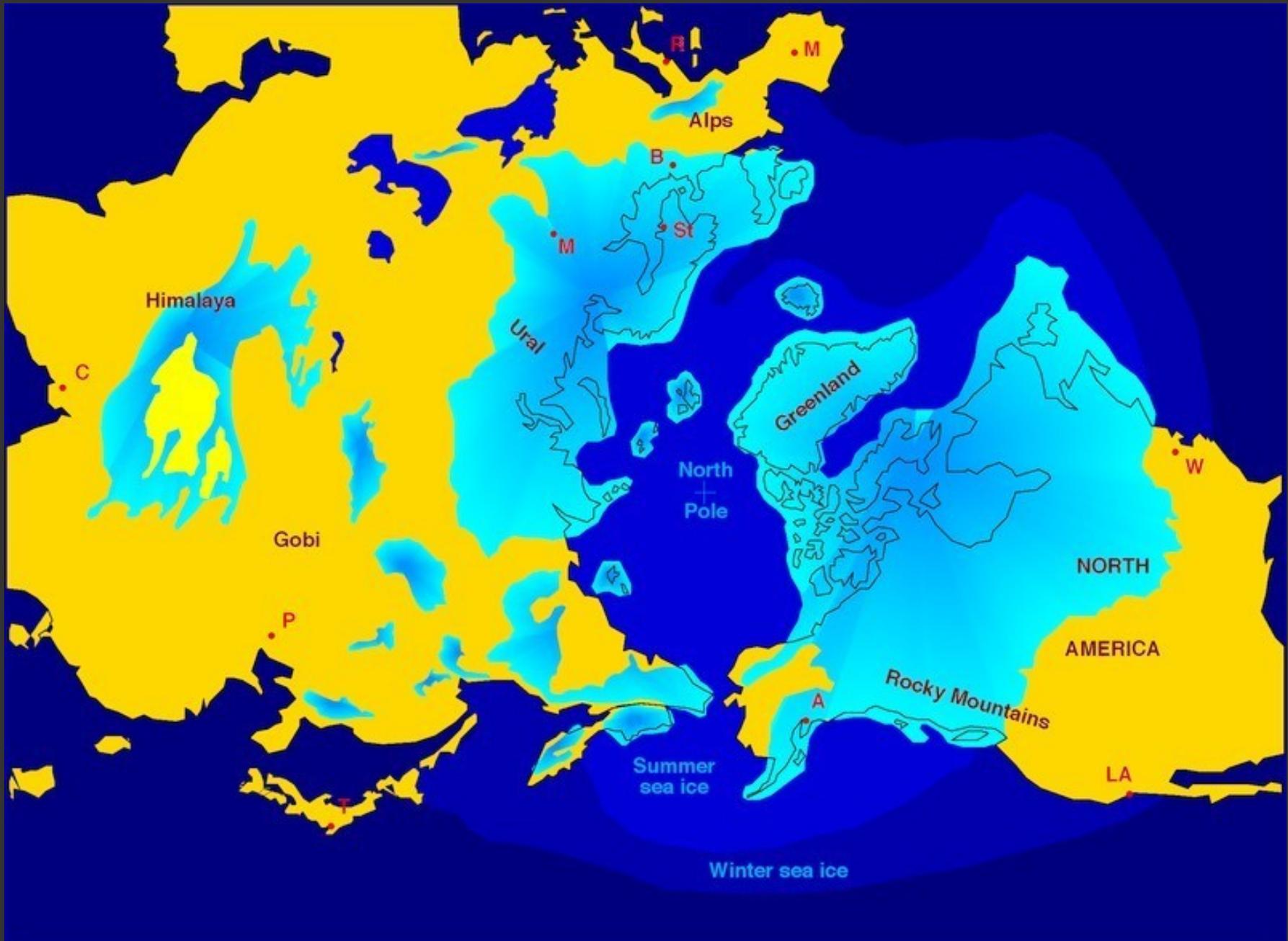
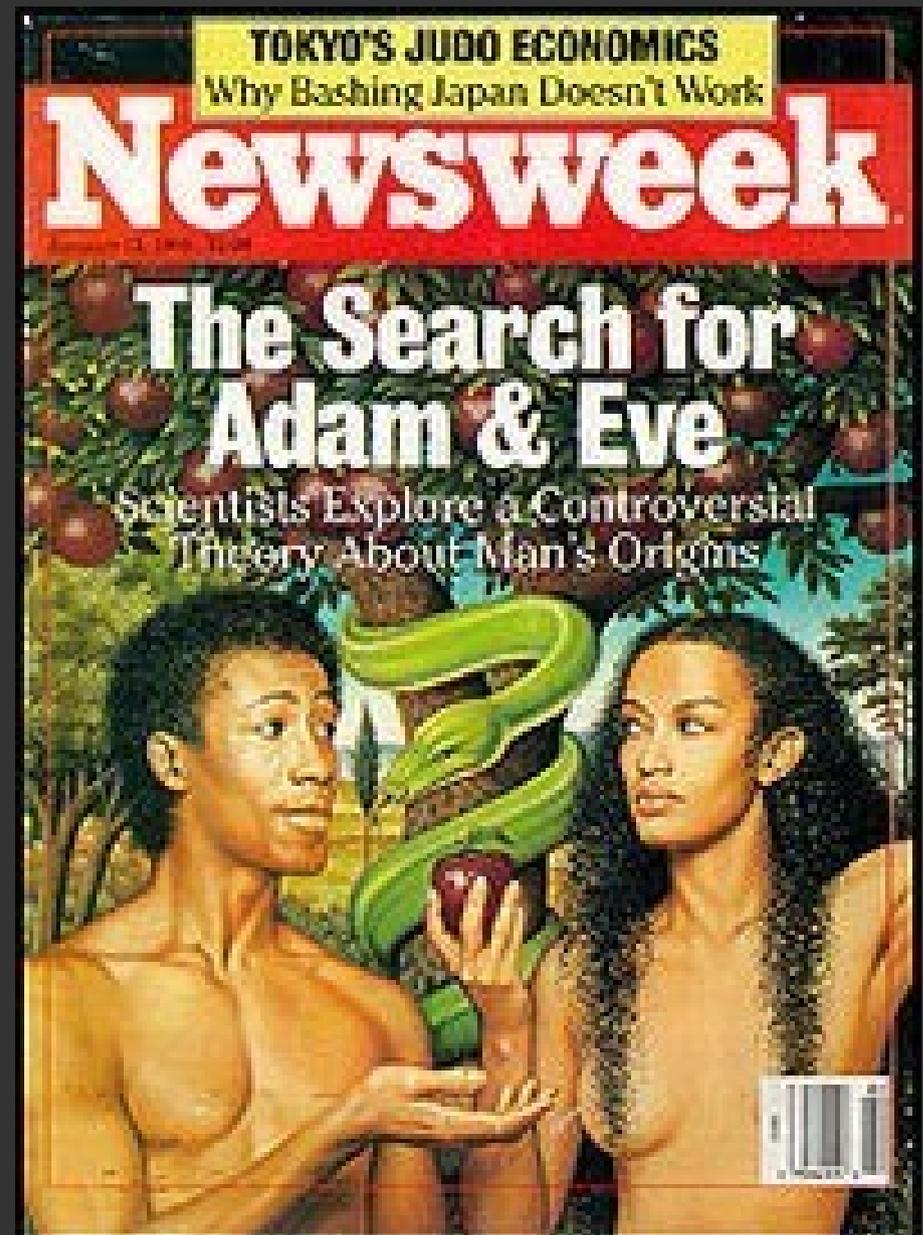
