

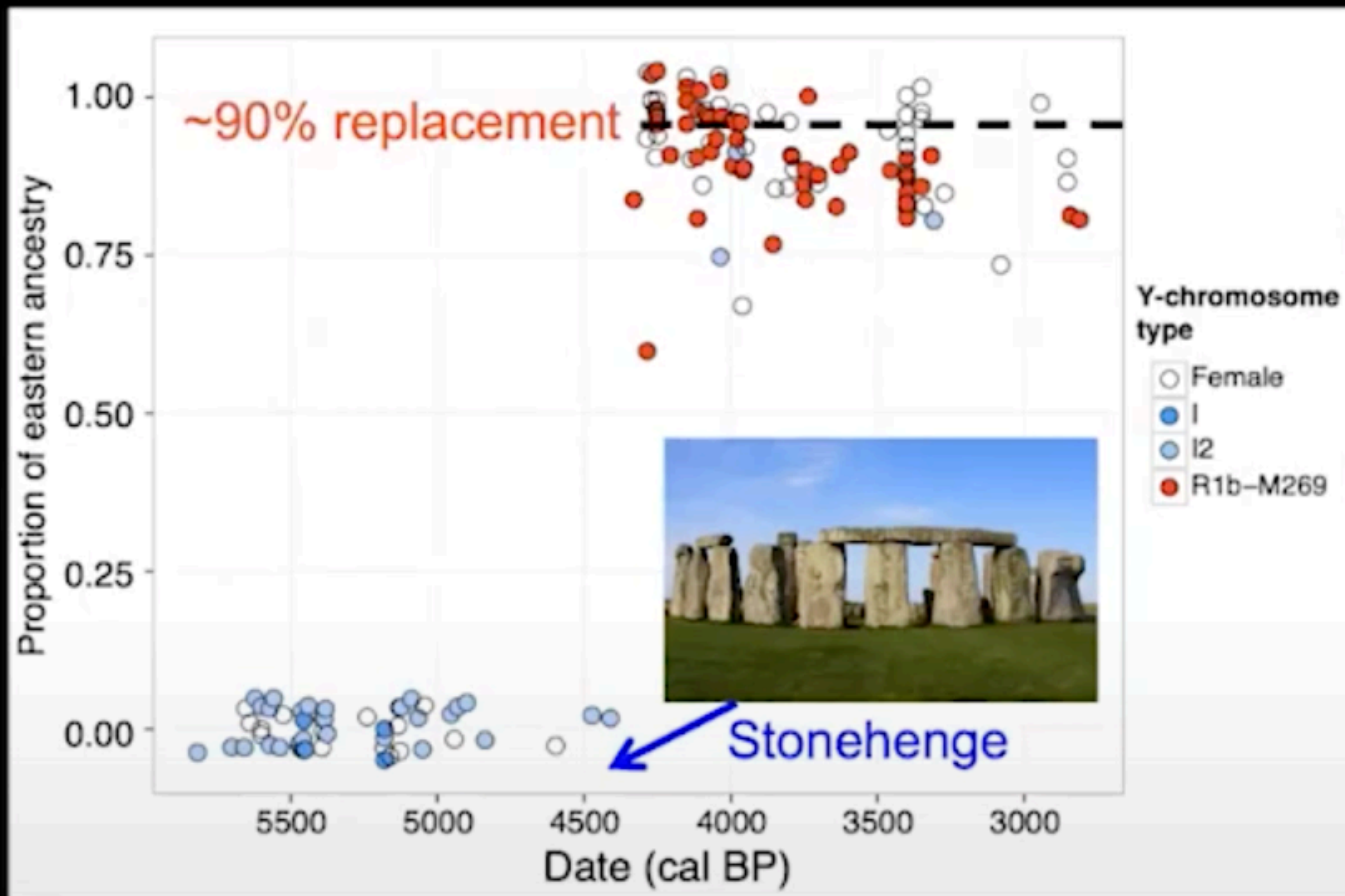
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Ancient DNA

