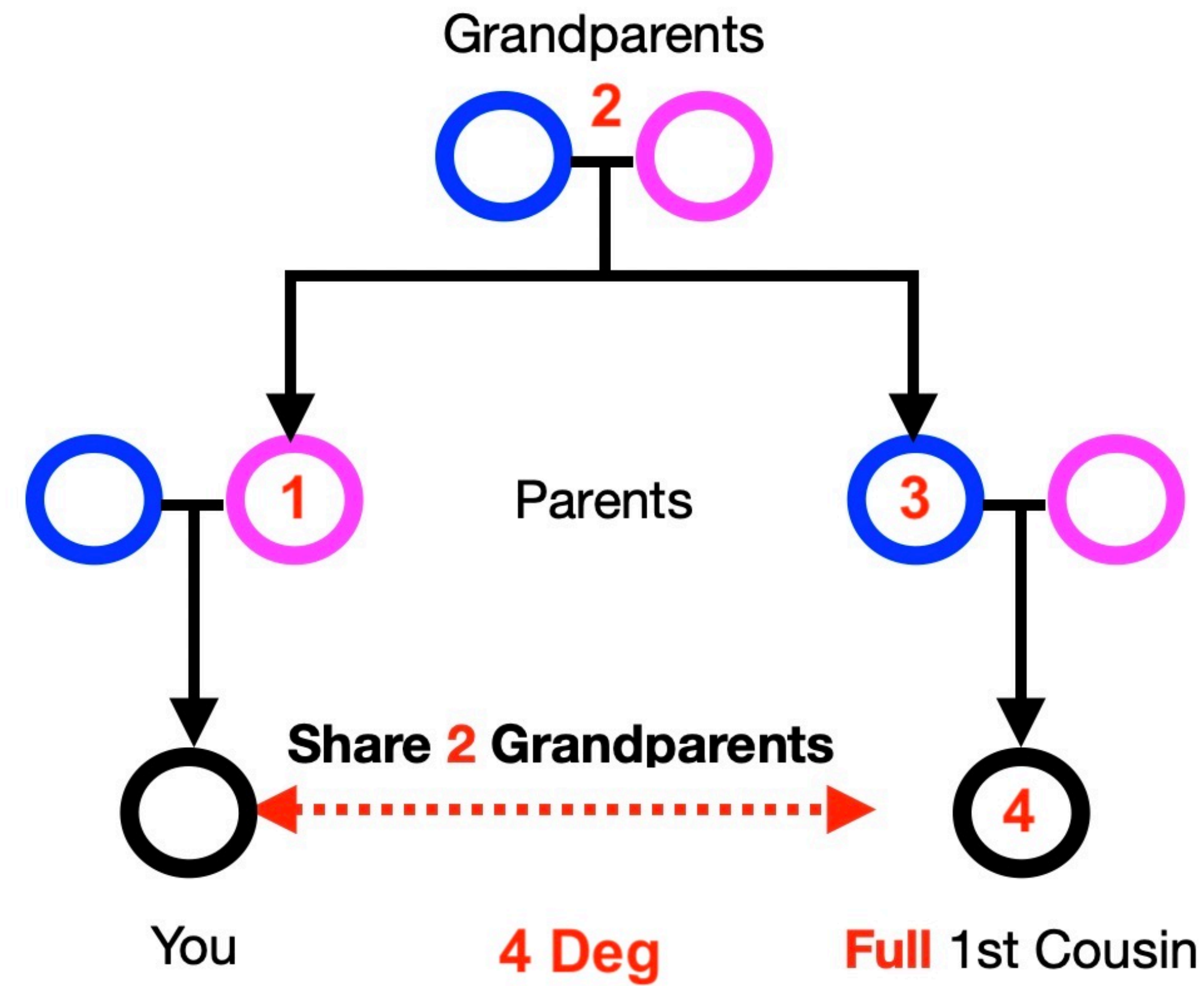
Therefore, each type has distinct **genetic separation** (degrees) and a distinct amount of shared DNA

Cousin Levels - Common Ancestors

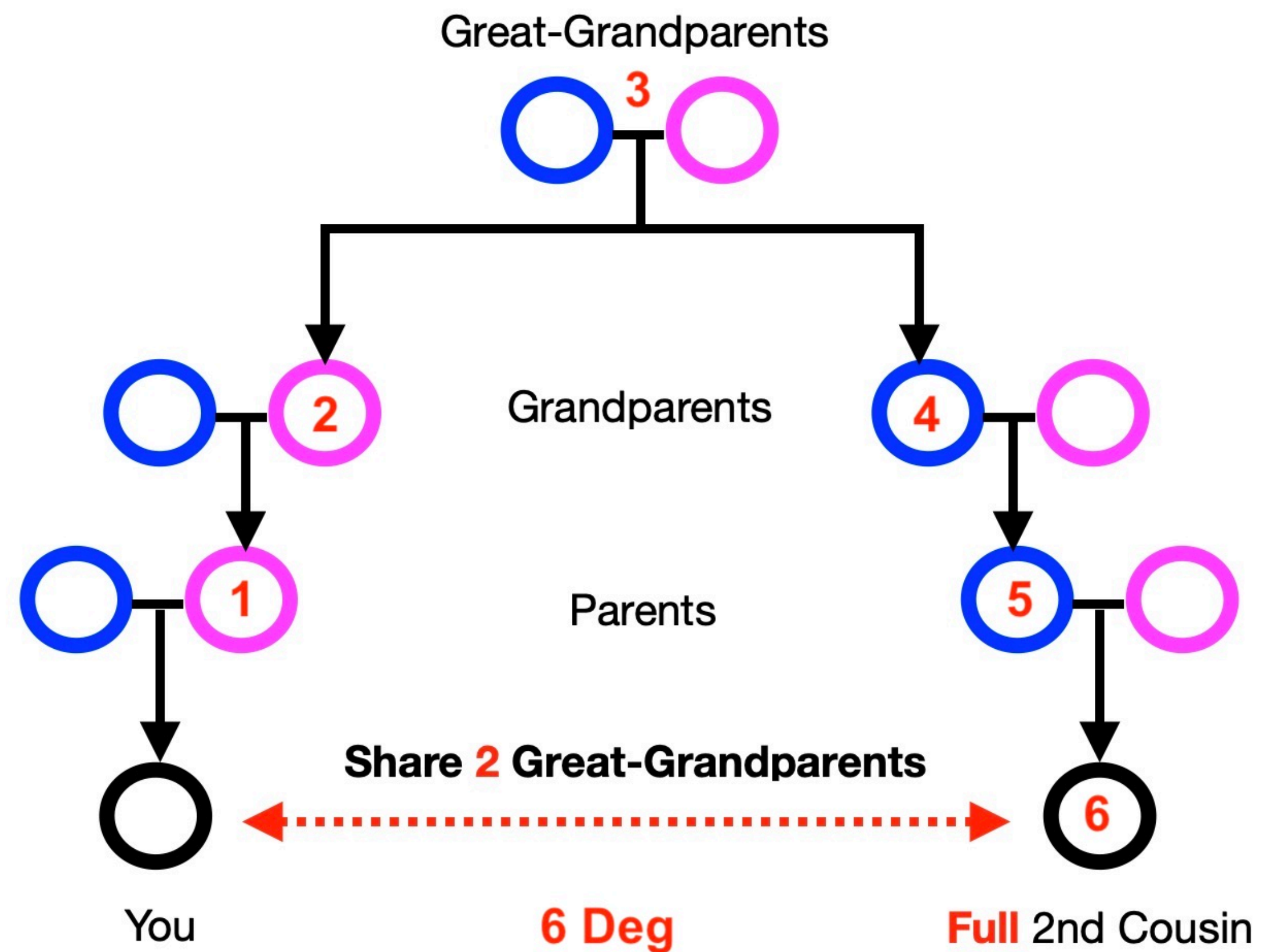
- ✦ *First Cousins* - Grandparents 4 Degrees
- ✦ *Second Cousins* - Great-Grandparents 6 Degrees
- ✦ *Third Cousins* - 2nd Great-Grandparents 8 Degrees
- ✦ *Fourth Cousins* - 3rd Great-Grandparents 10 Degrees