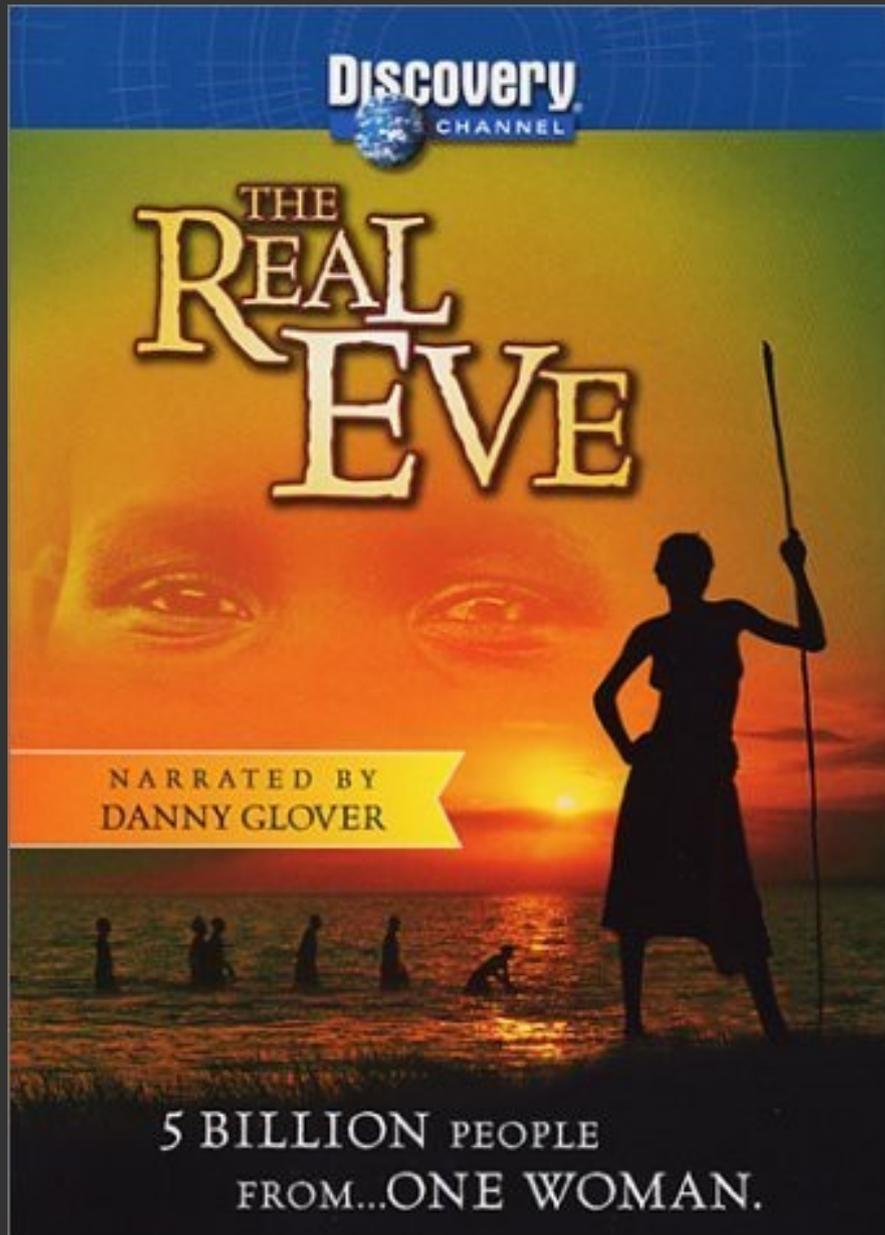