Session 6 - November 2, 2022

Population Replacement Britain

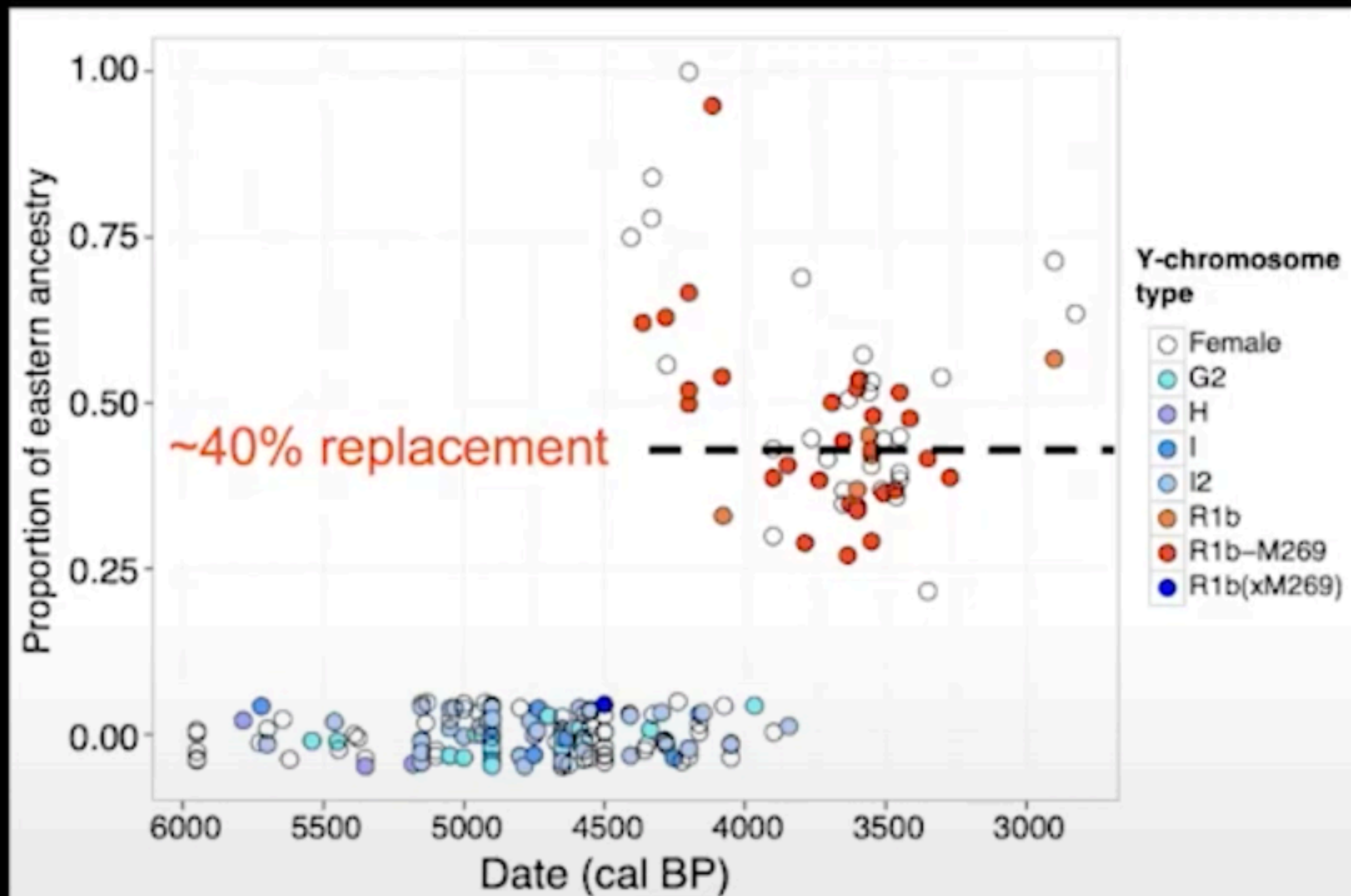
