An Ancient Dynasty That Transformed Europe

Why most European men have direct paternal descent from one man who lived near Vienna in 2700 BCE

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SNP Tracker, SNP Tree Explorer, Britain and Ireland Mapper,

and more, all free, at

http://scaledinnovation.com

a presentation for the Roots Users Group of Arlington VA
October 10, 2026

Inspiration

"Dating indicates that three major lineages (I1, R1a and R1b), accounting for 64% of our sample, have very recent coalescent times, ranging between 3.5 and 7.3 KYA."

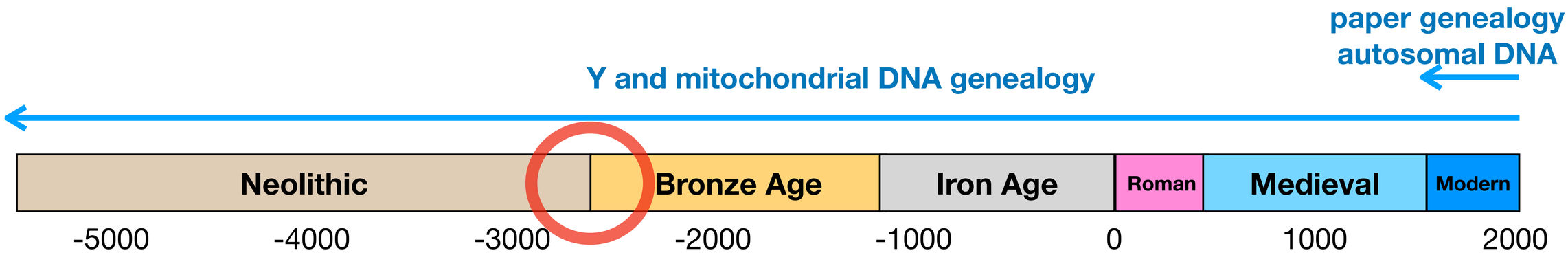
Batini, et al (2015) *Nature communications* 6: 7152.

In other words, two-thirds of European men have direct paternal descent from just three men who lived in the Neolithic or Bronze Age.

Can this be verified? What are the details? How is it possible?

The Span of DNA Genealogy

Today's story occurs at the Neolithic-Bronze Age transition.



barley, wheat, peas, lentils

sheep, goats, pigs, cattle

stone tools, two wheeled carts

horses

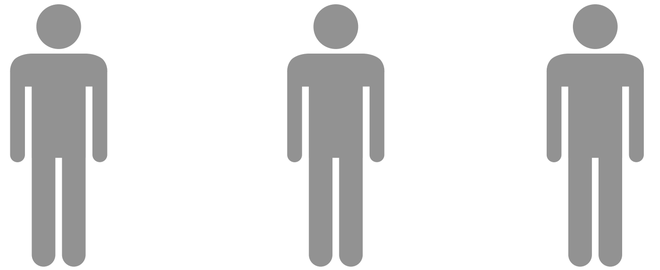
metal tools and weapons, four wheeled wagons

The Haplotree Ties it All Together

	Y haplotree	ancient DNA	archaeology	linguistics
Who	✓	✓	✓	✓
What	✓		✓	
When	✓	✓		✓
Where	✓	✓		✓
How		✓	✓	
Why			✓	

Constructing a Haplotree from DNA

mutations observed

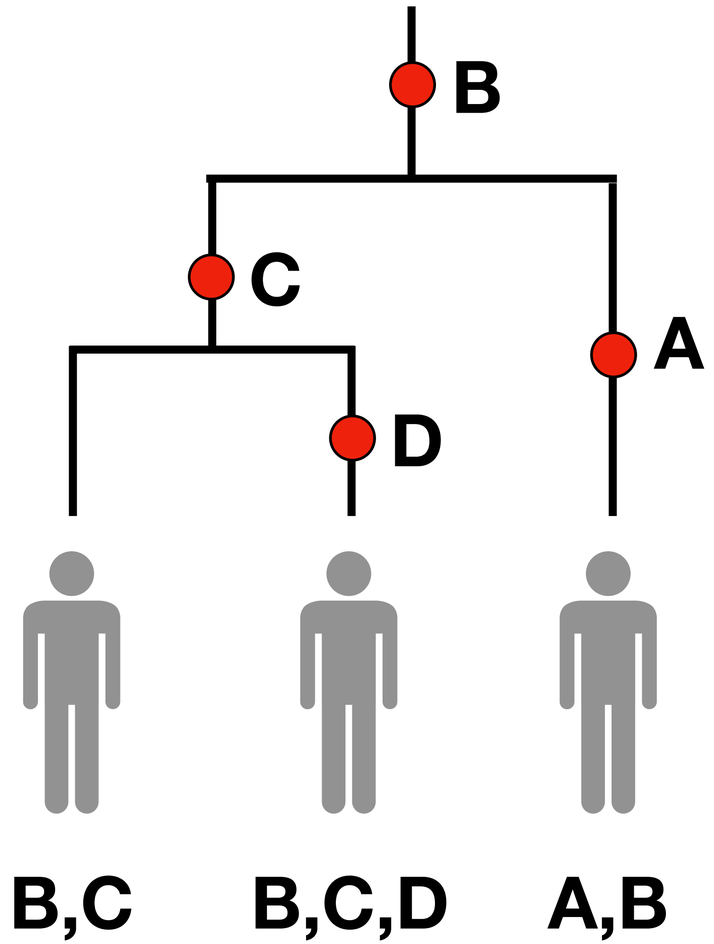


B,C B,C,D A,B

Constructing a Haplotree from DNA

tree inferred

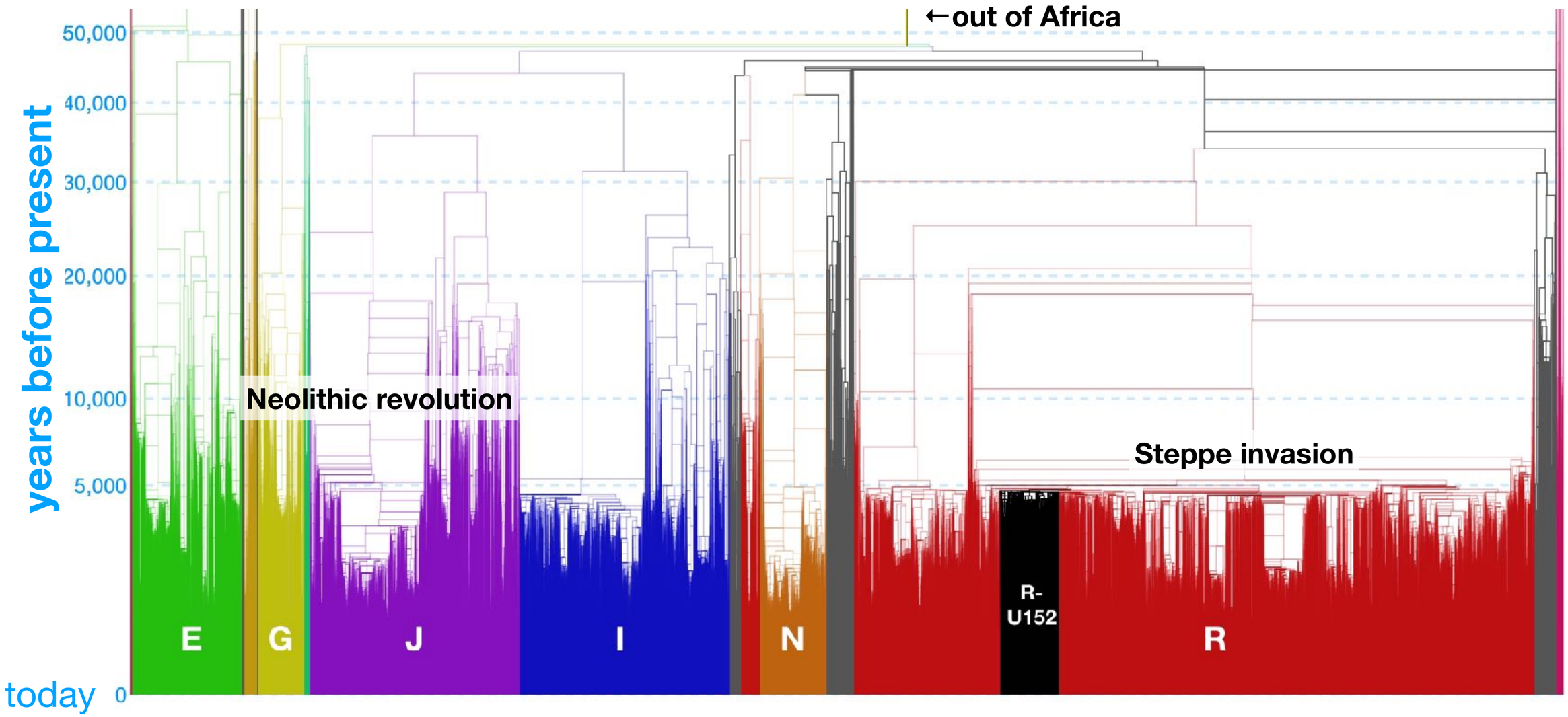
mutations observed



Mutations (SNPs) are observed, the tree is inferred.

Vertical distances — branch dates — can be estimated from mutation rates.