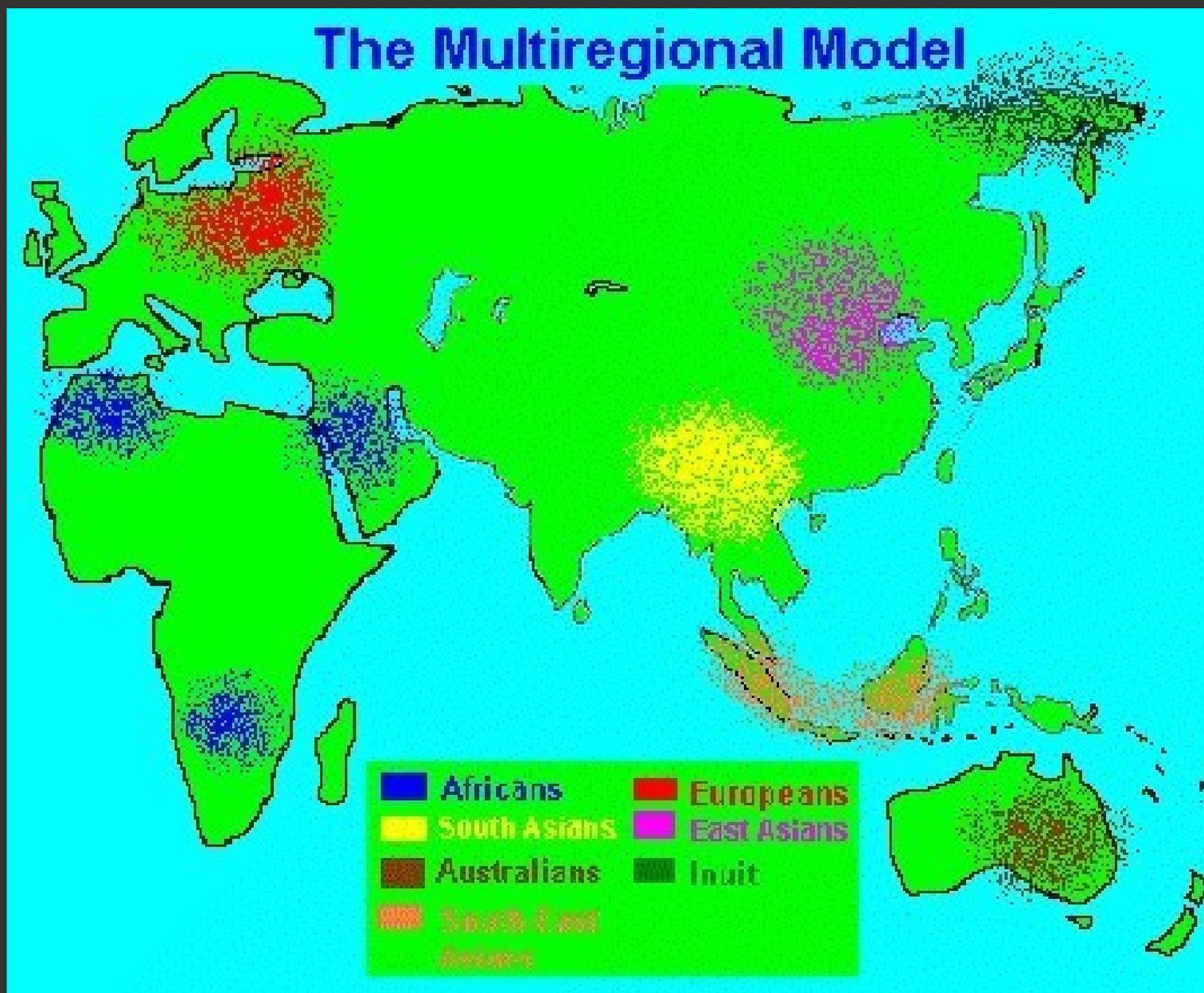
Glaciación y la edad de hielo



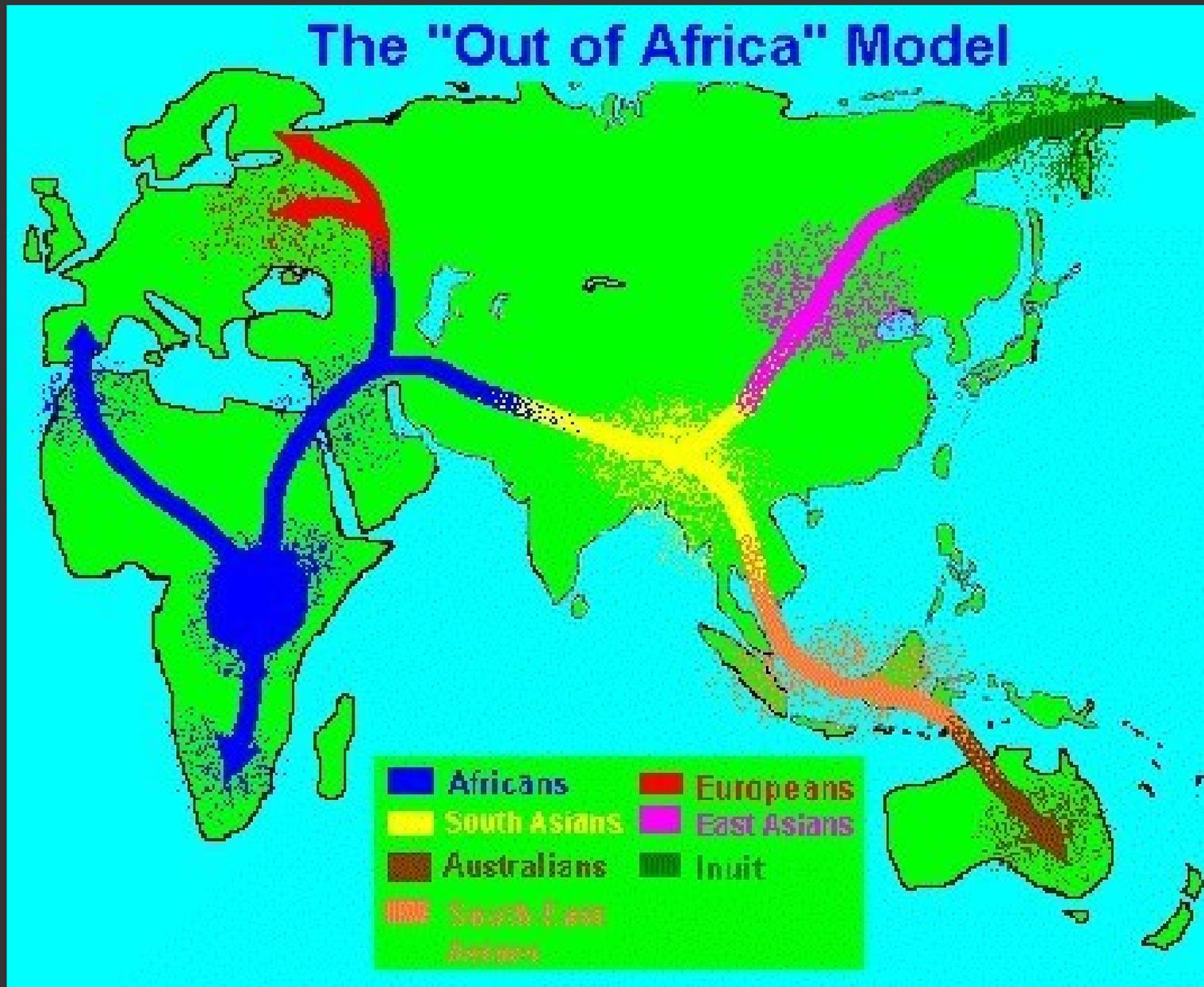
Eva mitocondrial y el modelo de Edén



Eva mitocondrial y el modelo de Edén

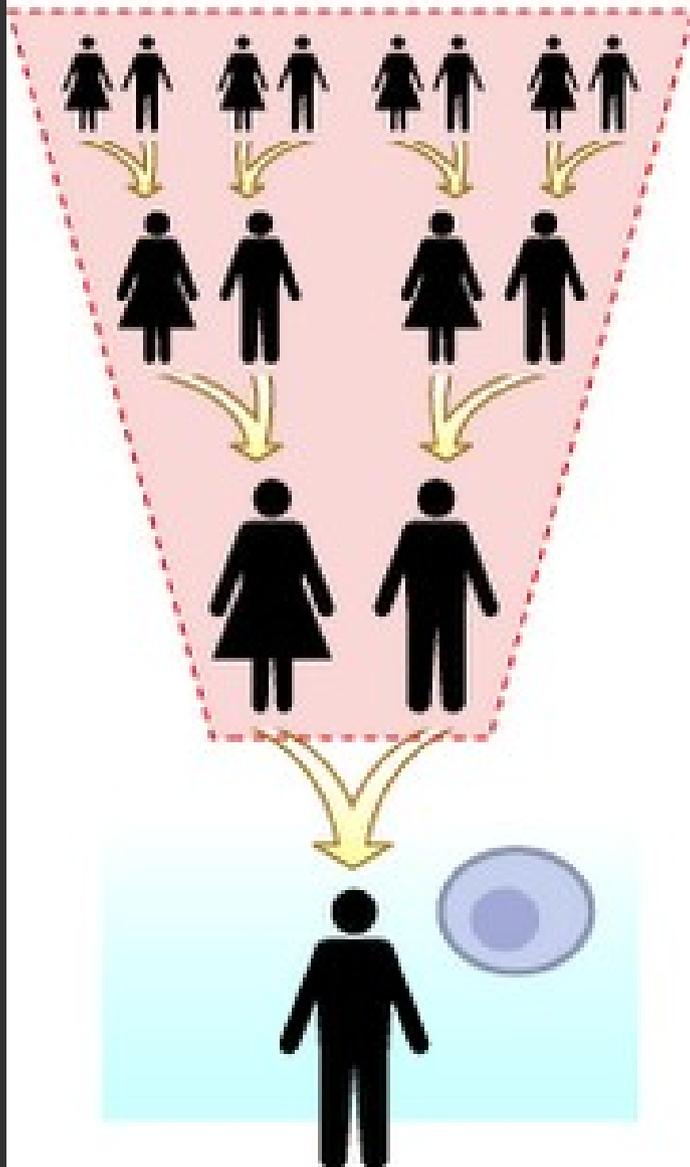