Britain



Population Replacement

Iberia

Iberia



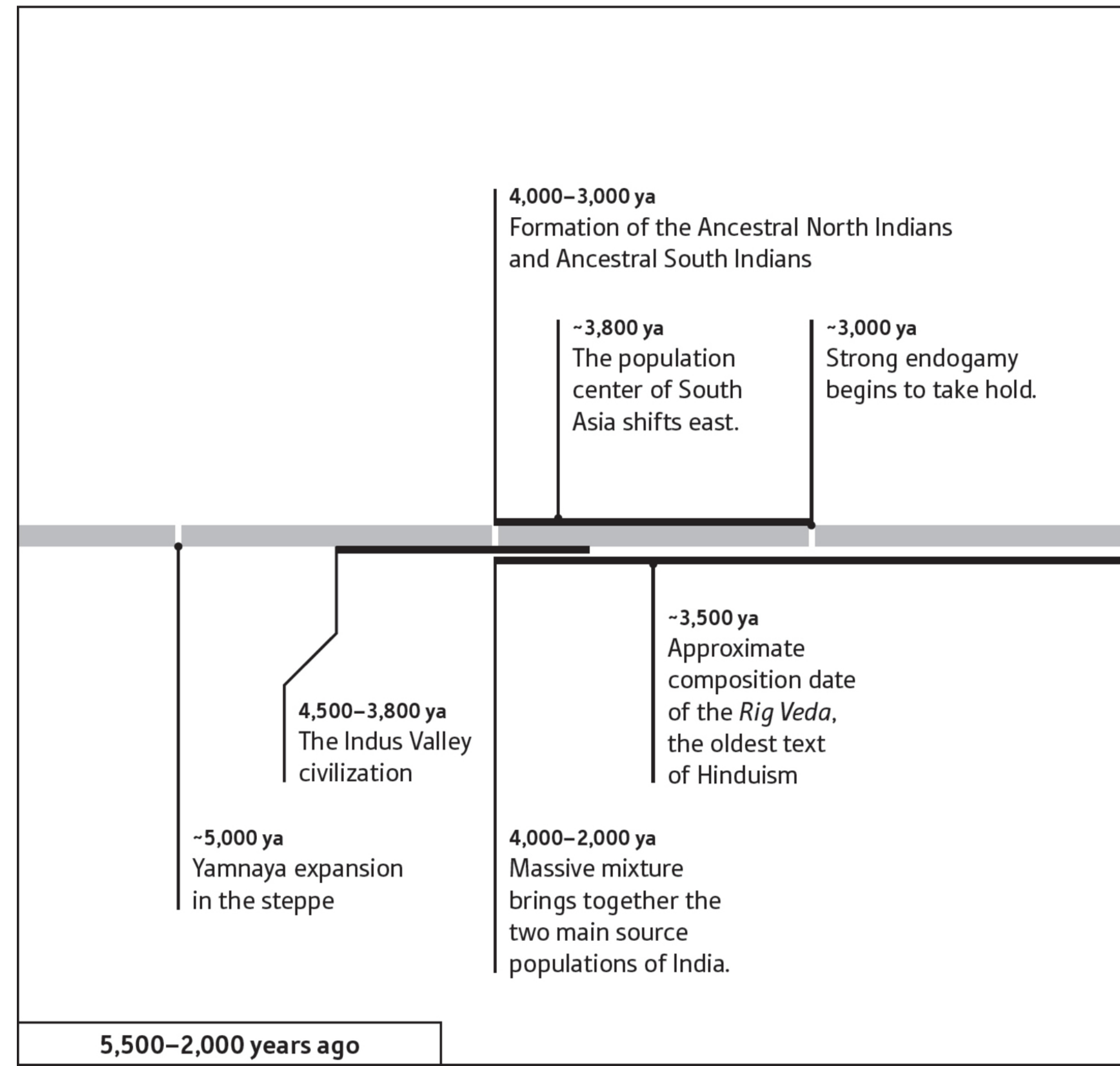
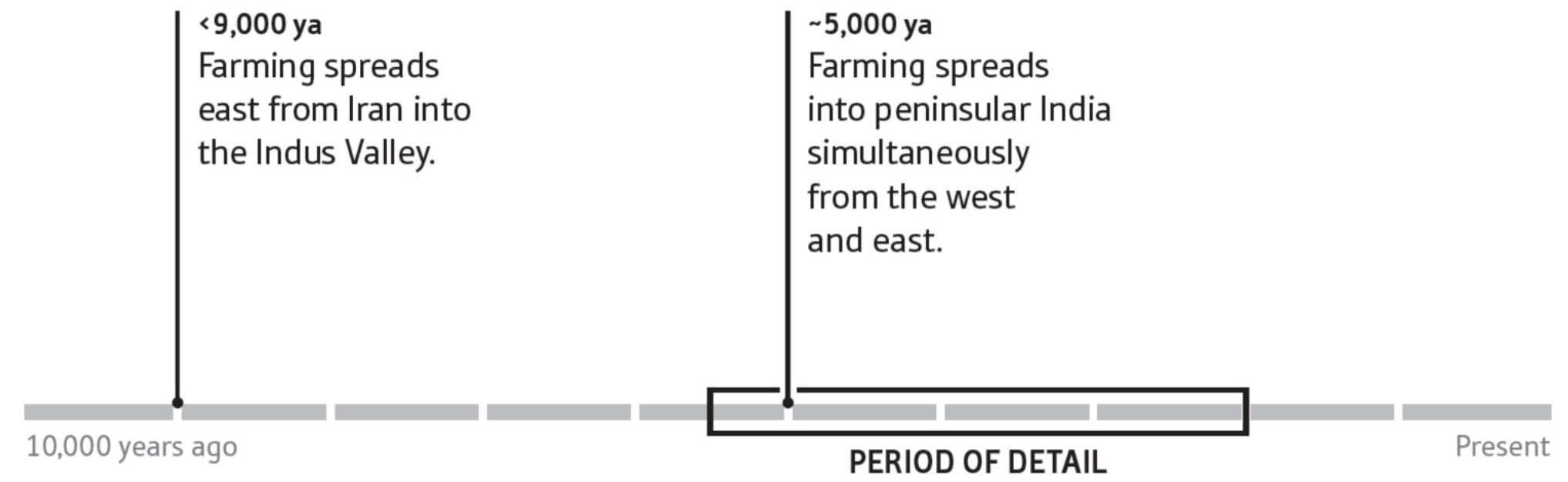
Population Replacement