Full Cousins

- ✦ *Full First* cousins: You and your cousin share the same Grandfather **AND** Grandmother
- ✦ *Full Second* cousins: You and your cousin share the same Great-Grandfather **AND** Great-Grandmother
- ✦ *Full Third* cousins: You and your cousin share the same Second-Great-Grandfather **AND** Second-Great-Grandmother



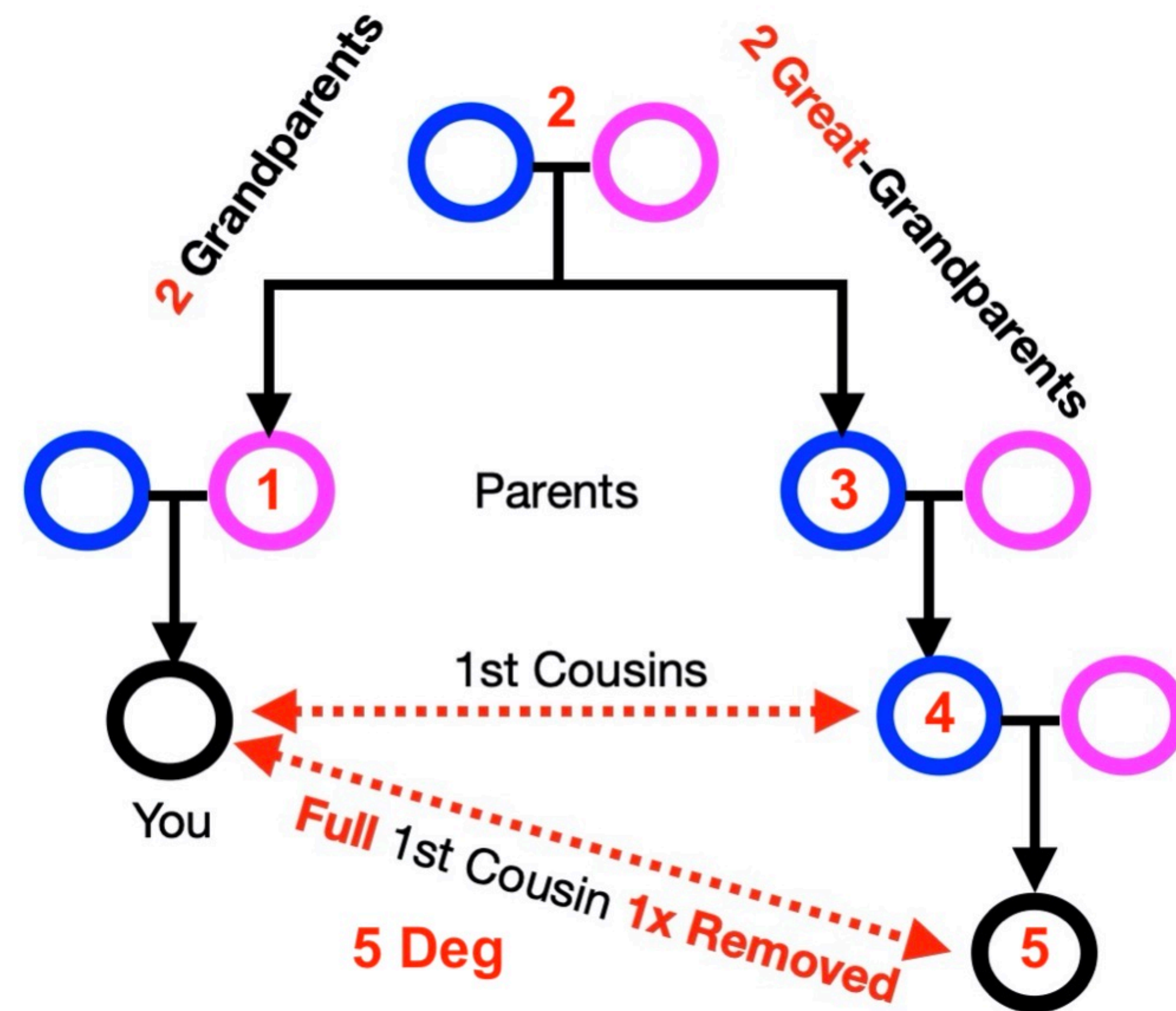
Full First Cousins



Full Second Cousins

Removed Cousins

- ✦ *Removed cousins are separated by one or more generations*
- ✦ $1C_{1x}$ *Removed (one generation)* 5 Degrees
- ✦ $1C_{2x}$ *Removed (two generations)* 6 Degrees
- ✦ $1C_{3x}$ *Removed (three generations)* 7 Degrees