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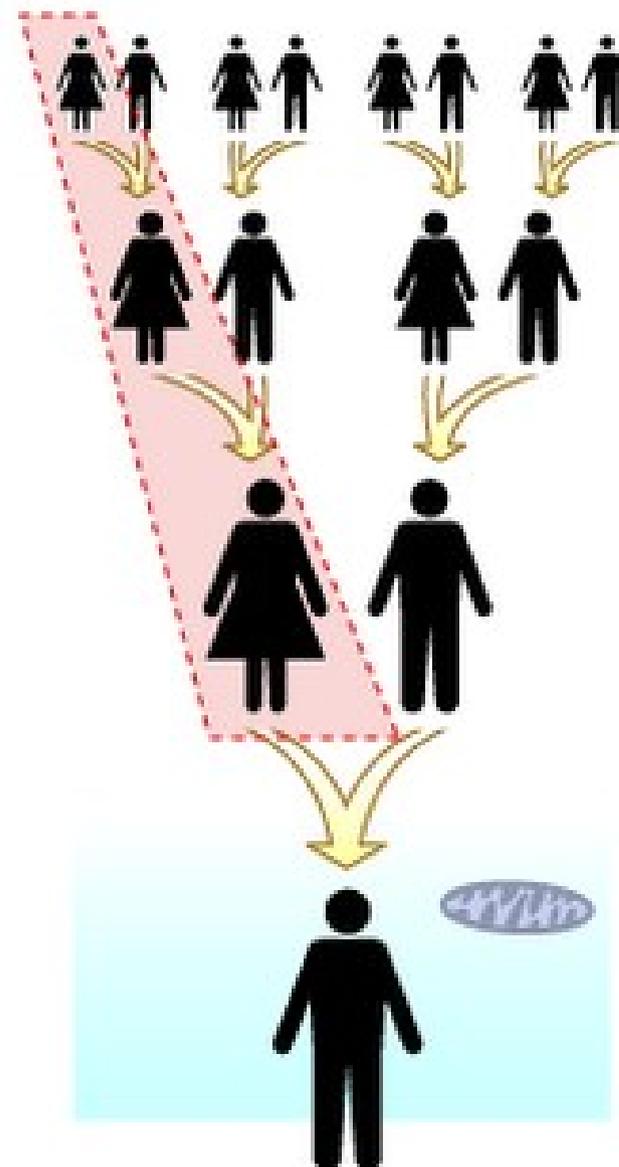


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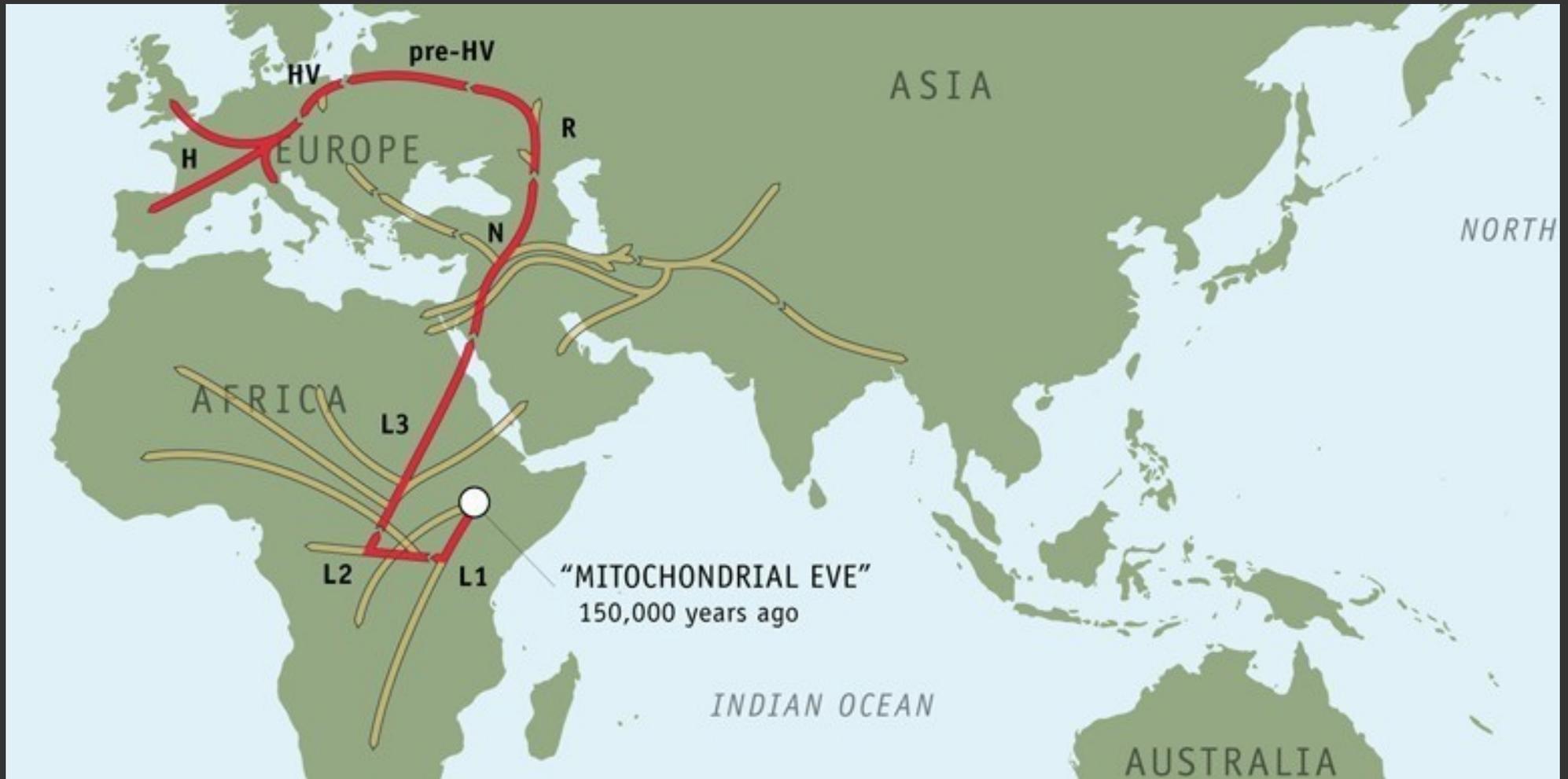
A. Nuclear DNA is inherited from all ancestors.