Y Haplotree



700,000 testers 900,000 SNPs 44,000 end (leaf) nodes

What, When

Batini Was Right

Modern testers by haplogroups present in 3000 BCE

haplogroup	British Isles	Western Europe	Eastern Europe	Scandinavia	Middle East
R-P312 (R1b)	50%	36%	6%	6%	0%
R-U106 (R1b)	23%	19%	3%	7%	0%
I-S63 (I1)	13%	13%	5%	39%	0%
R-PF6162 (R1a)	3%	9%	27%	13%	6%
J-L858 (J1a)	0%	1%	2%	0%	81%
N-CTS3103 (N1a)	0%	0%	14%	30%	0%

Batini Was Right

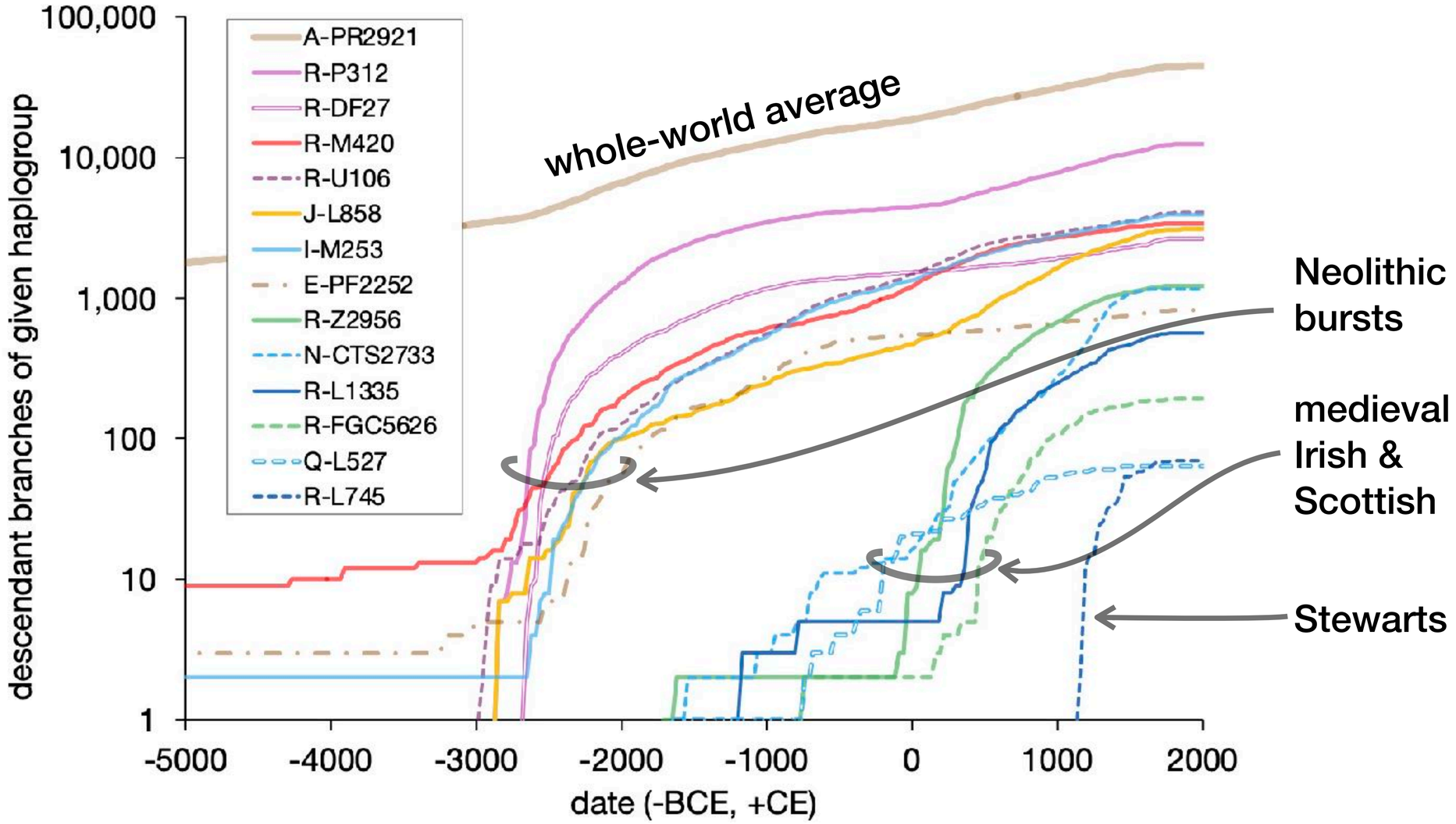
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J-L858 (J1a)	0%	1%			
N-CTS3103 (N1a)	0%	0%	14%	30%	0%

R-P312 and R-U106 both descend from R-L151, which appeared 5000 years ago in the upper Danube valley.

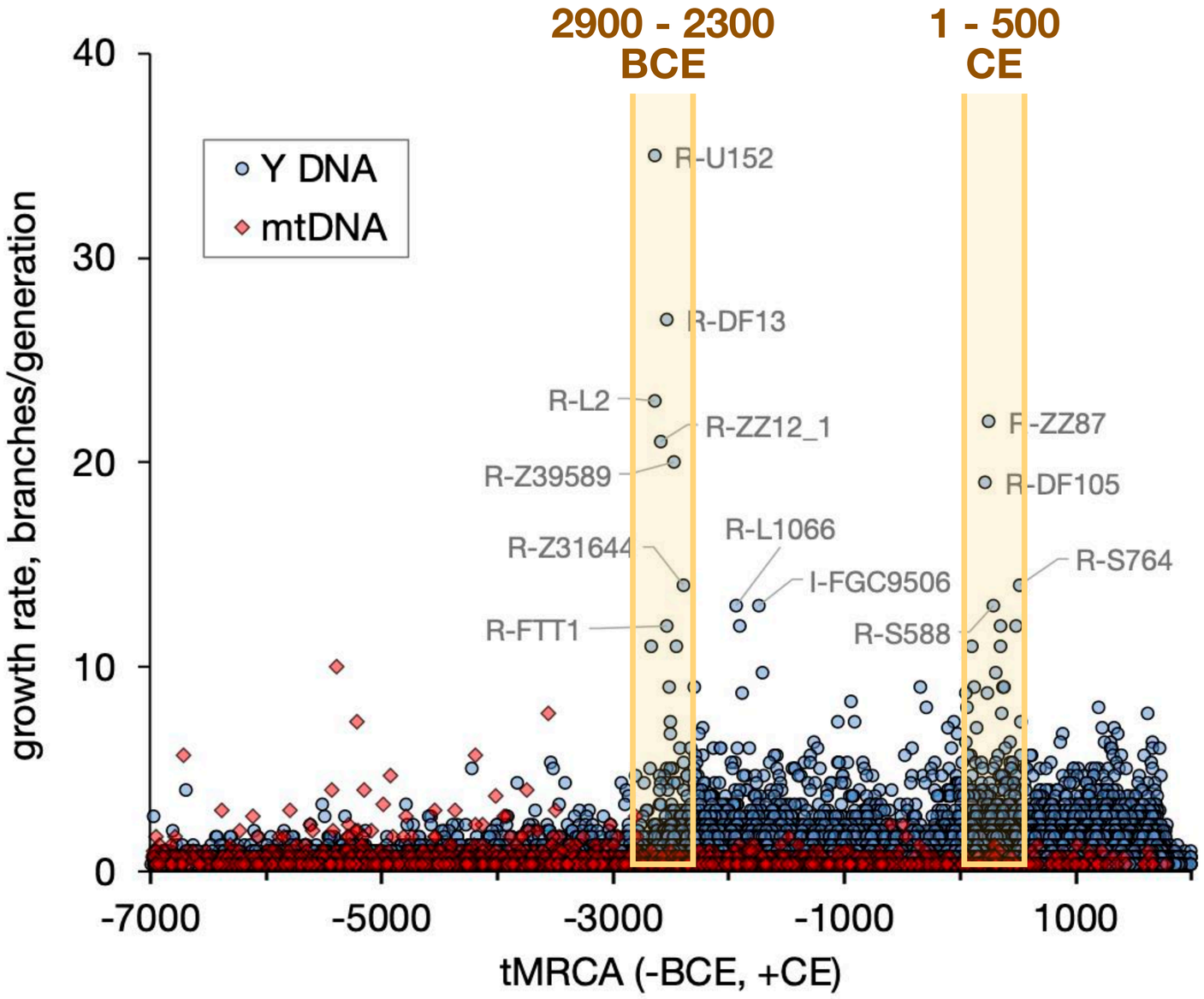
Identifying Patriarchies

A high rate of branching identifies a haplogroup as a patriarchy.



Patriarchies

In all human history, there are only two patriarchic eras.



Because there are no *matriarchies*, whatever causes the *patriarchies* cannot be environmental but must be gender-specific and deliberate.