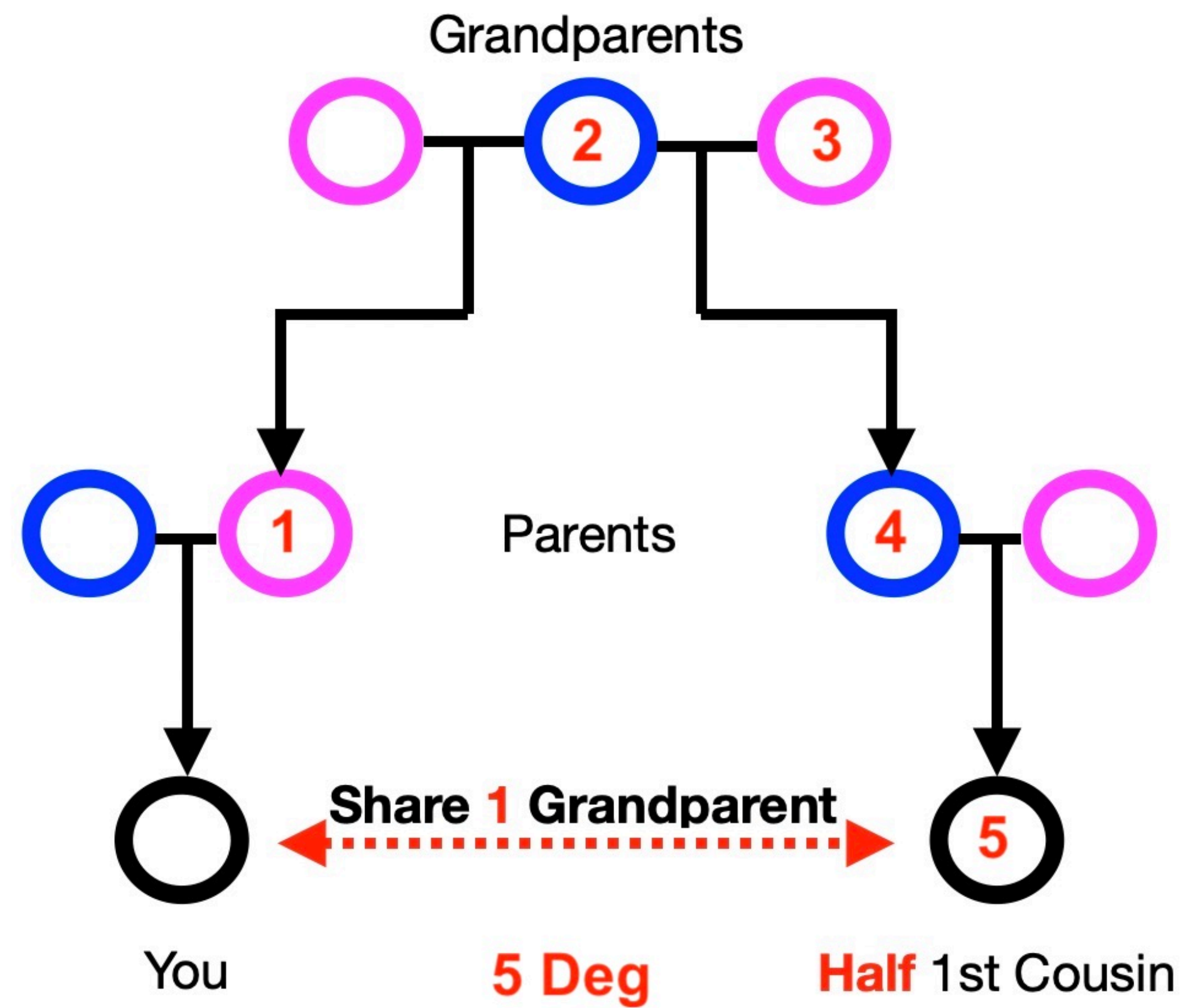
Removed **Full** First Cousins

Half Cousins

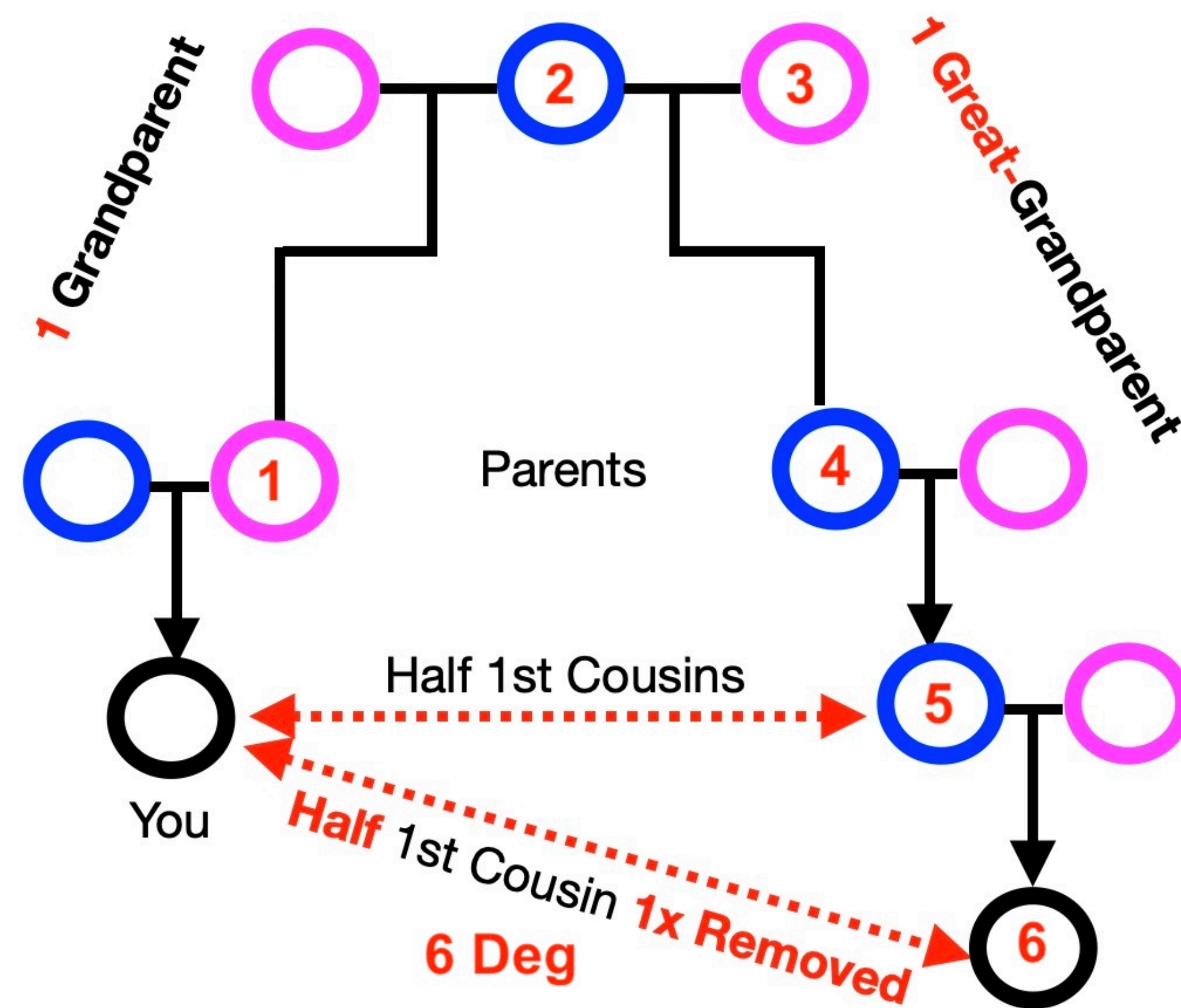
- ✦ *Half Cousins share only **one** ancestor (instead of both ancestors)*
-
- ✦ *Half-First Cousins - share **one grandparent***
 - ✦ *Half-Second Cousins - share **one great-grandparent***
 - ✦ *Half-Third Cousins - share **one 2nd-great-grandparent***