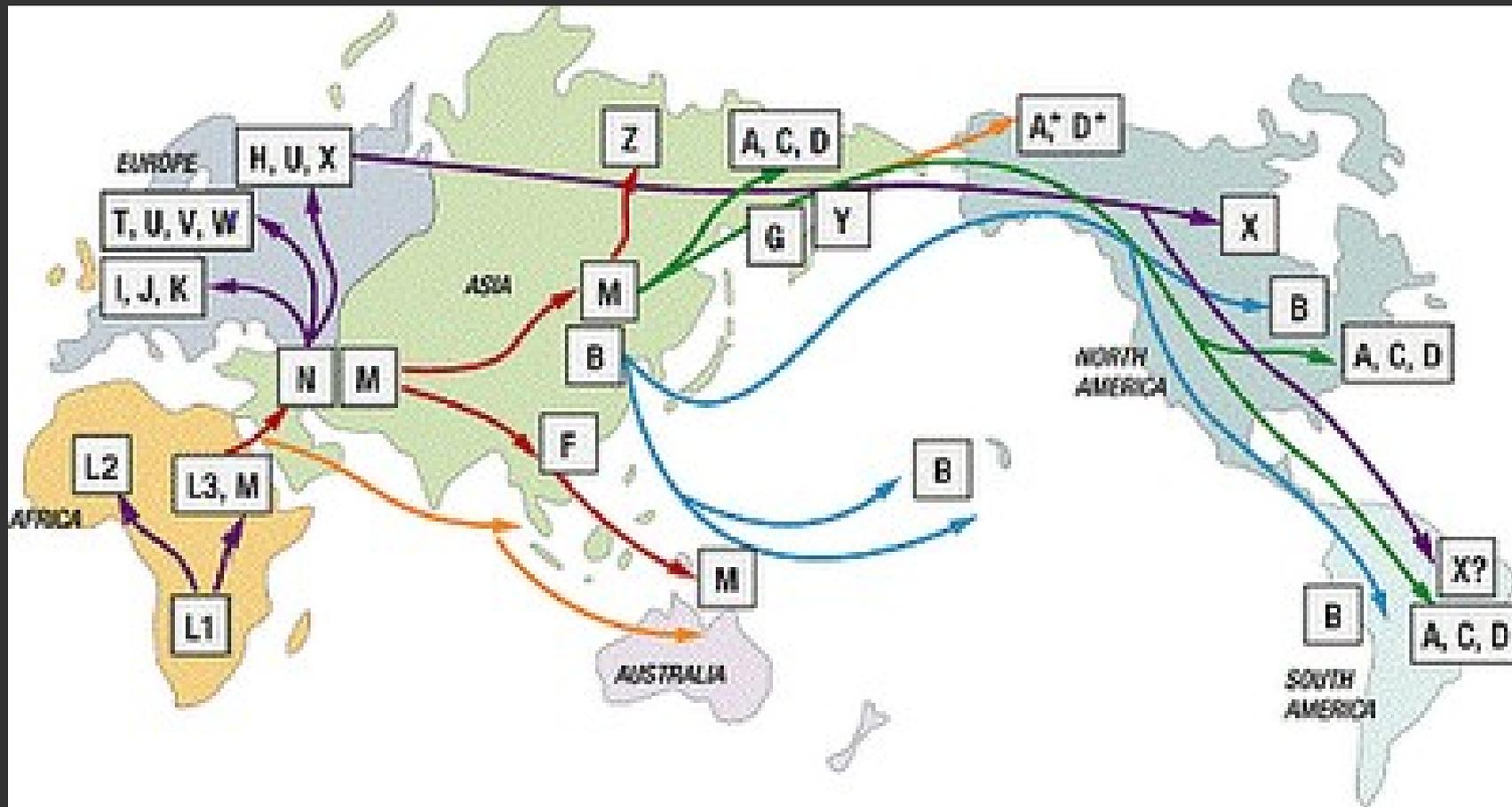
B. Mitochondrial DNA is inherited from a single lineage.



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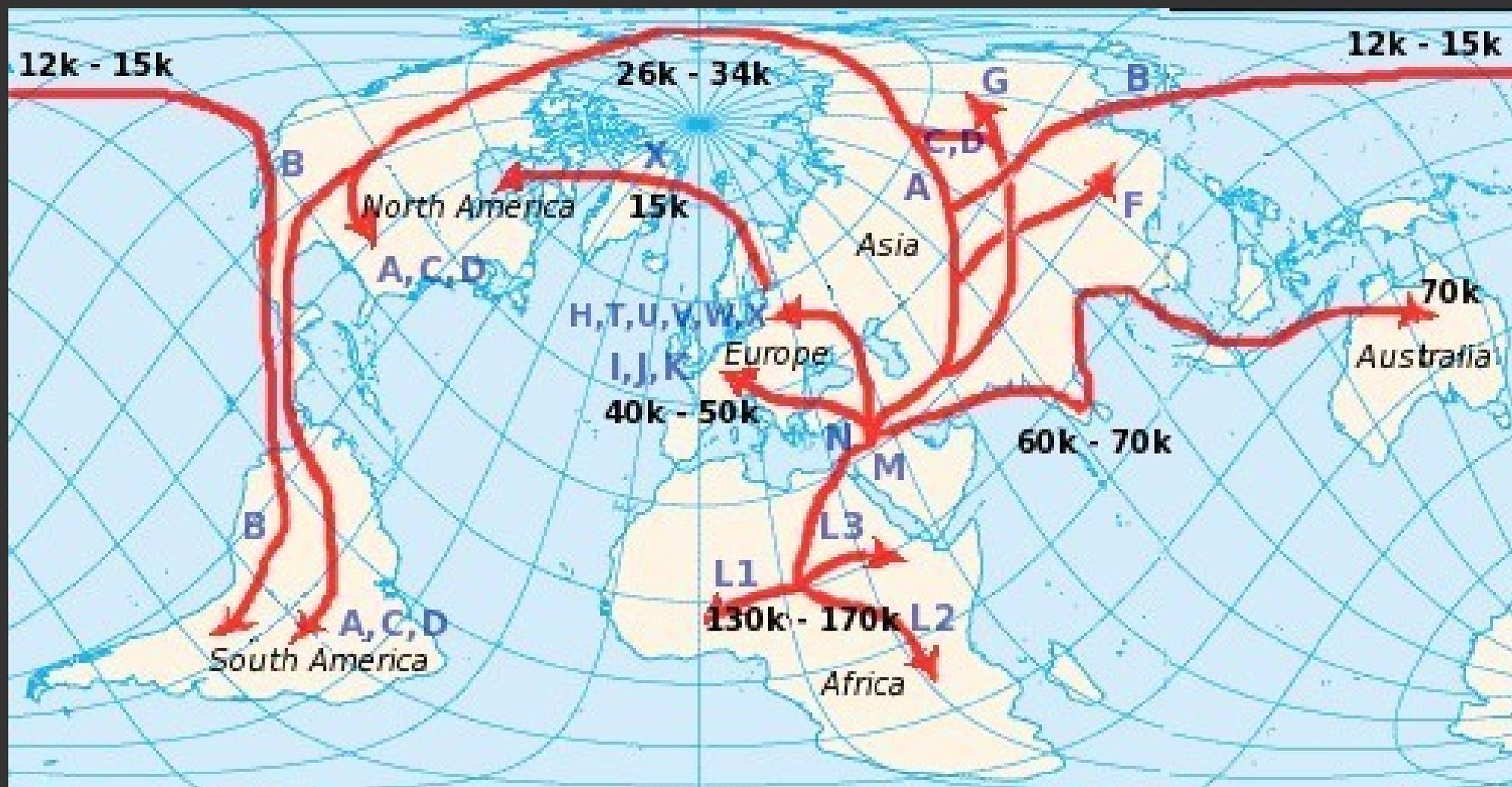
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EXPANSION TIMES (years ago)