The Medieval Celtic Patriarchies

Known Clans are identified as Patriarchies

Scottish clans

R-S764 (510 BCE)

↓

R-L745 (1130 CE) → Stewart

Uí Néill dynasty

R-M222 (110 BCE)

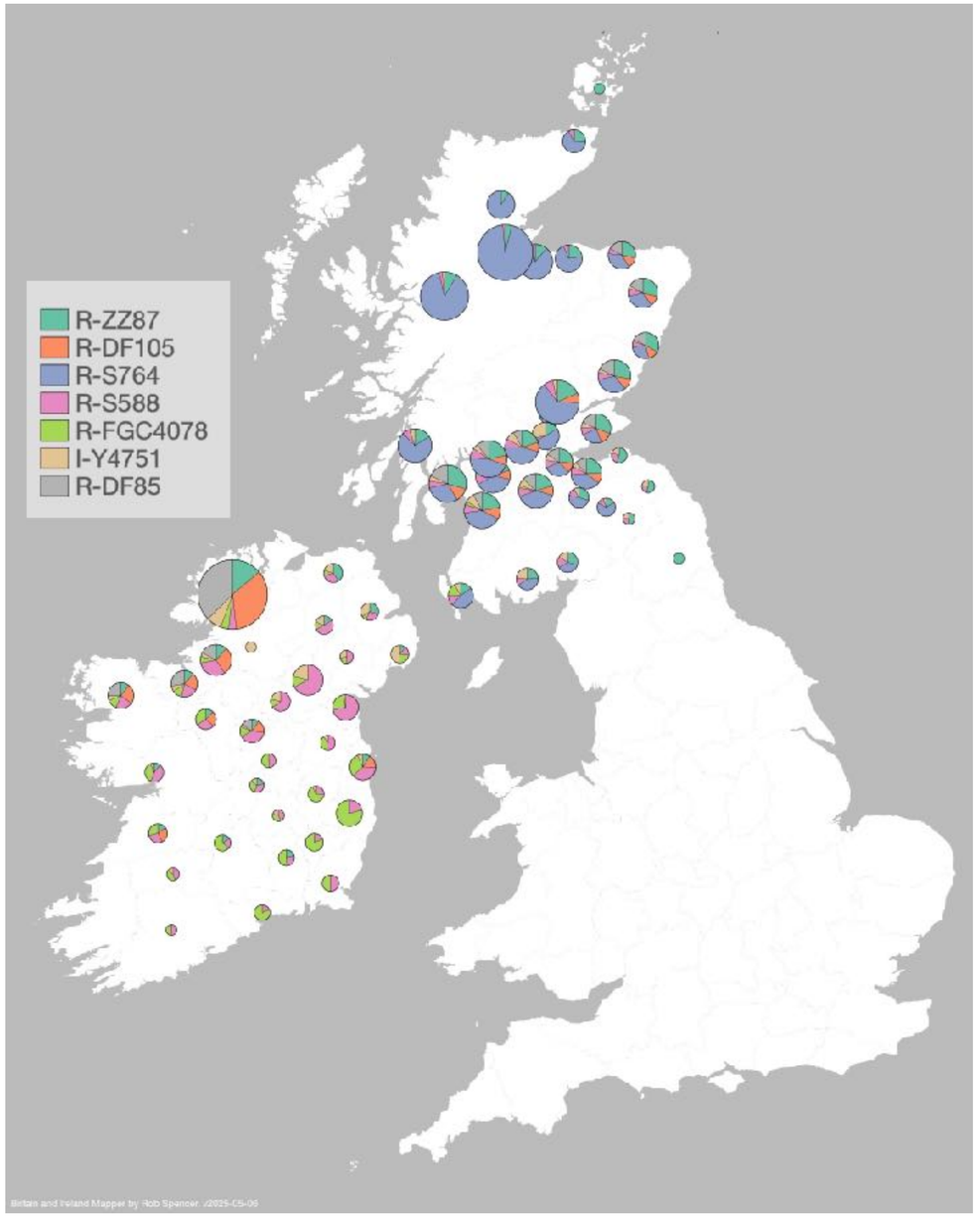
↓

R-DF105 (210 CE)

R-ZZ87 (250 CE)

R-S588 (290 CE) → O'Neill

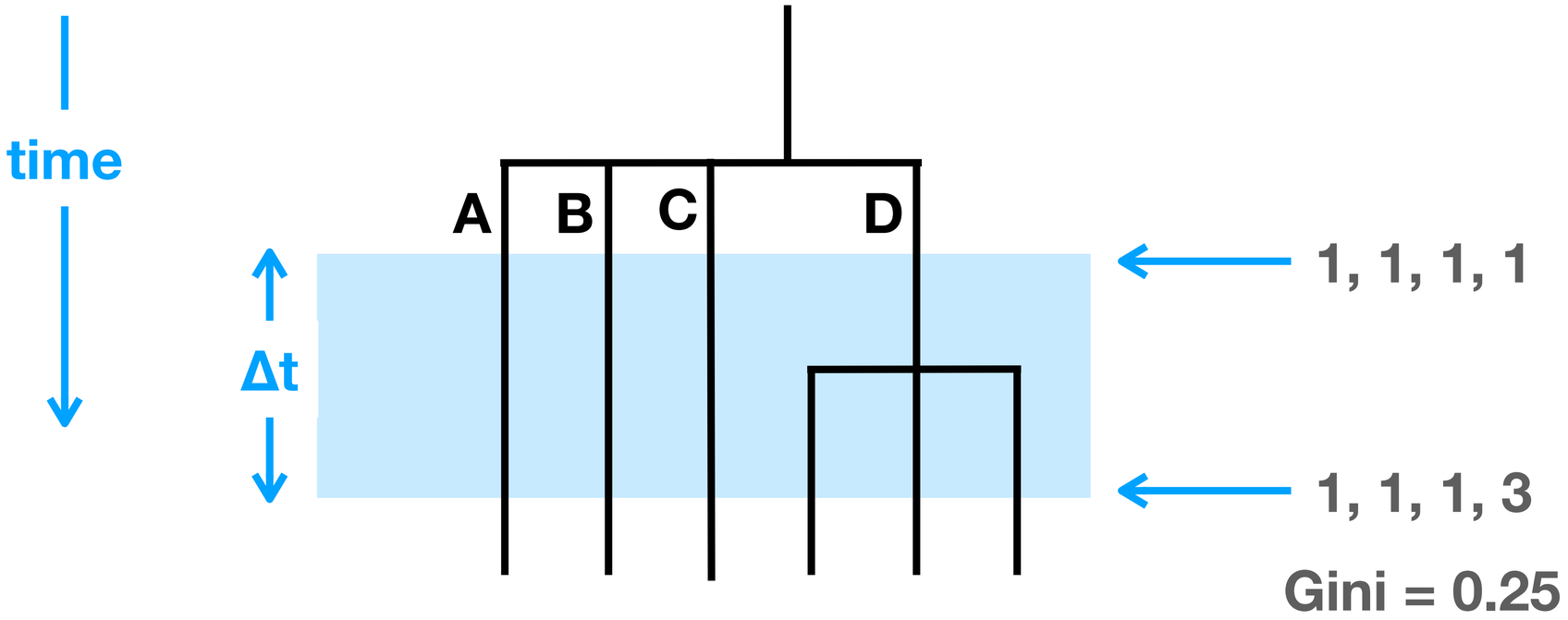
R-DF85 (310 CE) → Doherty



The Late Neolithic Patriarchies

A Gini Coefficient for Population

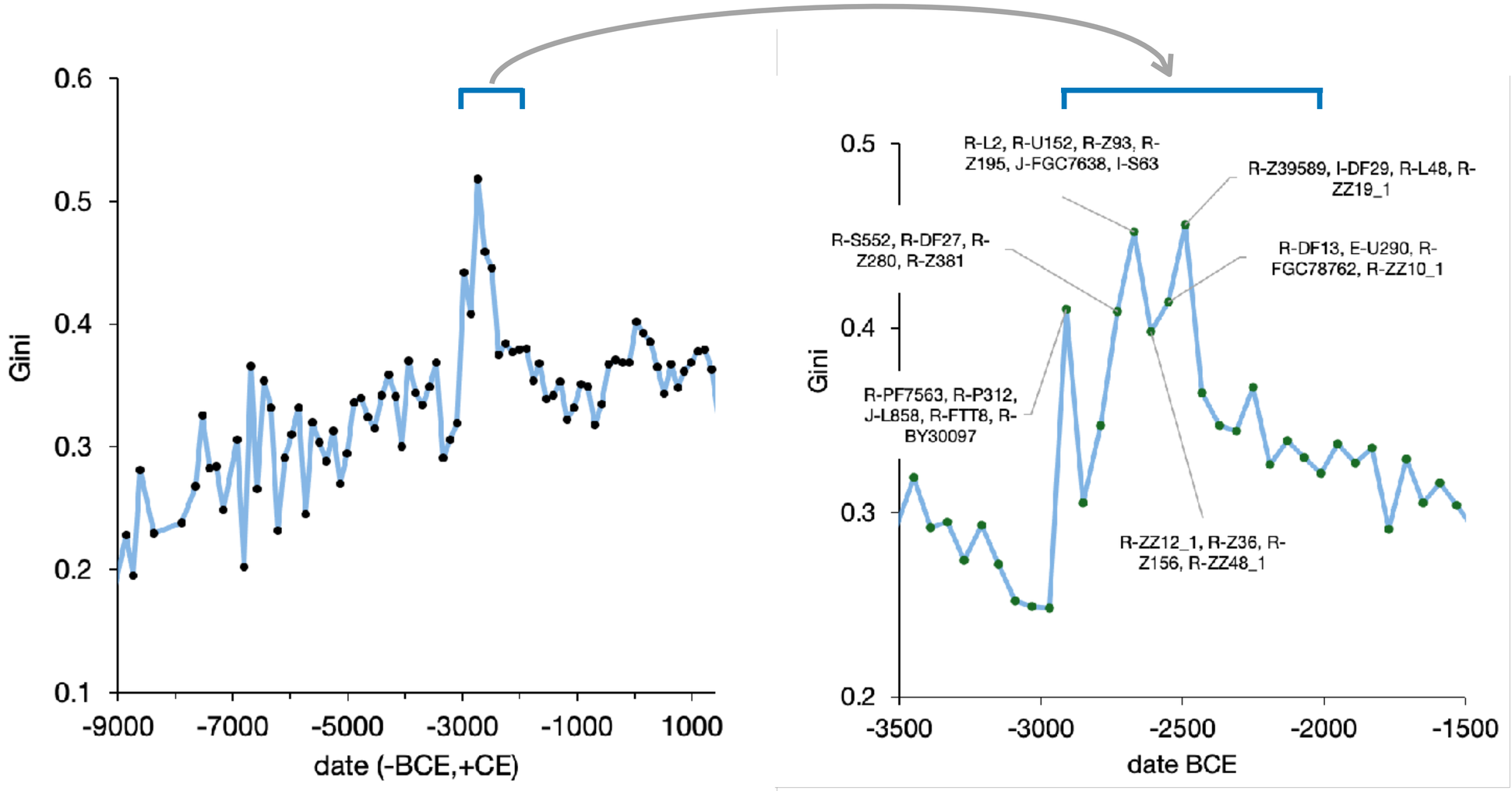
The Gini is used to measure wealth inequality, but it can also be applied to fertility inequality by counting haplotree branches.