Half Cousins

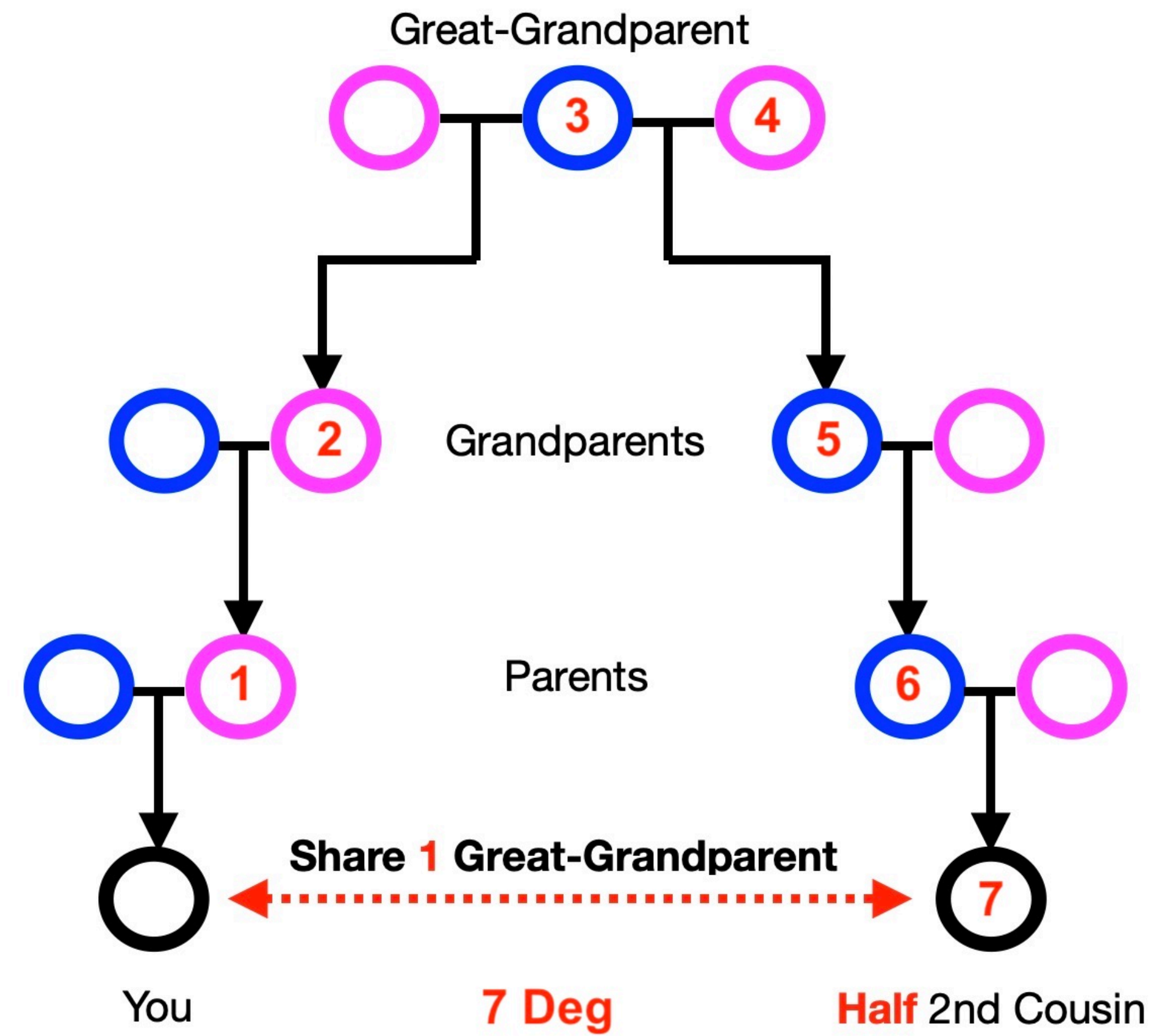
- ✧ *Most common scenarios*
 - ✧ *Ancestor had multiple spouses (or partners)*
 - ✧ *Often due to the death of first spouse*
 - ✧ *Out of wedlock relationships*