Africa	120,000 - 150,000
Out of Africa	55,000 - 75,000
Asia	40,000 - 70,000
Australia/PNG	40,000 - 60,000
Europe	35,000 - 50,000
Americas	15,000 - 35,000
Ra-Dene/Esk/Aleuts	8,000 - 10,000

Eva mitocondrial y el modelo de Edén



Ancient history in the DNA

By comparing mutations in the DNA of people who live in different parts of the world, geneticists are developing new theories about how humans populated Earth. The evidence points to a common African origin about 150,000 years ago. Much of the work has been based on maternal lines.



Venus of Lespugue
 Found: Lespugue, France
 Dated: 20,000 years ago

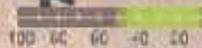
Neuse pendant
 Found: Sungir, Russia
 Dated: 26,000 years ago

Roots in Central Asia



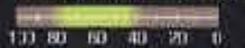
All Asians derived from two common roots, with some lineages more frequent in southern Asia (Vietnamese, Malays, New Guineans) and others more prevalent in the north (Tibetans, Koreans, Siberians).

The first Europeans



Migrants arrived from the Near East as early as 50,000 years ago. The population shrank drastically during the last Ice Age 20,000 years ago, then rebounded. About 3,000 years ago, migrants from the Middle East moved north along with the spread of agriculture.

Many paths through the Middle East



Humans journeyed from Africa into the Middle East about 75,000 years ago. Over thousands of years, in multiple migrations, they spread east into Asia and northwest into Europe.

Africa, the ancestral home



The DNA of present day Africans is more diverse than that of people on other continents, indicating that humans have lived there longest. Traces of ancient African genes can be found in everyone living today.

Key
 Dotted arrows show hypothetical routes.
 Colored arrows represent separate genetic lineages.

Scale: Major migrations in thousands of years before present.

Ancient civilizations

Stone tools
 Found: Cactus Hill, Virginia
 Dated: 15,000 to 10,000 years ago

Land bridge between continents

A bridge to the New World



The first inhabitants of the New World migrated from central Siberia 20,000 to 30,000 years ago along the Bering land bridge. They may have been joined by a second migration 15,000 years ago that skirted the coast. Na-Dene people, who include the Athabascans, Apaches, and Navajos, are genetically distinct from the first American Indians, and came from northern Siberia about 9,000 years ago. Eskimos and Aleuts arrived 4,000 to 5,000 years later.

Along the Andes to Tierra del Fuego



The earliest migration swept from Siberia to Tierra del Fuego, traveling along the Andes. Another route curved farther east, to present-day Brazil.

The X factor

A small group near the Beringia lineage (the one that includes those who became European) archaeologists believe crossed the Atlantic ice land bridge (the factor in the vanished A...

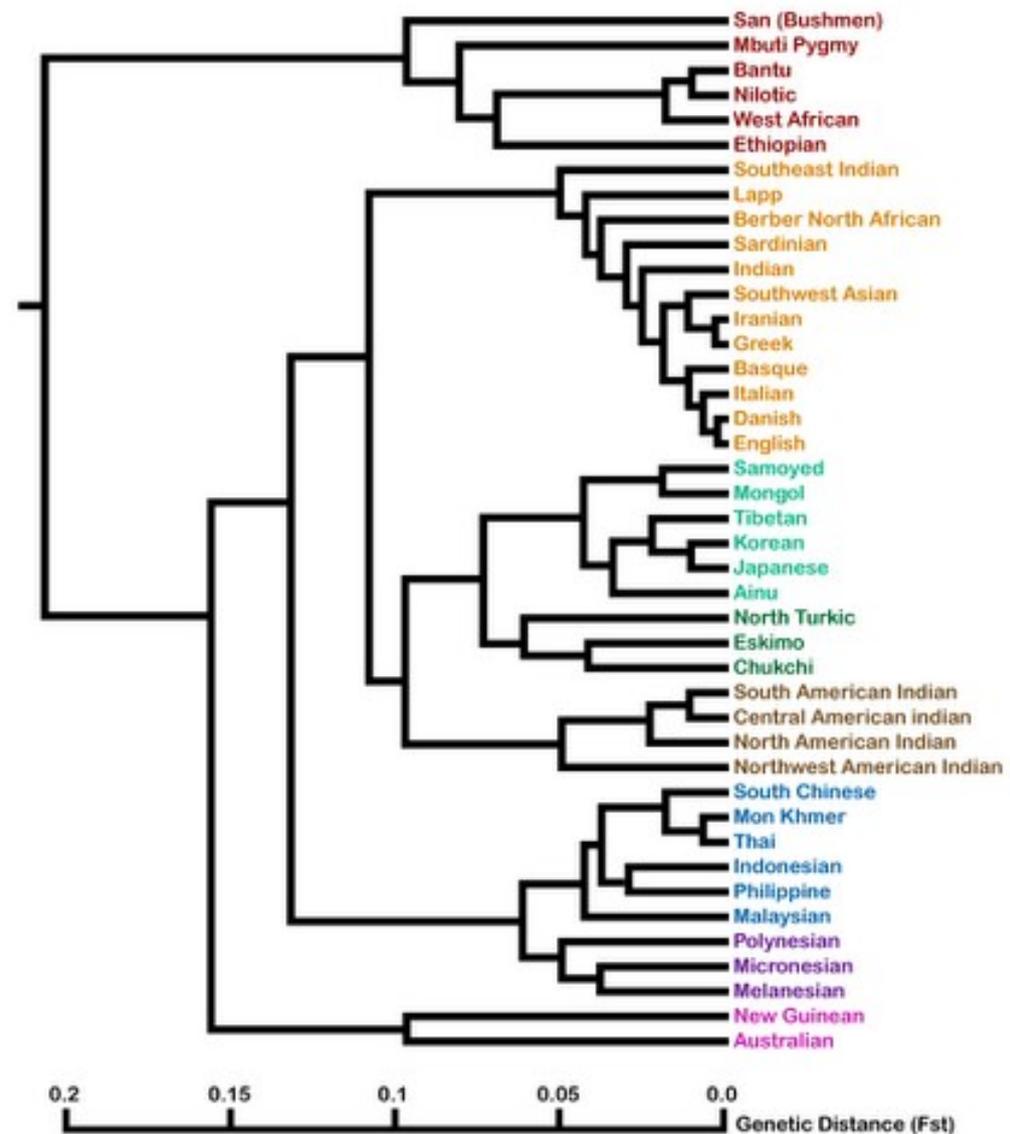
For most of years, sea level was 100 feet lower than it is today.