Yamnaya in Europe

- Reich [Lecture at HHMI](#)
 - Video clip from 8:30 to 14:13

Ancient India Population History

South Asian Population History



Ancient India

Language Groups



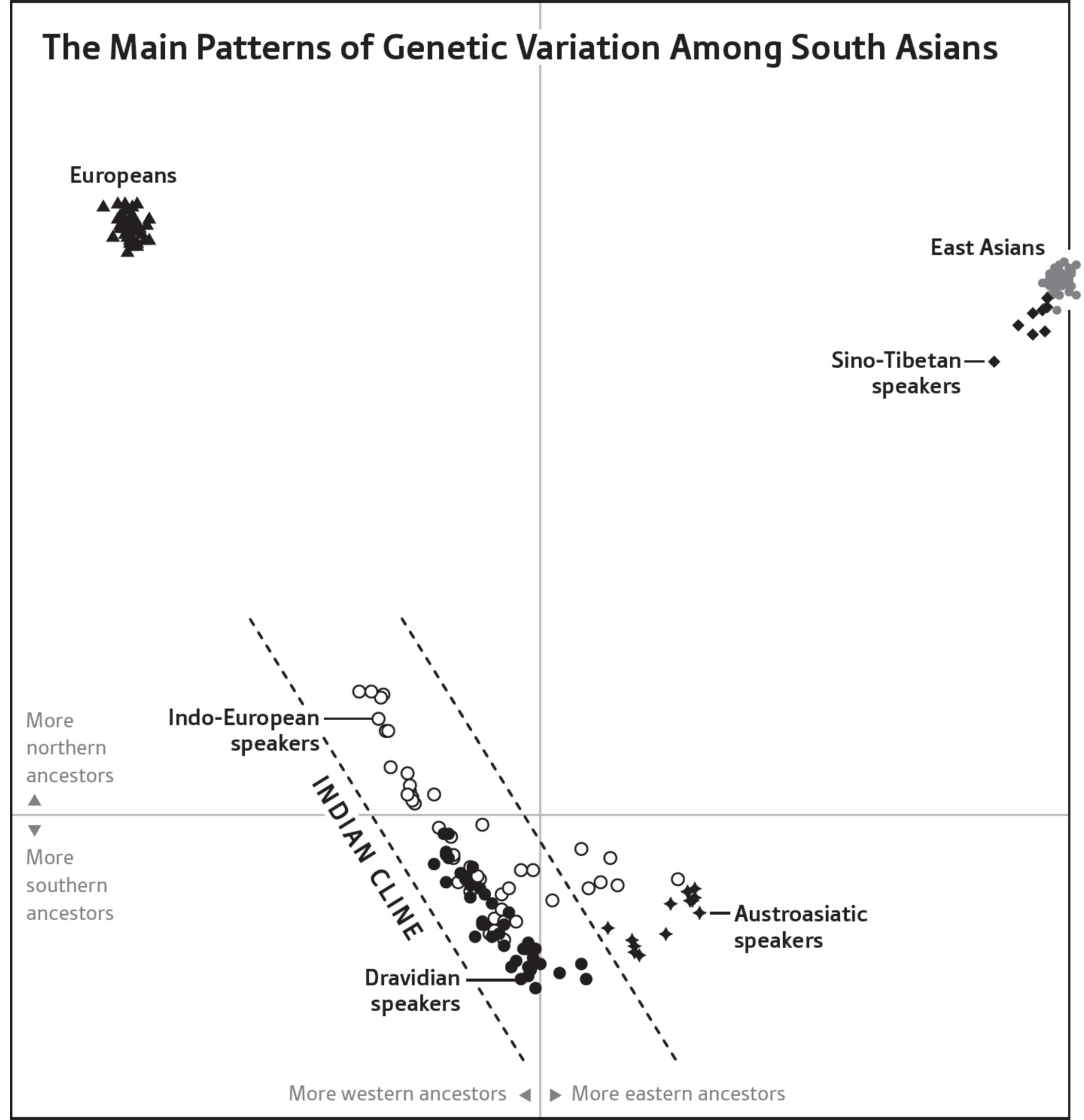
Ancient India

Caveats

- No ancient DNA from India is involved in this analysis. There is no ancient DNA (yet?) available.
- All the ancient DNA used in this analysis comes from West Eurasians, including Near Eastern farmers, and East Asians.
- Present-day DNA from Little Andaman Islanders is used as a proxy for ancient Indian DNA.
- Only DNA from present-day Indians is used in this analysis.
- The last section, with data released close to publication date for this book, somewhat alters the preceding story.

Ancient India

Indian Cline



Ancient India

- Indian population groups are a mixture of two ancestral populations:
 - Indians are intermediate in frequencies of genetic mutations between Europeans and East Asians.
 - This resulted from a mixture of ancestral populations of West Eurasian ancestry and an early-diverging lineage from East Asian ancestry.
- Subsequent mixture occurred between the Ancestral North Indian population and the Ancestral South Indian population.

Ancient India

- Almost every population group in present-day India has ancestry from:
 - Little Anadaman islanders.
 - Ancient Iranian farmers.
 - Ancient steppe peoples.
- Ancestral North Indians (ANI) were a mixture of 50% Iranian farmer ancestry and 50% steppe ancestry.
- Ancestral South Indians (ASI) were a mixture of 25% Iranian farmer ancestry and 75% local hunter-gatherers.

Ancient India

Parallels With Europe

- After 9000 YA, farmers from Anatolia migrated into Europe, and farmers from Iran migrated into India.
- Both interbred with established hunter-gatherers to form new mixed populations between 9000 and 4000 YA.
- Both subcontinents had a second major wave of migration that originated in the steppes of Central Asia.
- Yamnaya related pastoralists, speaking an Indo-European language, interbred with the established farmer populations.
 - In Europe, they formed populations associated with the Corded Ware culture.
 - In India, they formed the ANI.