Half First Cousins



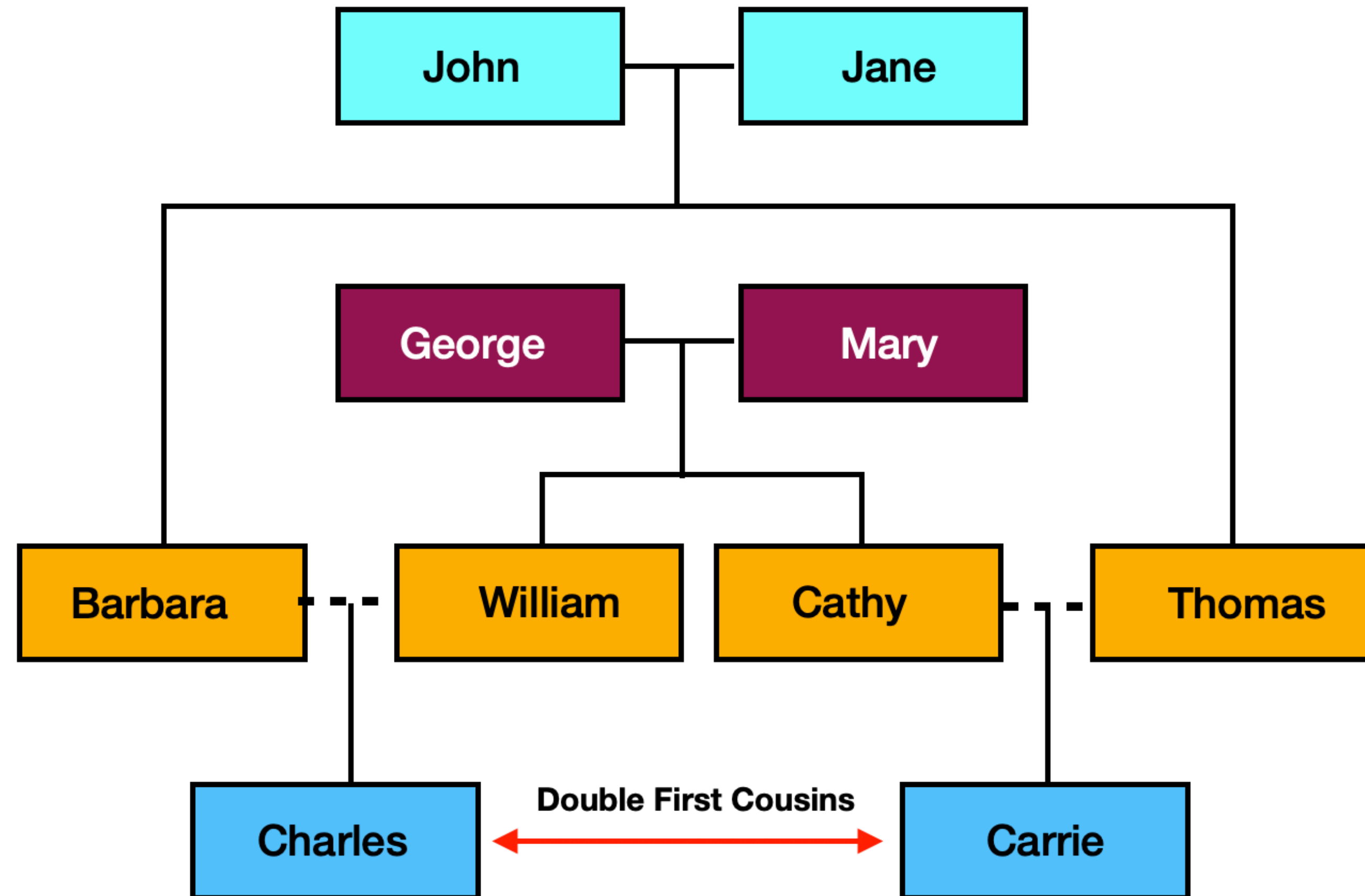
Removed Half Cousins



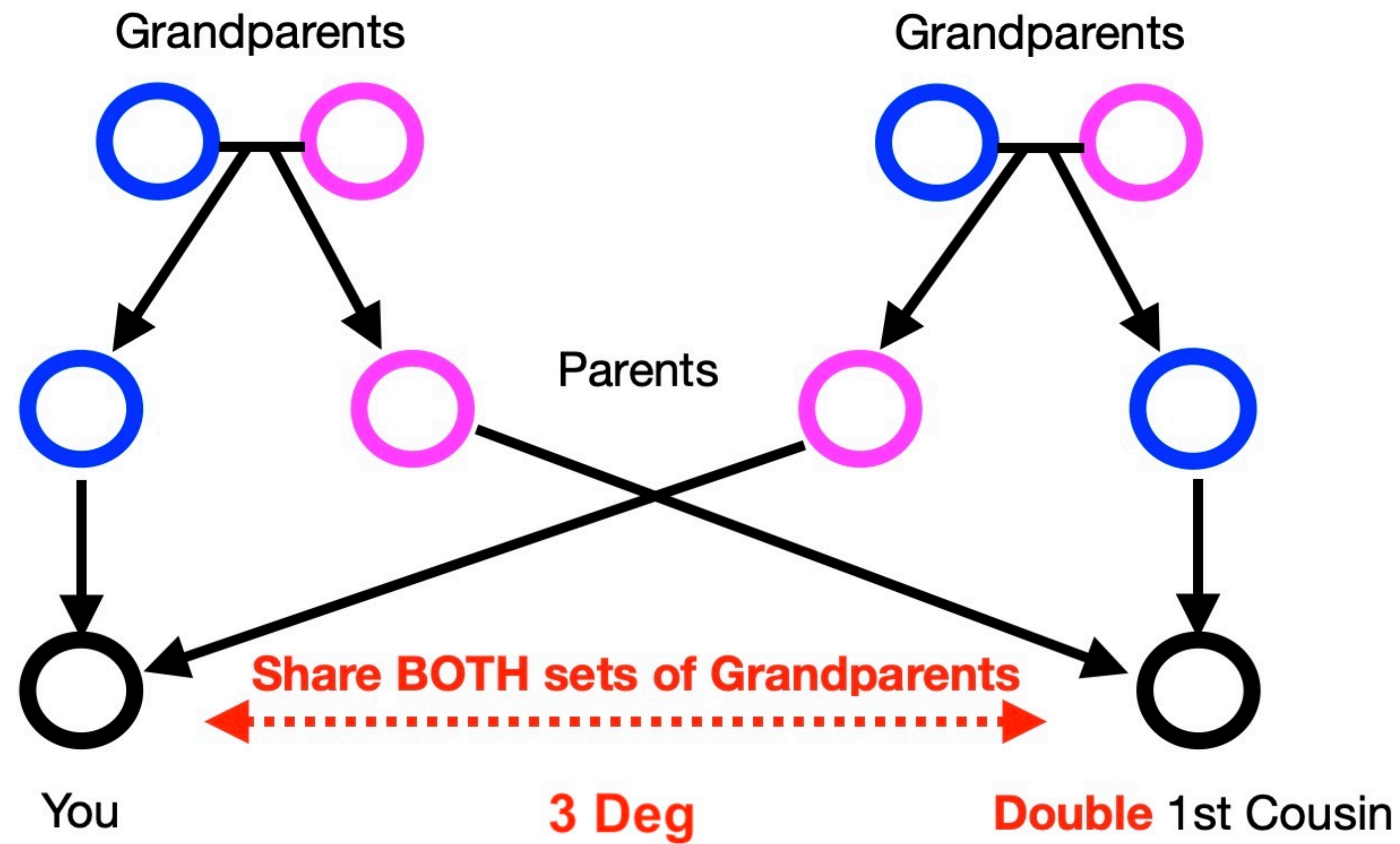
Half Second Cousins

Double Cousins

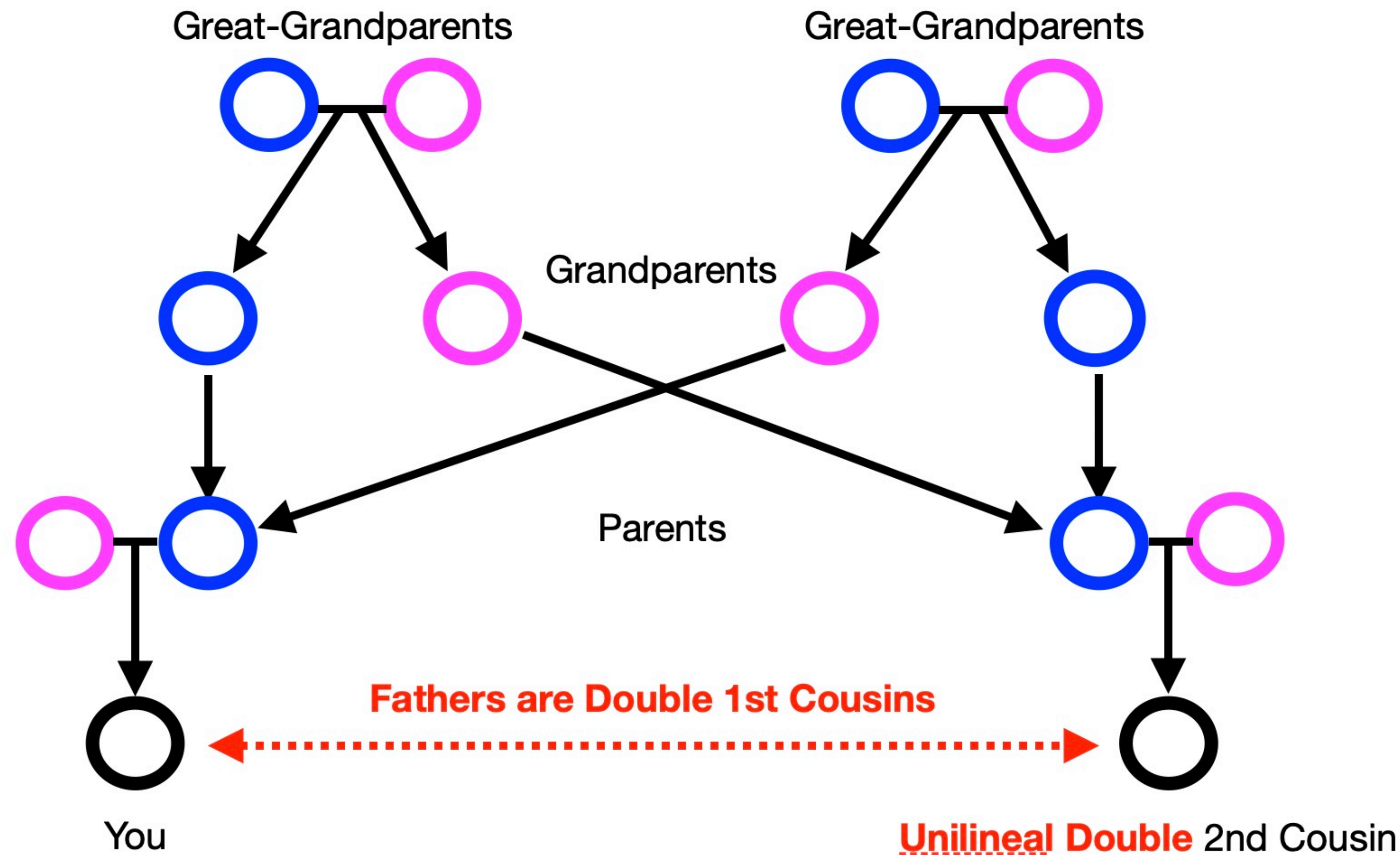
- ✦ *Double Cousins arise when **two siblings of one family marry two siblings of another family.***
- ✦ *In other words, **BOTH parents are siblings with BOTH parents of your double cousin.***
- ✦ *The resulting children are related to each other through both of their parents - and therefore are doubly related.*