Early Homo sapiens skull
 Found: Drino River, Ethiopia
 Dated: 125,000 years ago

Red ochre burial
 Found: Mungo National Park, Australia
 Dated: about 60,000 years ago

Throwing stone
 Found: Monte Verde, Chile
 Dated: 14,800 years ago

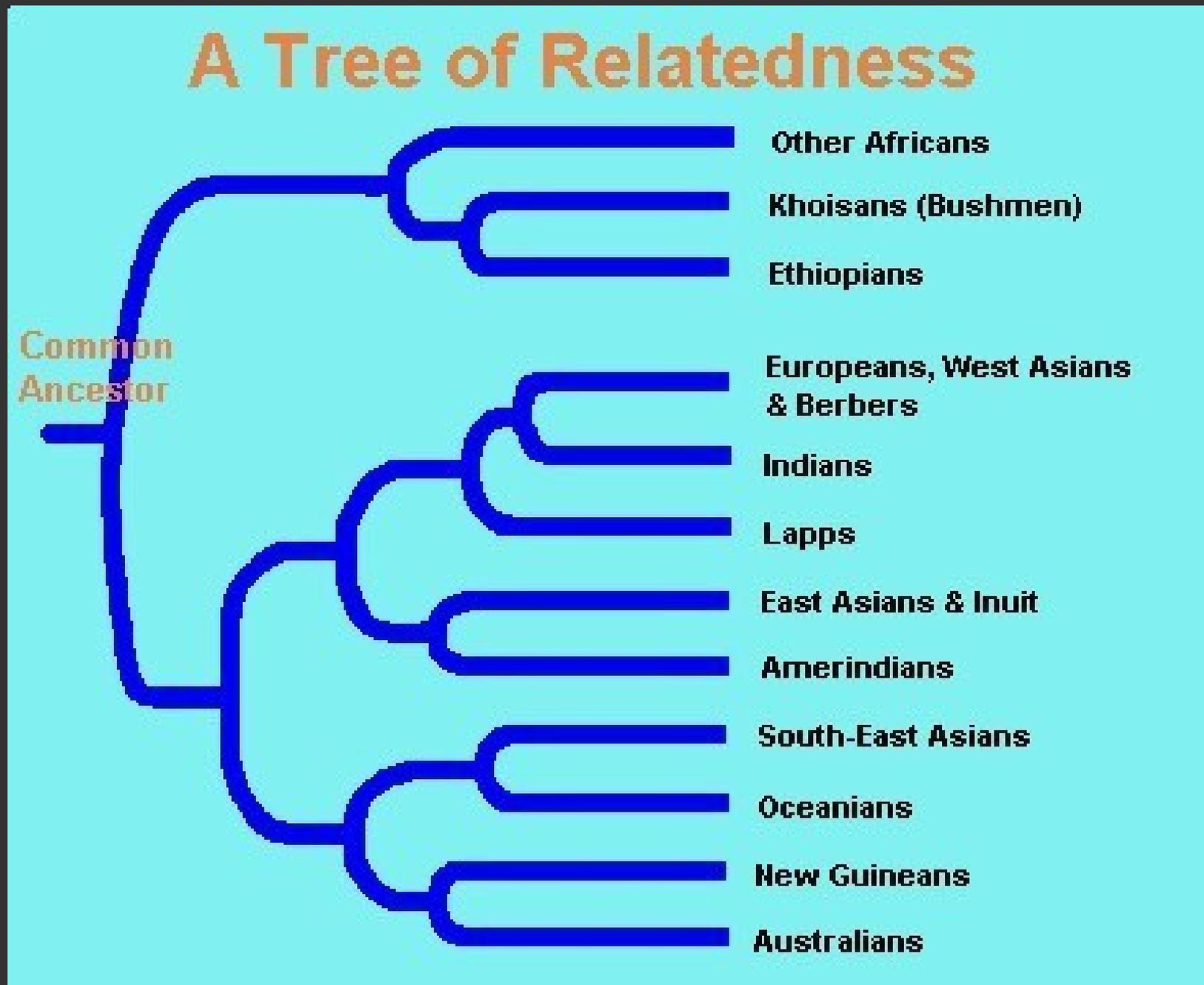
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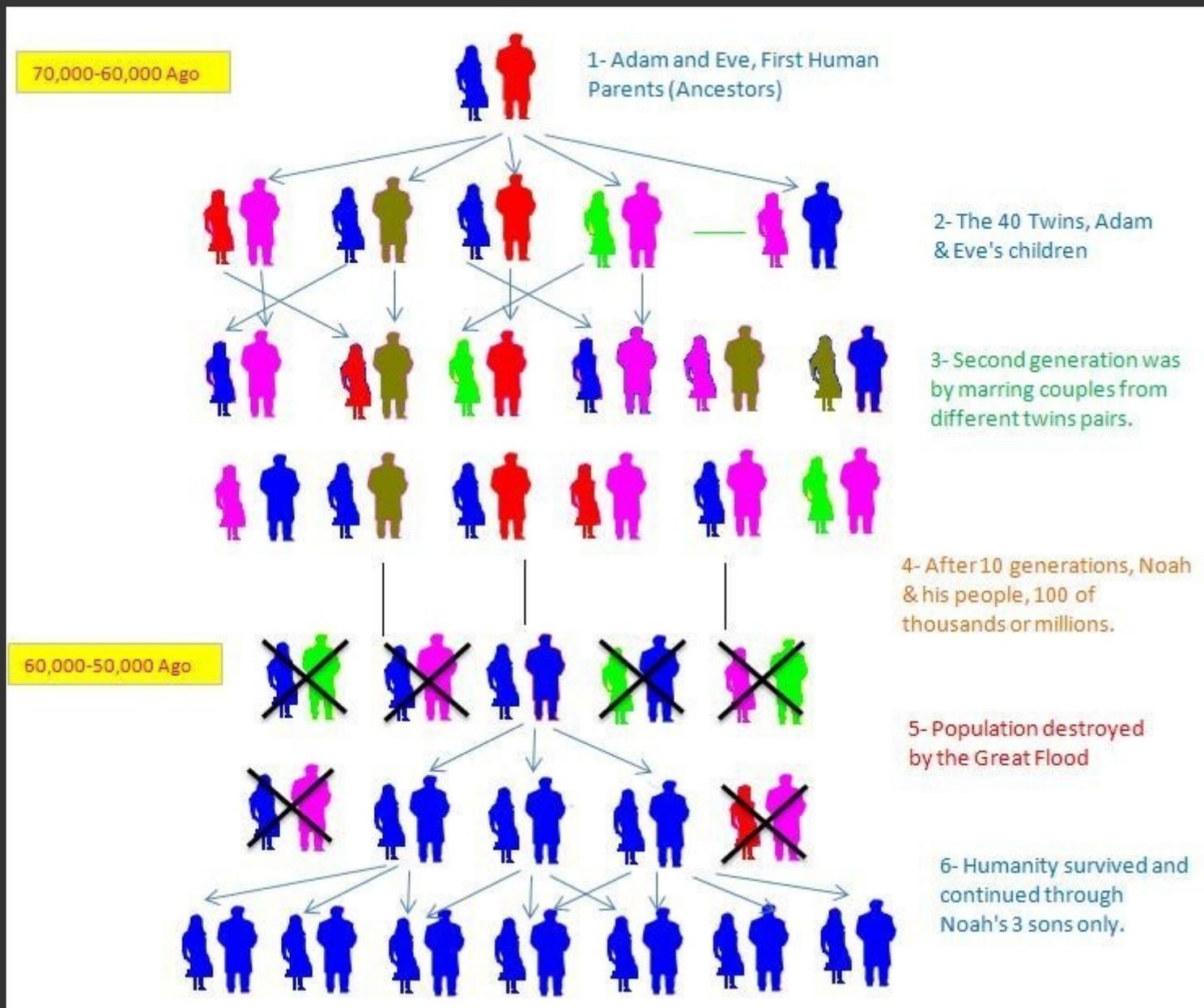
- African
- Caucasoid
- Northeast Asian
- Arctic
- American
- Southeast Asian
- Pacific Island
- Oceanian