G = 0 : perfect equality G = 1 : perfect inequality

A Gini Coefficient for Population

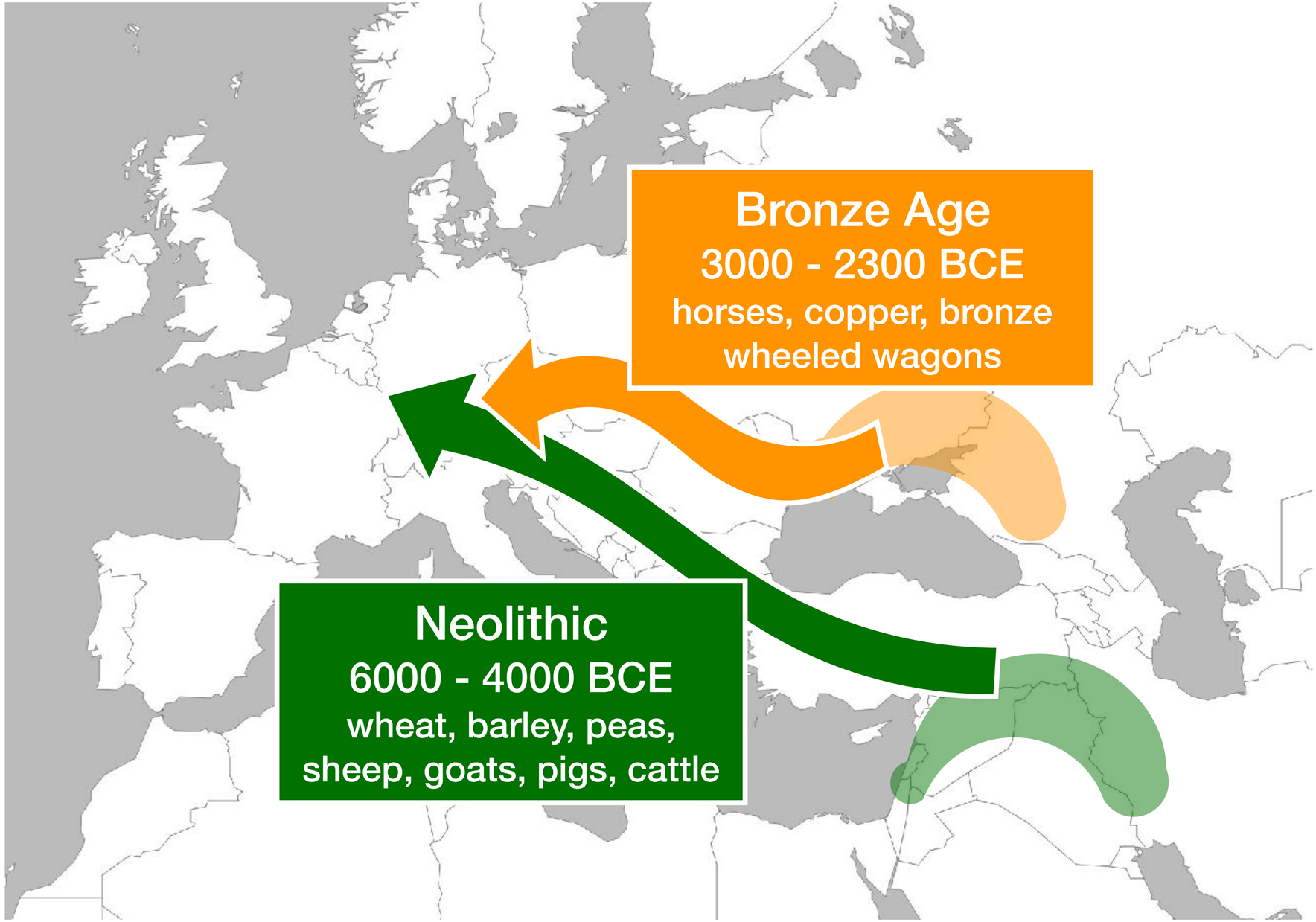
The Neolithic patriarchies form **the only peak in history.**