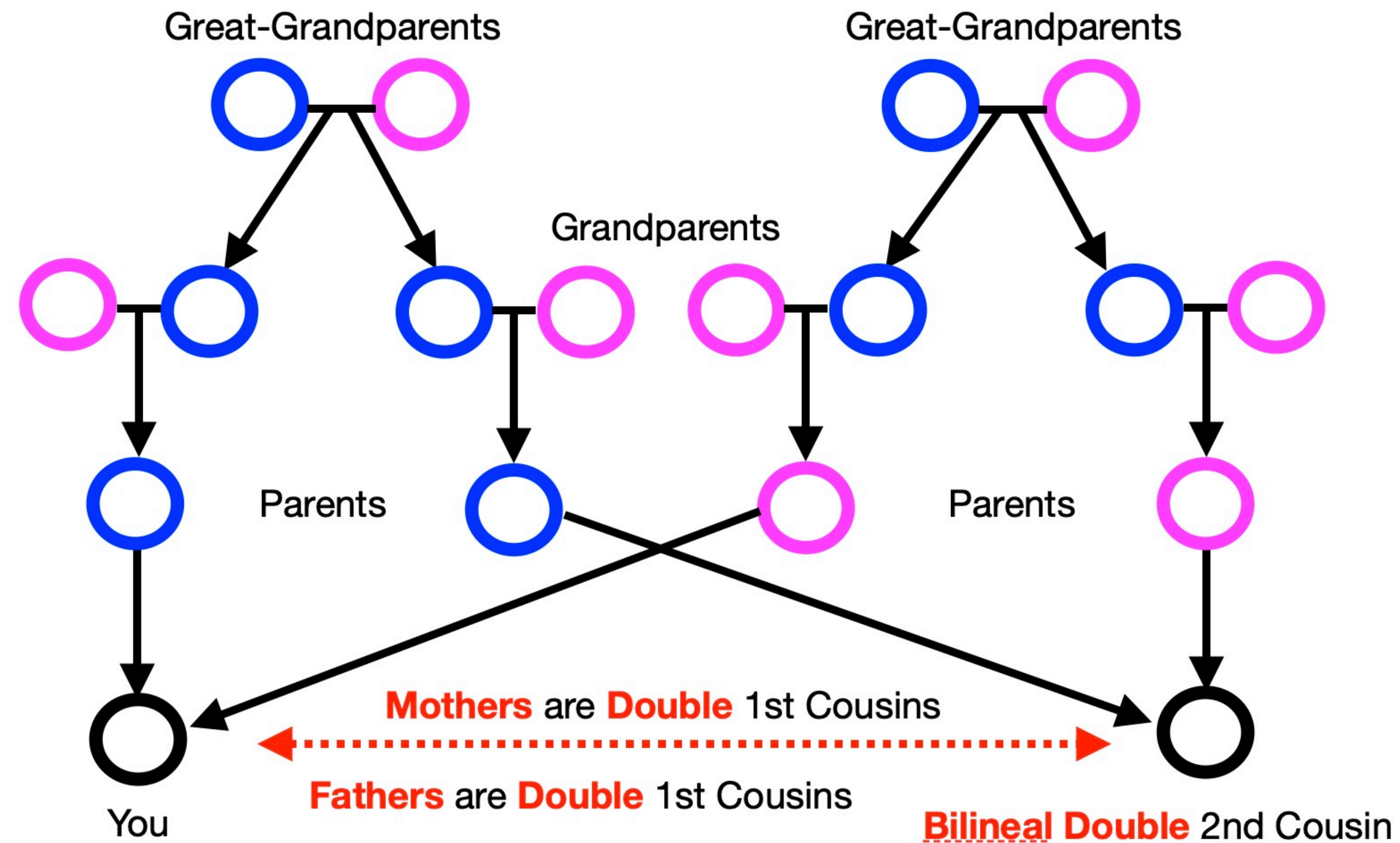
Double First Cousins



Double First Cousins



Unilineal Double Second Cousins



Bilineal Double Second Cousins

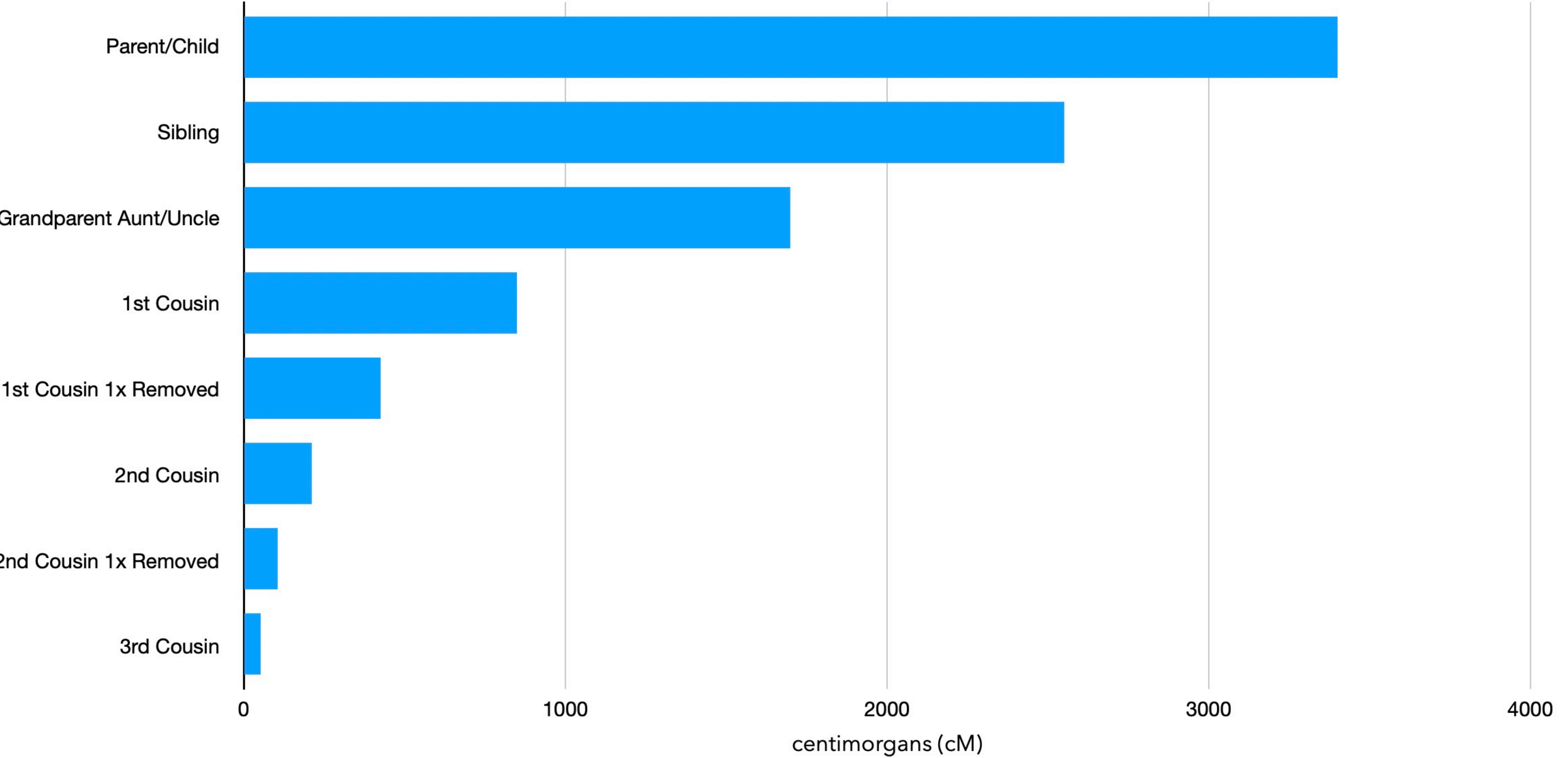
Cousins

Shared DNA
Perspective

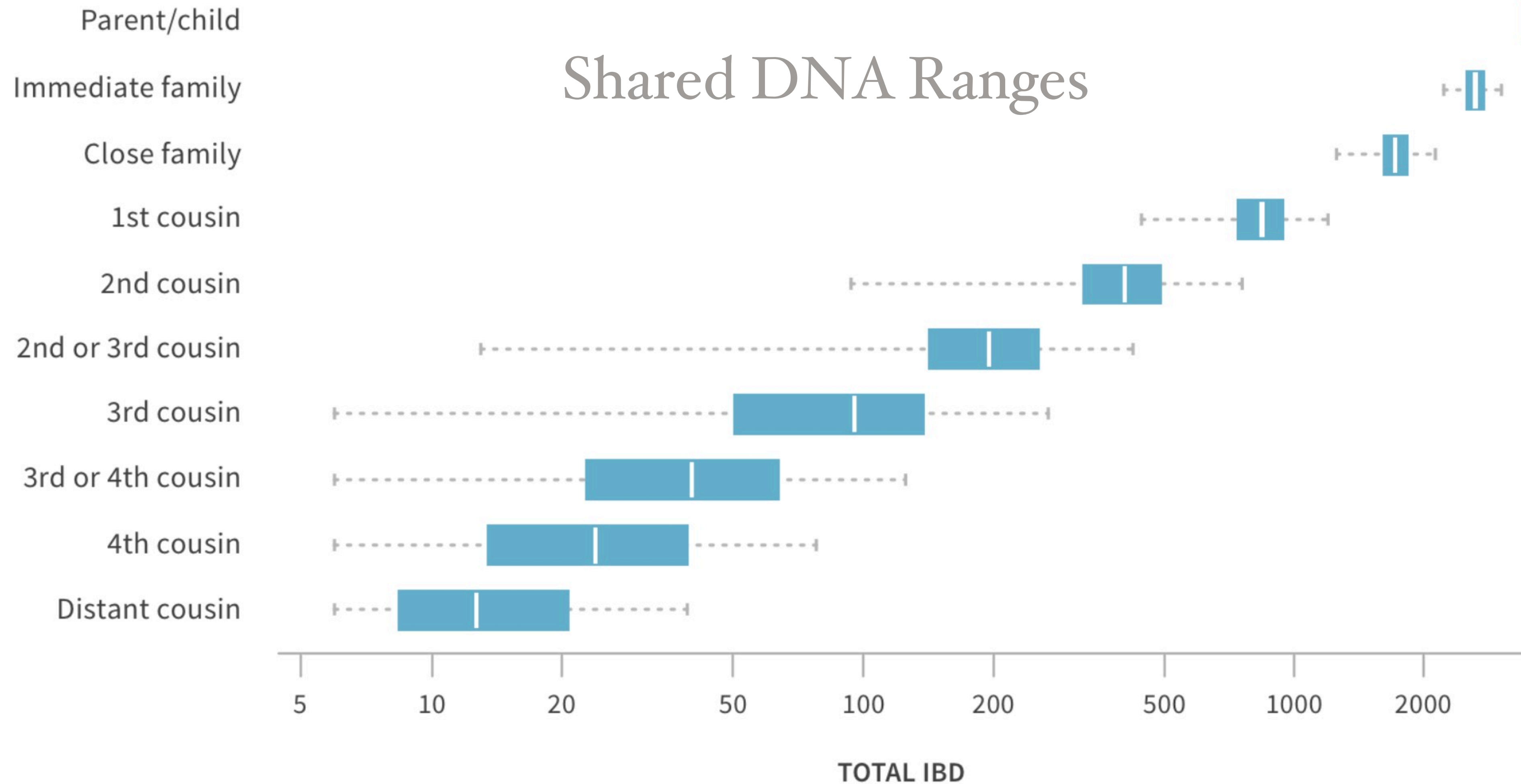


Chart created by Lee Macklin

Avg Shared DNA



Shared DNA Ranges



Source: AncestryDNA

Relationship	Likelihood of a DNA Match
Siblings	100%
1st Cousins	100%
2nd Cousins	100%
3rd Cousins	98%
4th Cousins	71%
5th Cousins	32%
6th Cousins	11%
7th Cousins	3.2%

Table 2. The likelihood that you and a cousin inherited the same DNA from either of your common ancestors.

Based on data from AncestryDNA

Cousins - Shared DNA

- ✦ *Full Cousins*
- ✦ *Removed Cousins*
- ✦ *Half Cousins*
- ✦ *Double Cousins*

Full Cousins - Average Shared DNA

Degrees of Separation: 1C (4), 2C (6), 3C (8)

- ✦ *Full First Cousins* **12.5% / 850 cm**