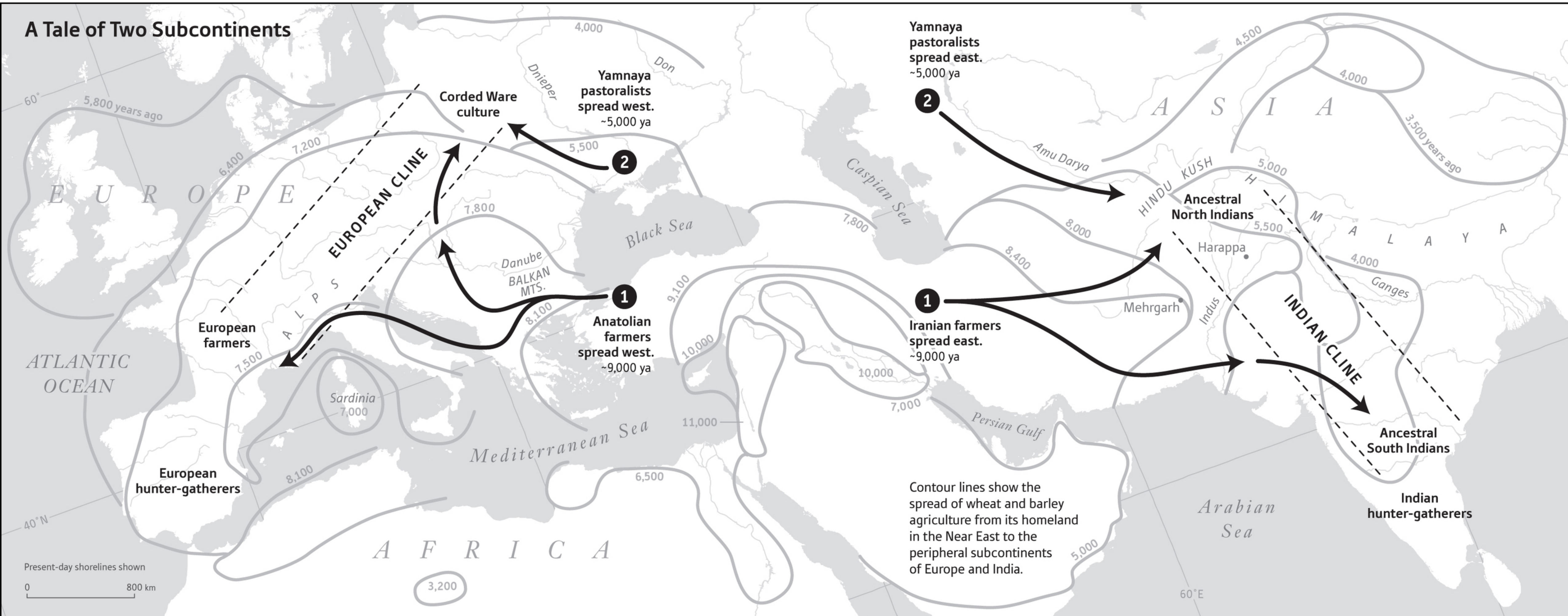
Ancient India

Parallels With Europe

- These populations of mixed steppe and farmer ancestry then mixed with other previously established farmers of their respective regions forming the gradients of mixture seen today - the European Cline and the Indian Cline.
- Spread of Indo-European languages by the Yamnaya and steppe related peoples into India:
 - Six groups in the Brahmin caste had a higher than expected ratio of steppe-related ancestry.
 - These groups had a traditional role as priests and custodians of the Indo-European language (Sanskrit) and culture.

Ancient India

Parallels With Europe



Ancient India

Parallels With Europe

Figure 18. Both South Asia and Europe were affected by two successive migrations. The first migration was from the Near East after around nine thousand years ago (1), which brought farmers who mixed with local hunter-gatherers. The second migration was from the steppe after around five thousand years ago (2), which brought pastoralists who probably spoke Indo-European languages, who then mixed with the local farmers they encountered along the way. Mixtures of these mixed groups then formed two gradients of ancestry: one in Europe, and one in India.

Up Next

- Chapter 7: In Search of Native American Ancestors.