These are the same patriarchies

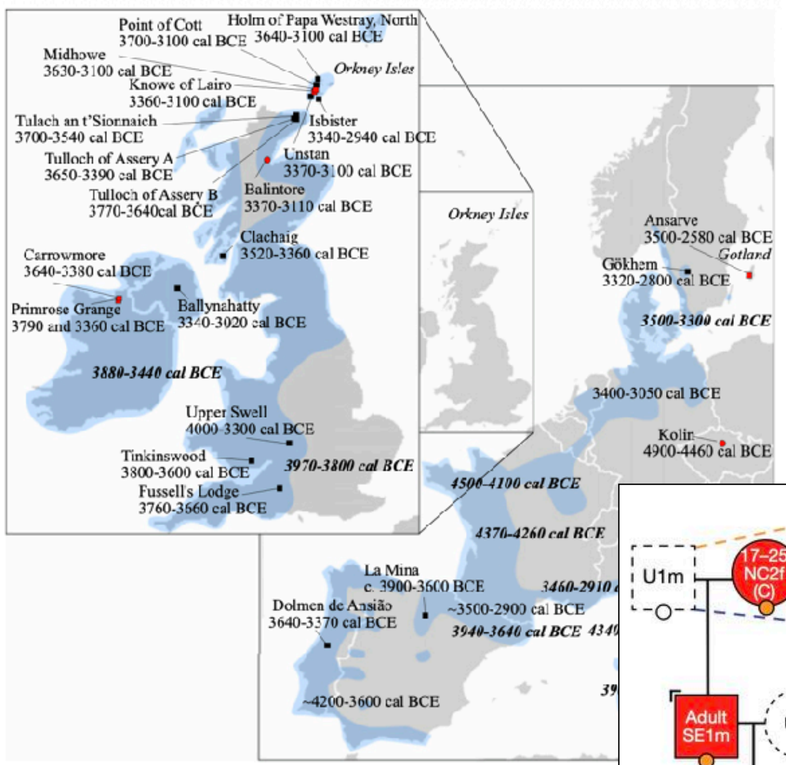
Who

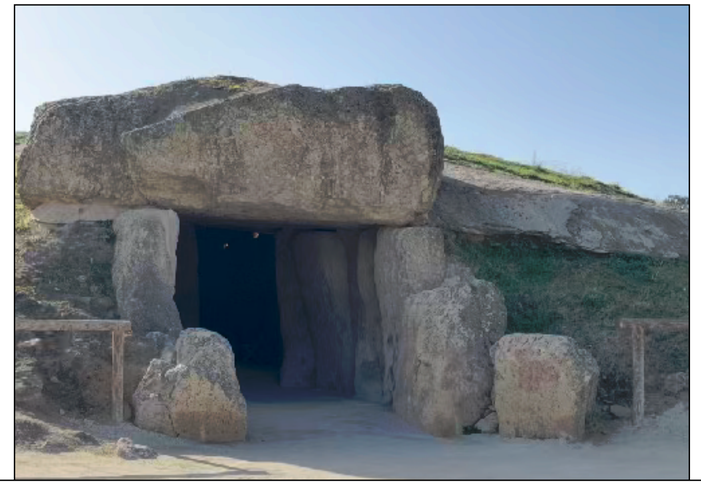
Revolutions by Migration

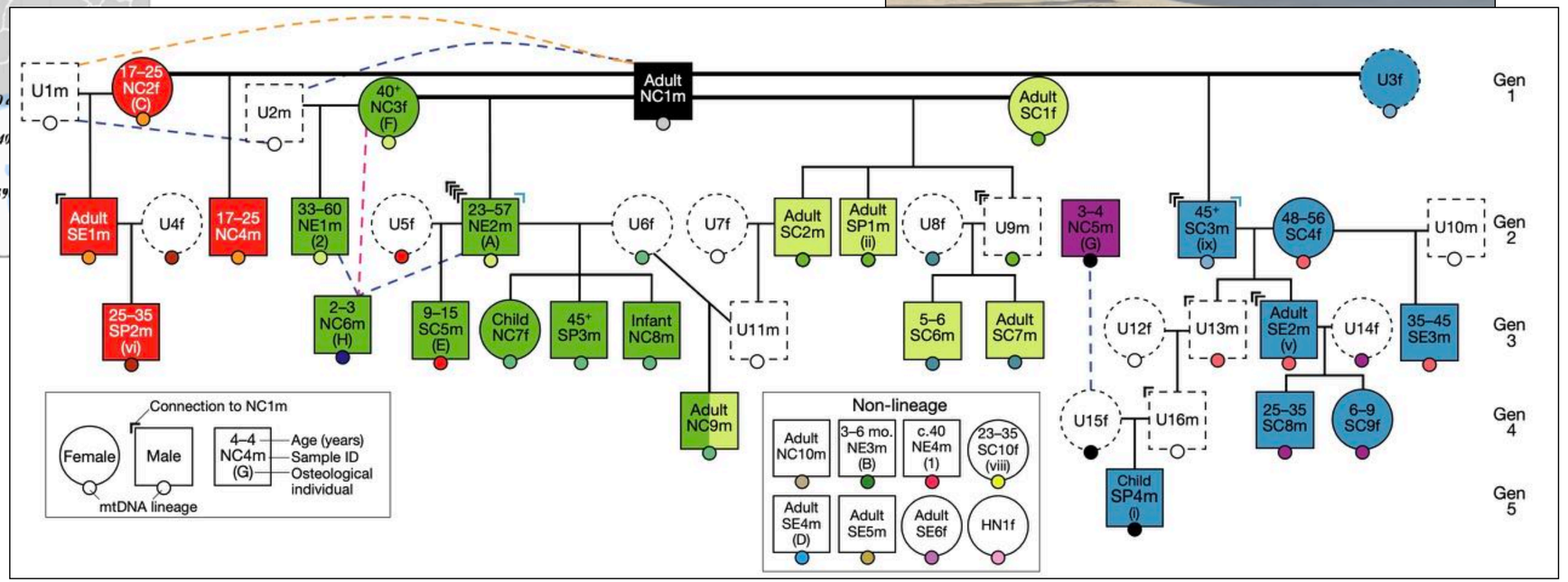


Archaeology of Neolithic Burials

Universal, “princely”, patrolynic, female exogamous, 1000 years before the Steppe invasion







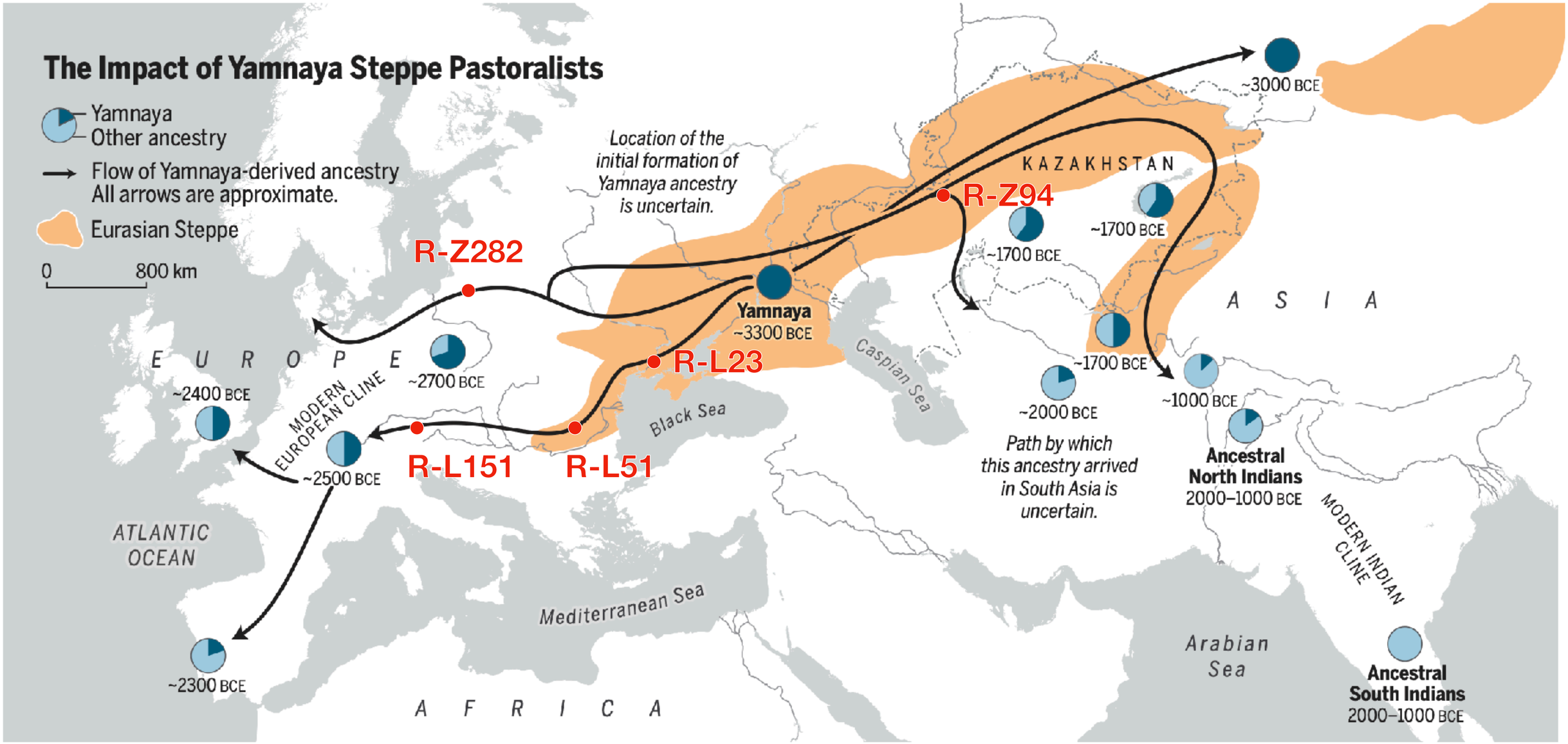
Fowler, et al 2022, Nature 601: 584-587, Sánchez-Quinto, et al. 2019, PNAS 116: 9469-9474.

The Largest Patriarchies are all from the Steppes



The Steppe Invaders are the Yamnaya

Ancient DNA reveals their haplogroups



Reich Lab: Narasimhan, et al 2019, *Science* 365, 7487.