- ✦ *Full Second Cousins* **3.125% / 212 cm**
- ✦ *Full Third Cousins* **0.781% / 53 cm**

Removed Cousins - Shared DNA

Degrees of Separation: 1C (4), 1C1R (5), 2C (6)

- ✦ *1x Removed 1st Cousin* **6.25% / 425 cm**
- ✦ *2x Removed 1st Cousin* **3.125% / 212 cm (2nd Cousin)**
- ✦ *3x Removed 1st Cousin* **1.563% / 106 cm (2C 1R) (7 deg)**

Half Cousins - Shared DNA

Degrees of Separation: 1C (4), 1C1R (5), H1C (5)

- ✦ *Half First Cousins* **6.25% / 425 cm** (1C 1R) (5 deg)
- ✦ *Half Second Cousins* **1.563% / 106 cm** (2C 1R) (7 deg)
- ✦ *Half Third Cousins* **0.391% - 27 cM** (3C 1R) (9 deg)

Double Cousins - Shared DNA

Degrees of Separation: DiC (3), iC (4), Aunt/Uncle (3)

- ✦ *Double First Cousins* **25% / 1,700 cM (Grandparent)**
- ✦ *Double Second Cousins* **6.25% / 425 cM (1C 1R) (5 deg)**
- ✦ *Double Third Cousins* **1.563% / 106 cm (2C 1R) (7 deg)**