The genetic linkage tree for forty-two populations. The genetic distance between any two groups is represented by the total length of the line separating them. Each color represents one of the eight genetic groups to which all human populations belong. (Adapted from Cavalli-Sforza, Menozzi and Piazza, 1994.)

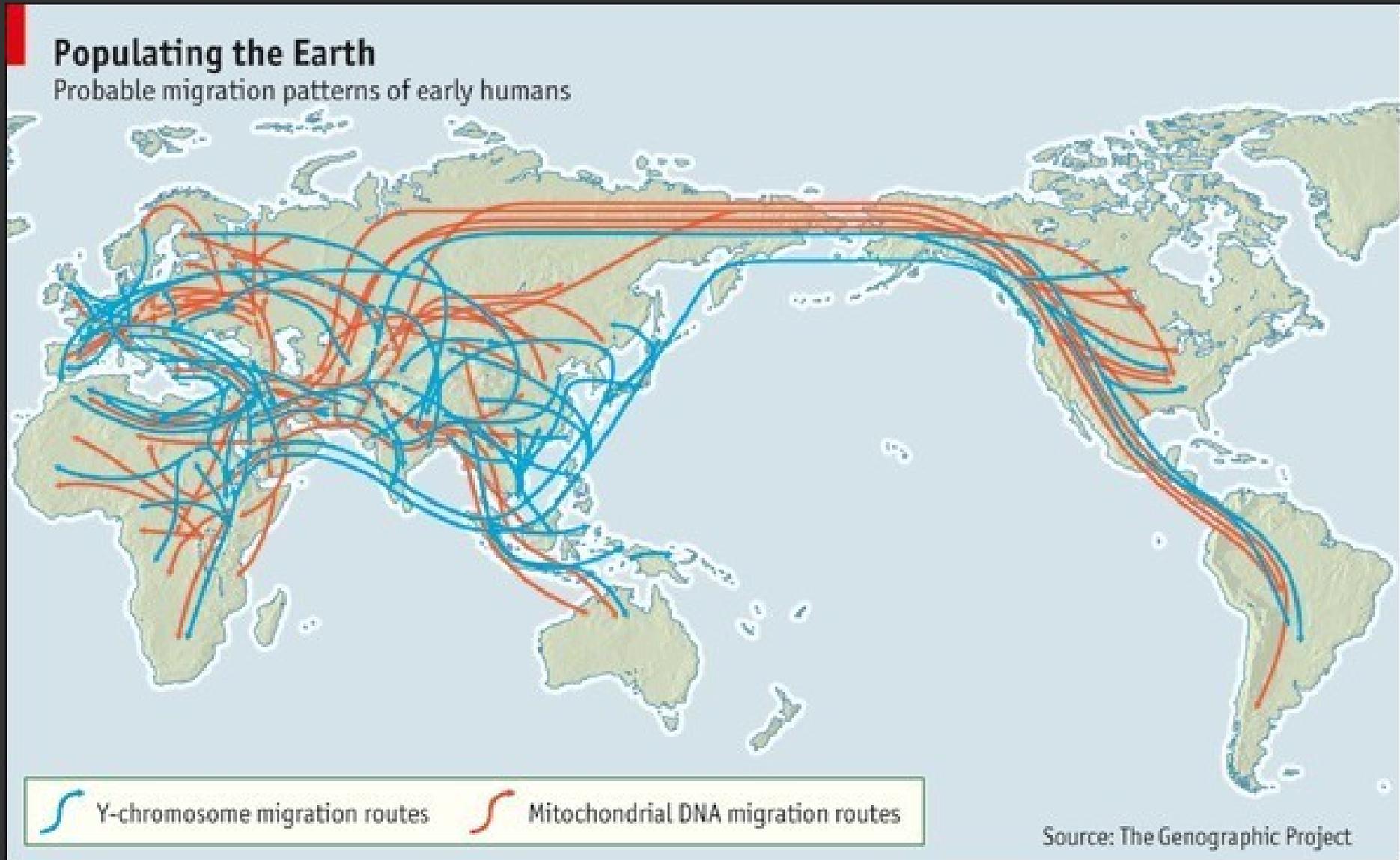
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Adán Y-cromosomal



Adán Y-cromosomal / Eva mitocondrial



Adán Y-cromosomal / Eva mitocondrial