The Yamnaya Bring the Bronze Age

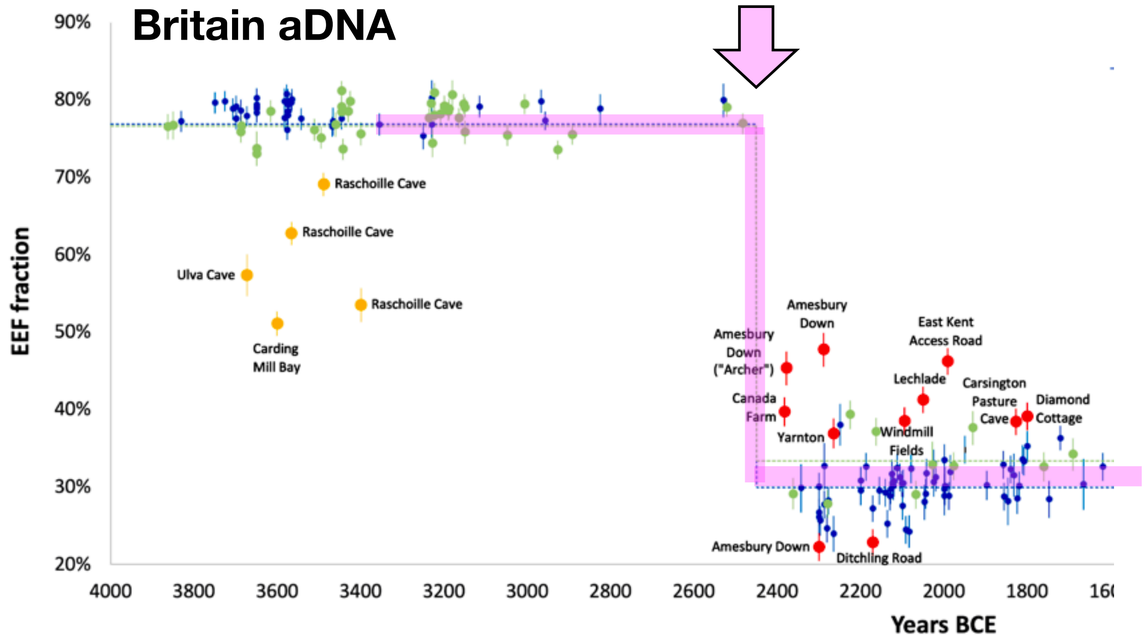


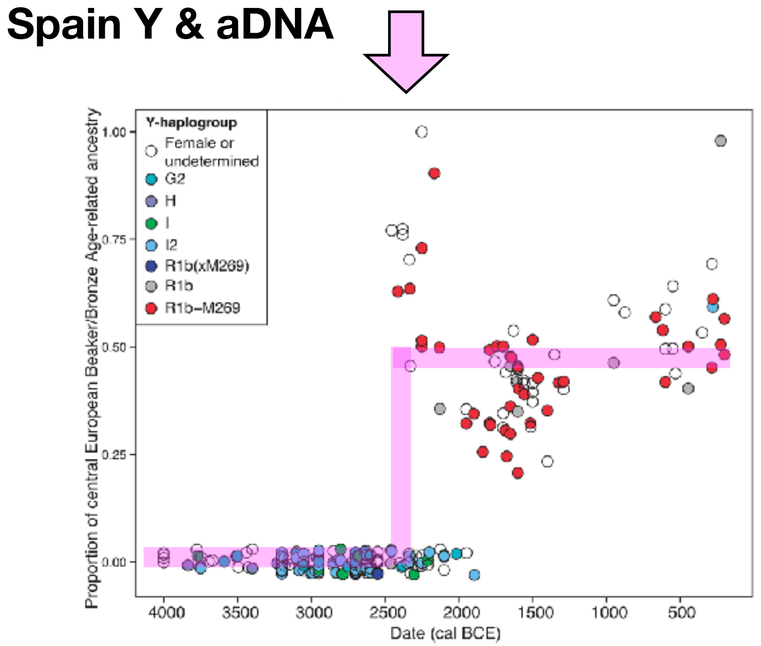


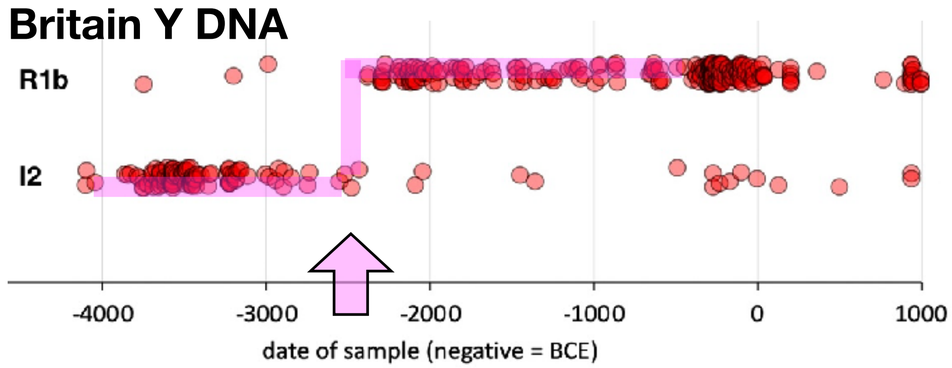


Replacement of DNA

Ancient DNA shows significant replacement of autosomal DNA and near-complete of Y DNA across Europe ~2500 BCE



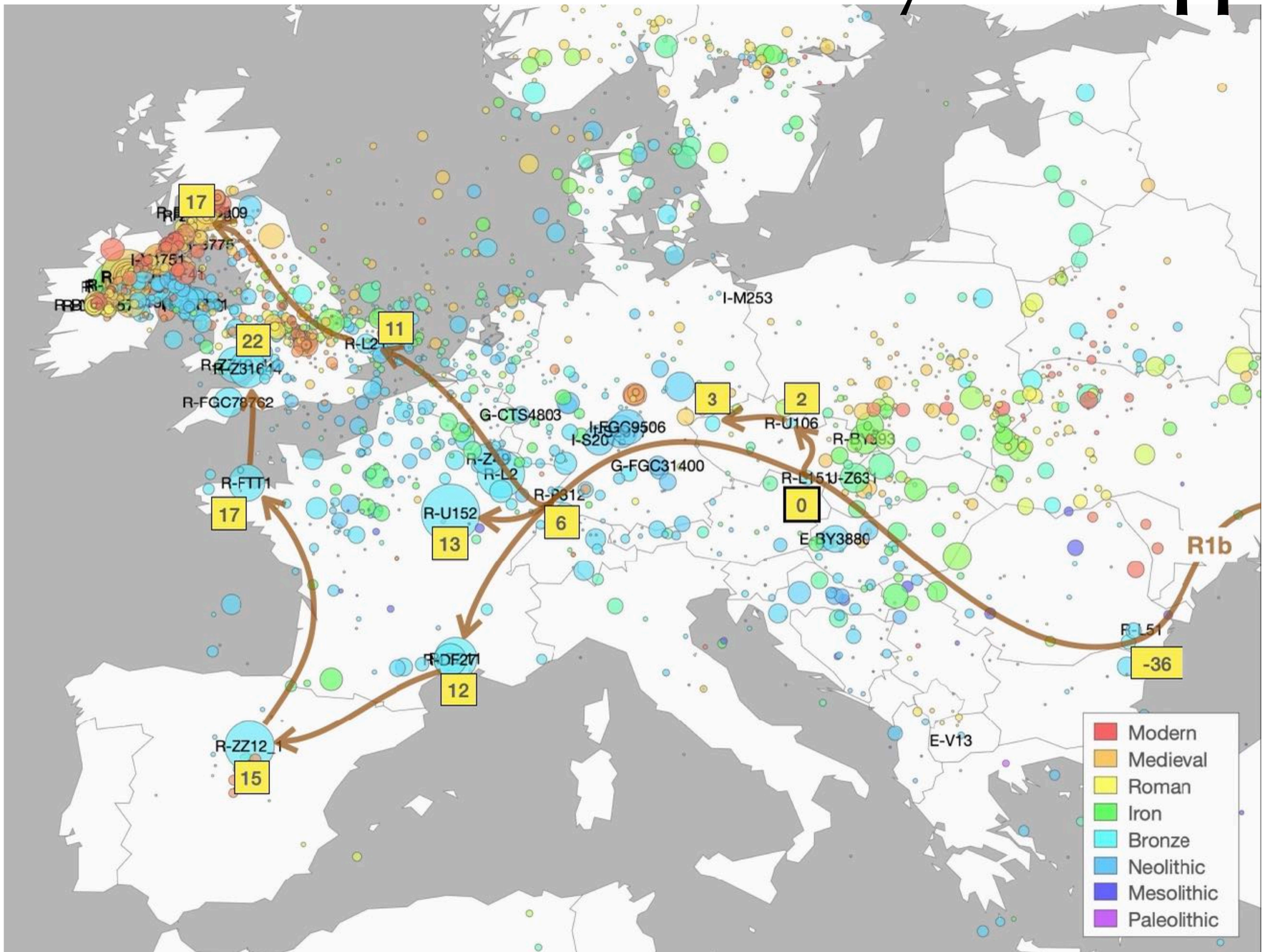




Olalde, et al 2018, Nature 555: 190-196, and Olalde, et al 2019 Science 363, 1230-1234, Patterson, et al 2022 Nature, 601:588-594.

Where

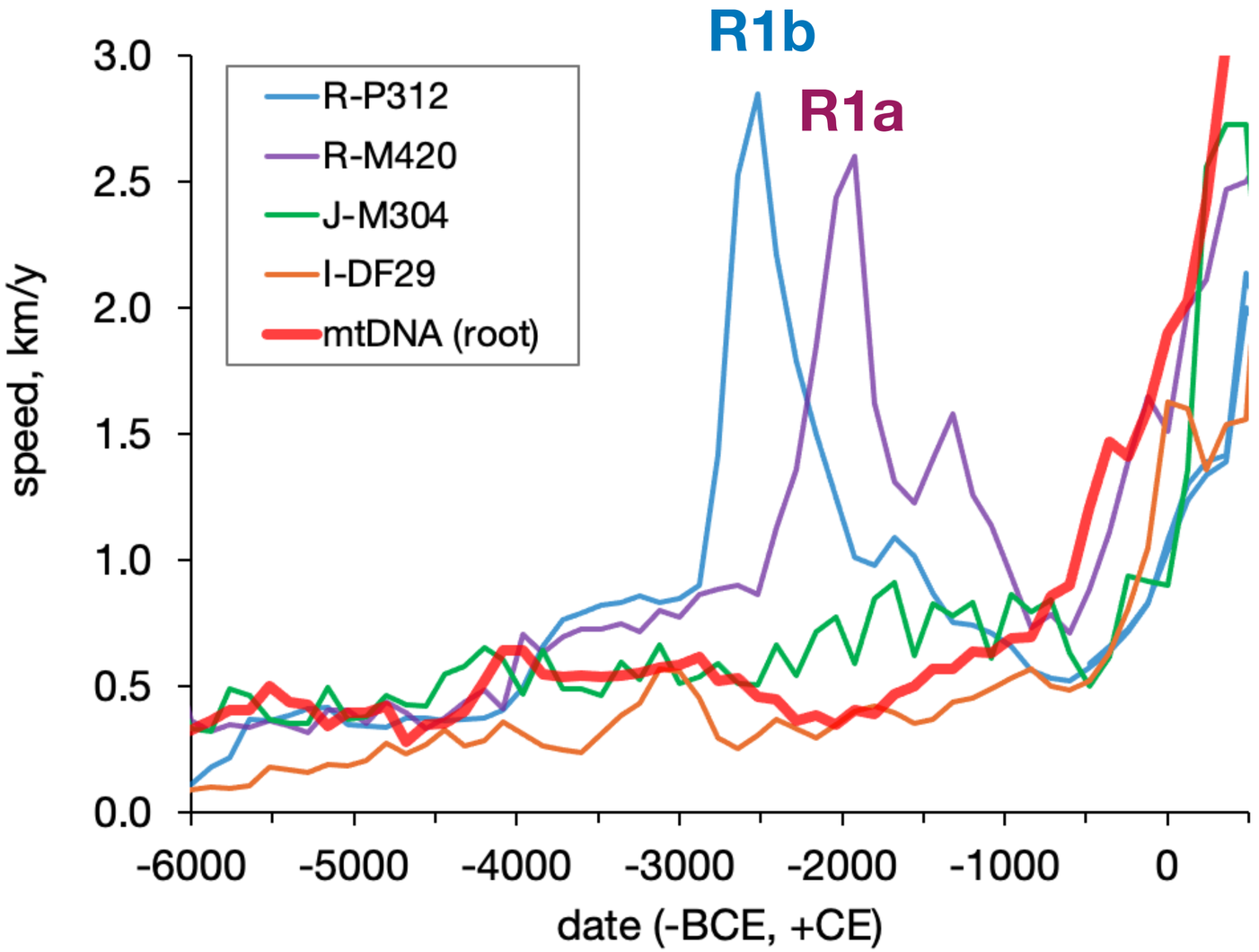
The Patriarchies Identify the Steppe Track