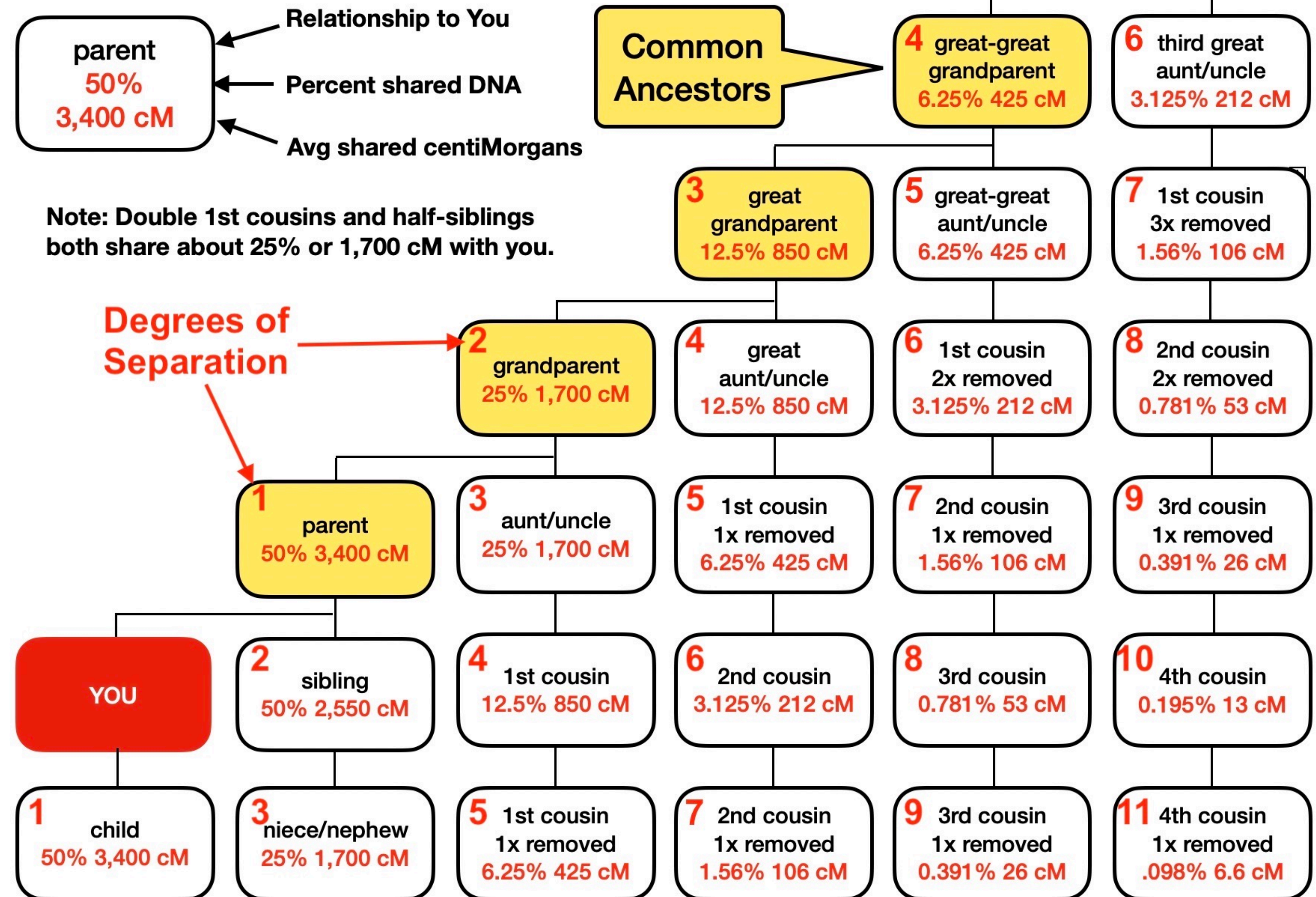
Double Cousins - Shared DNA

- ✦ *Double First Cousins* share BOTH sets of grandparents - by EITHER their mother or father
 - ✦ Genetically appear as *Half-Siblings or Aunt/Uncle*
- ✦ *Double Second Cousins* share BOTH sets of great-grandparents - by BOTH their mother AND father
 - ✦ Genetically, they appear as *First Cousins 1x Removed*

Common Ancestors

Degrees of Separation

Chart Created by Lee Macklin



Helpful Hints

- ✿ *Watch out for large families - use Degrees of Separation NOT age*
- ✿ *Pay close attention to birthdates*
 - ✿ *Can indicate Removed relationships, or identify a Niece instead of a Grandparent*
- ✿ *Are there multiple spouses?*
 - ✿ *There are probably Half relationships*
- ✿ *Did two siblings from one family marry two siblings from another family?*
 - ✿ *There will probably be Double cousins*

Final Quiz

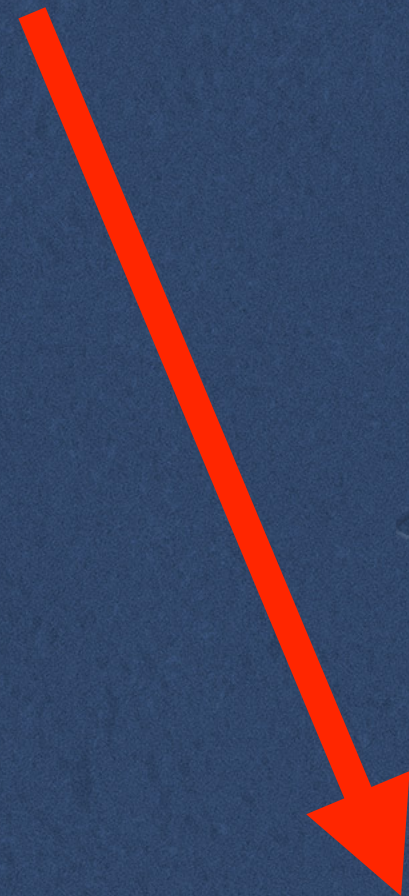
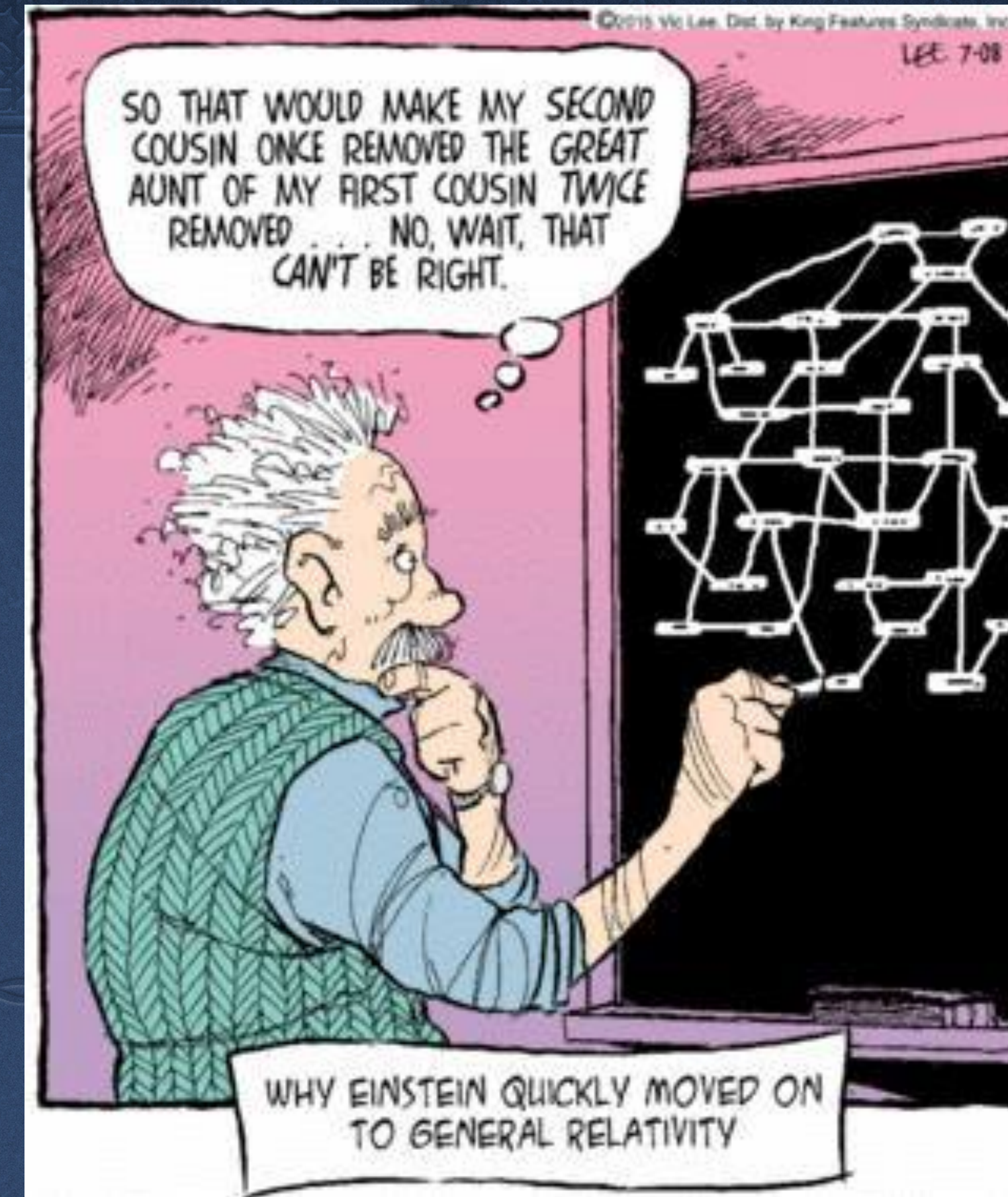


Diagram: Half Bilineal Double
Cousin 2x Removed relationship ????



Questions

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