Dots are patriarchies with diameter proportional to branching rate. Brown arrows show direct descent. Numbers are generations after R-L151 **0**

The early Bronze Age patriarchies are the Steppe invaders. There are Iron Age examples in Eastern Europe and Medieval in Ireland.

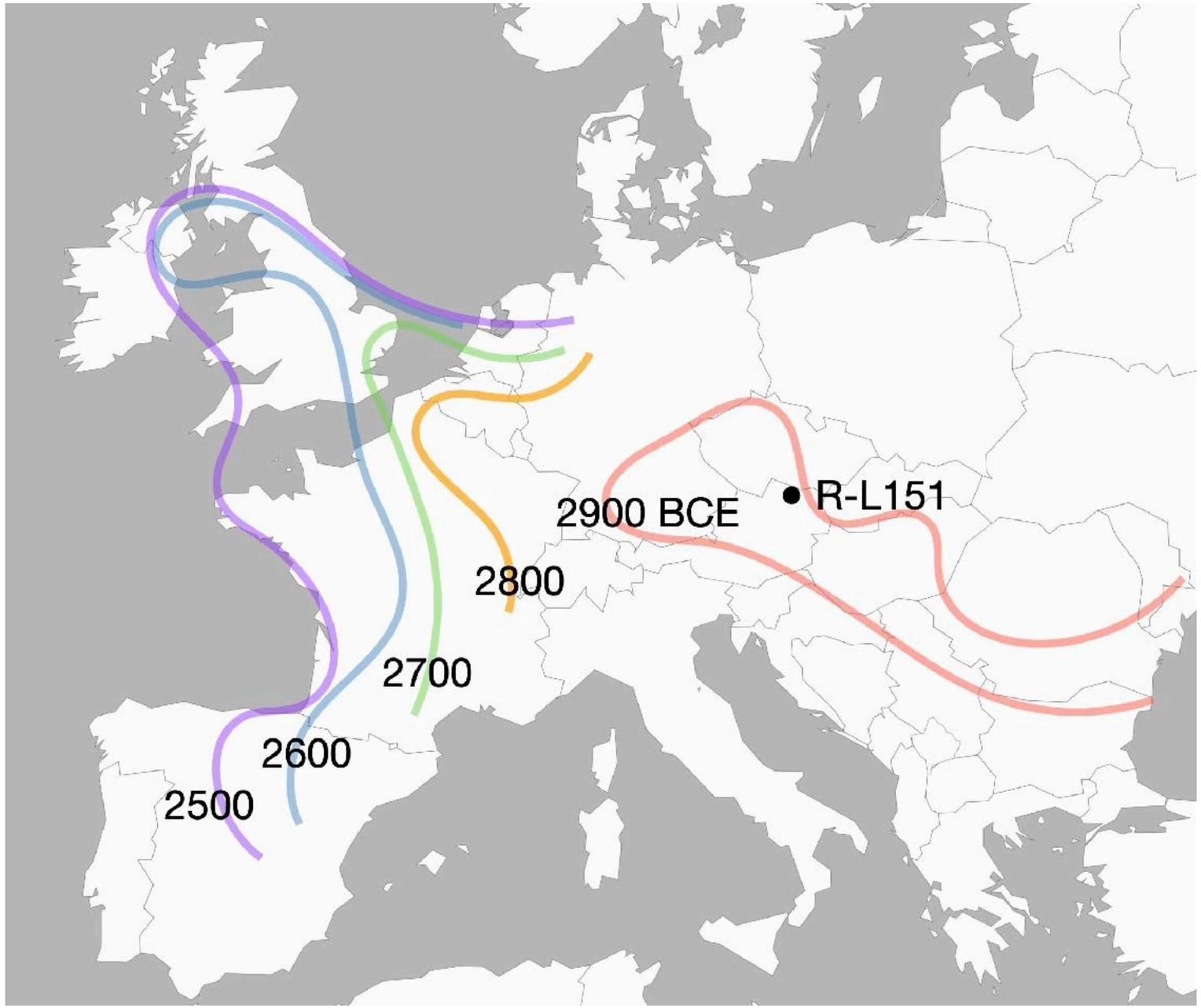
Fast Moving Patriarchs



Migration speed can be estimated from ancient DNA.

The only ancient peaks are for the R1b and R1a Steppe invaders — male nomads with horses.

Fast Moving Unstoppable Nomads



The Steppe invasion frontier moves at the same rate, ~ 3 km/year.

The English Channel and Irish Sea didn't stop them. The east-bound Yamnaya weren't stopped by the Himalayas: they invaded India.

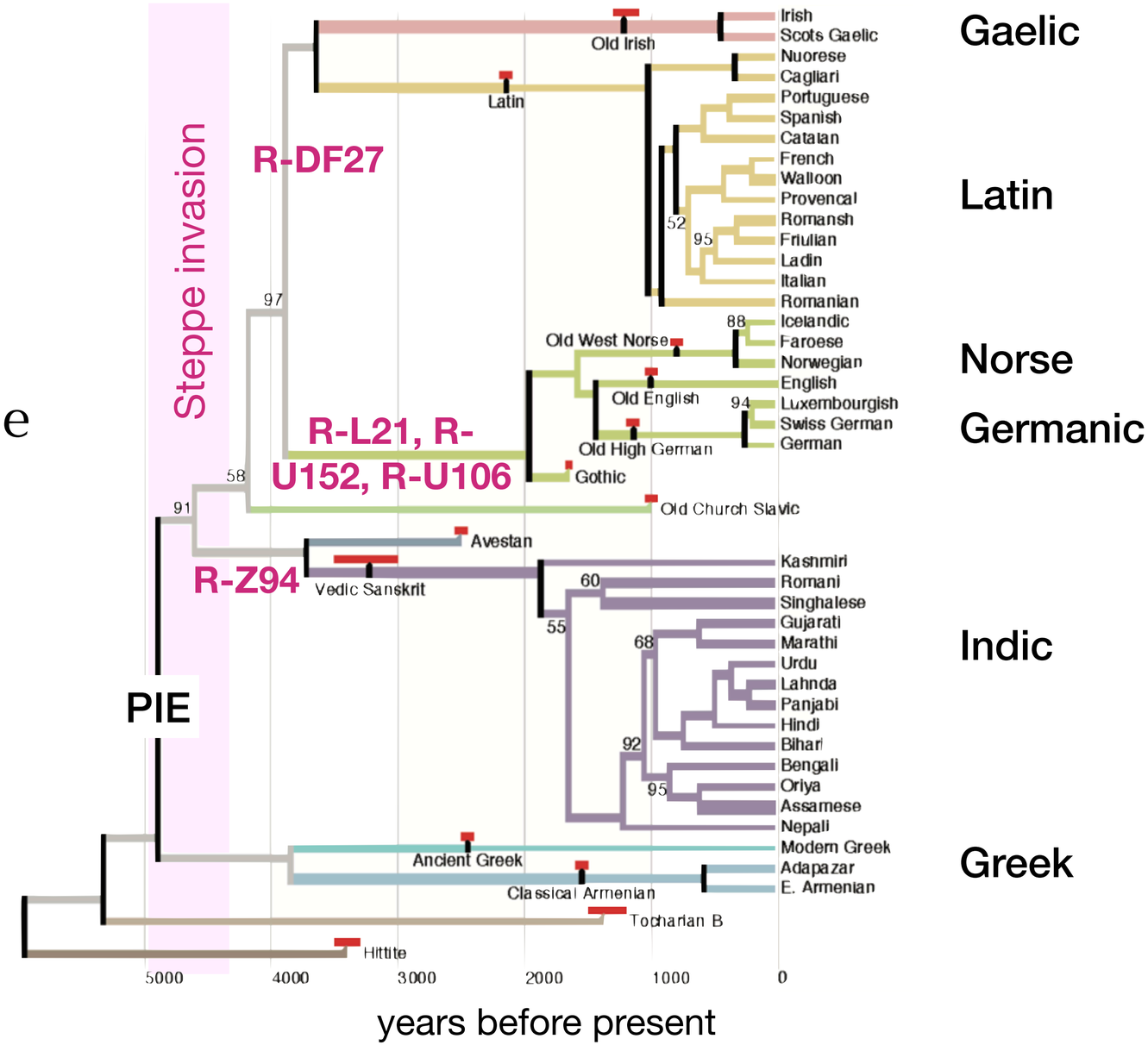
The European wave didn't stop until it hit the Atlantic Ocean.

Horses, Bronze, Wheels, DNA, *and Language*

Tree of Language Evolution

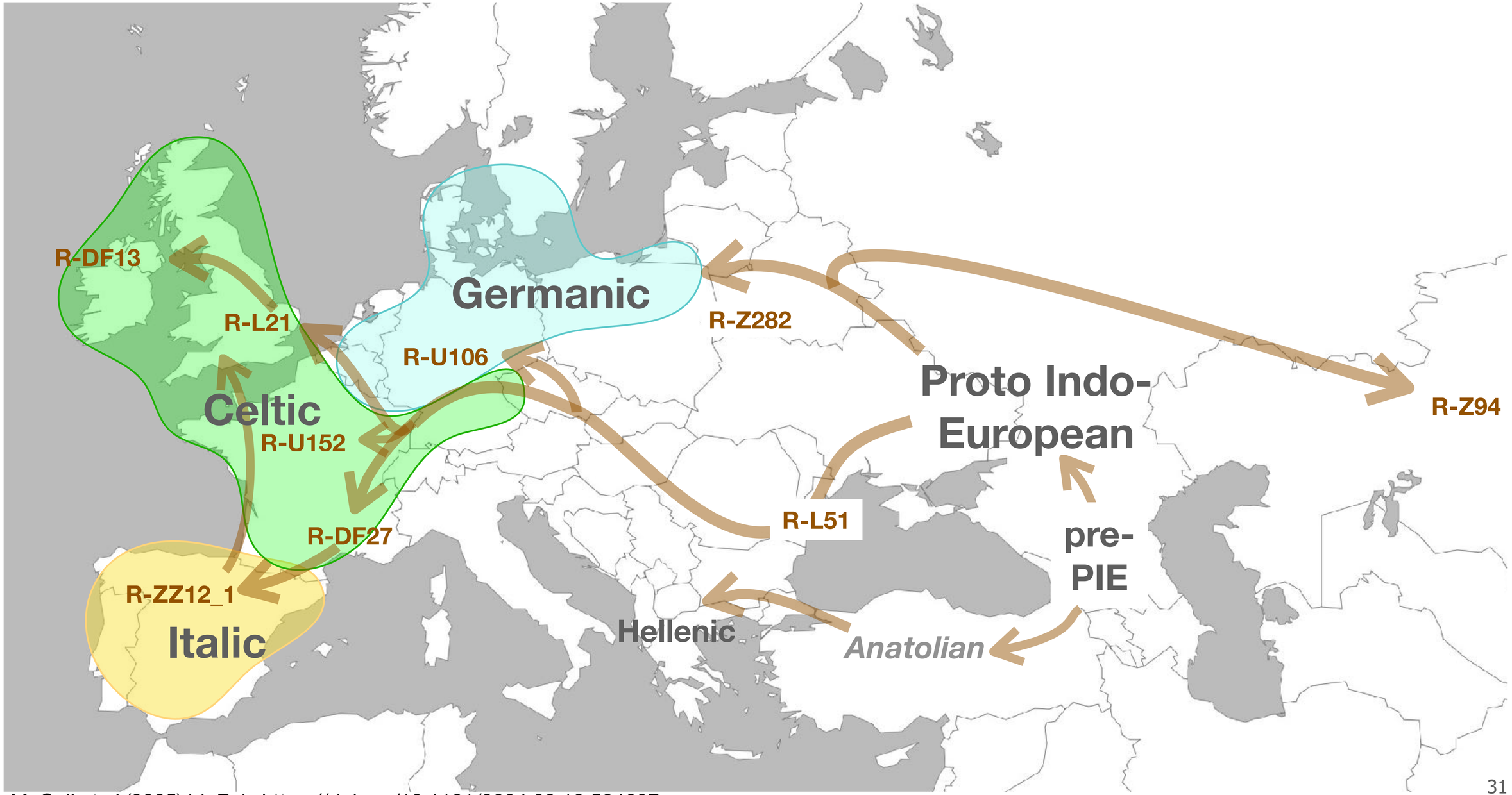
Haplogroups map to major language branches.

The major splits are during and just after the Steppe invasion: they brought one language which then evolved in different directions.



Chang, et al 2015, *Language* 91: 194-244.

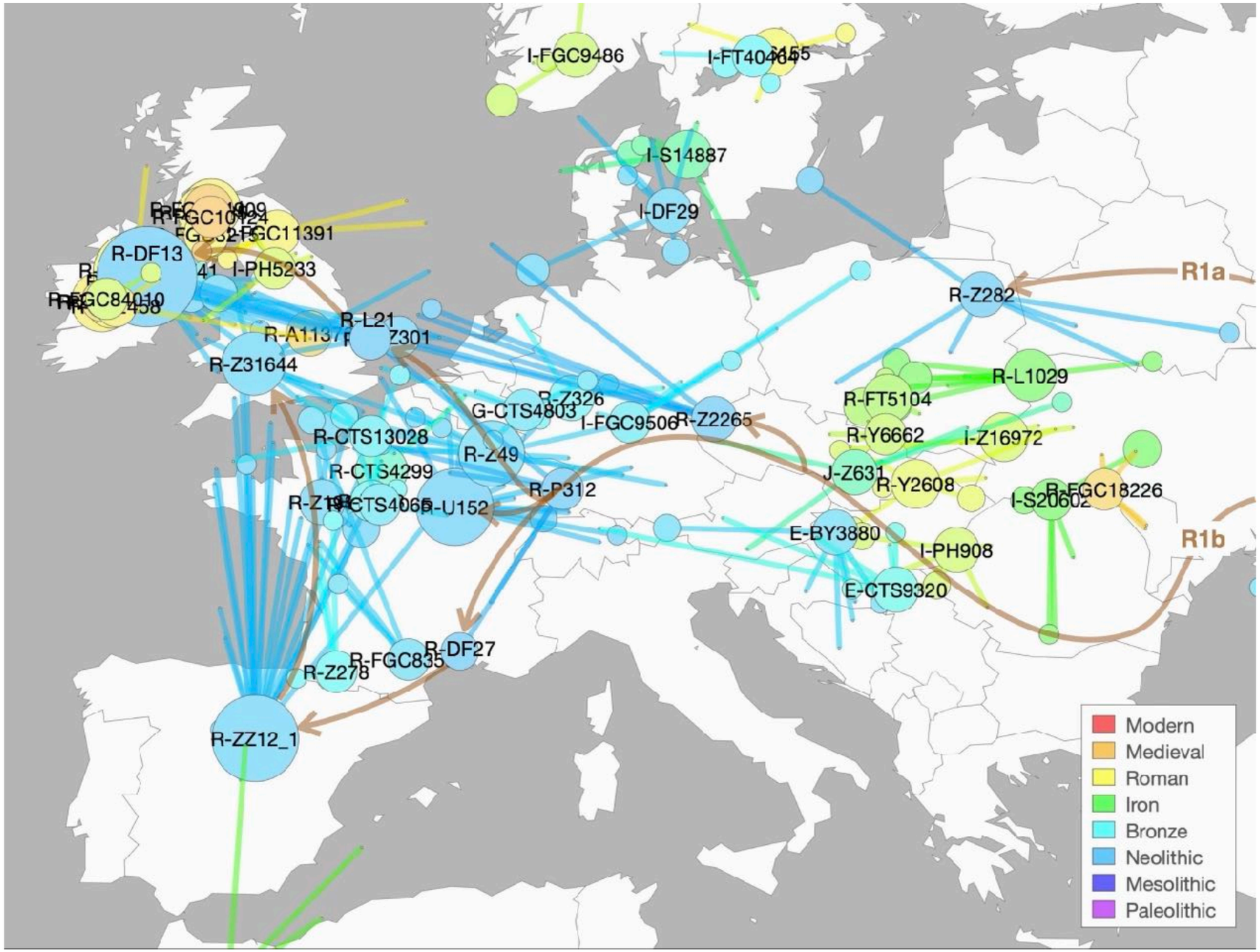
The Steppe Invaders Brought Language



McColl et al (2025) bioRviv https://doi.org/10.1101/2024.03.13.584607

How

Synergy in Oral History



Patriarchies spawned other patriarchies along the migration track, within 2-5 generations and well within oral history.

The stories and strategies for conquest would be told and re-told, and not have to be re-learned.

How to Take Over a Continent

Contributing factors, probably all true:

- **sparse local population**
  Yes, but not major since mtDNA not affected
- **out-breed the local men**
  Replace the existing patriarchs
- **kill the local men**
  Very likely
- **move, remember, and repeat everywhere**
  Descendant patriarchies are always within the span of oral history

The unique combination is why this occurs only once in Western history.





Thank You

The slides are available at
https://scaledinnovation.com/gg/ext/dynasties-Oct2026.pdf