# Family trees of languages

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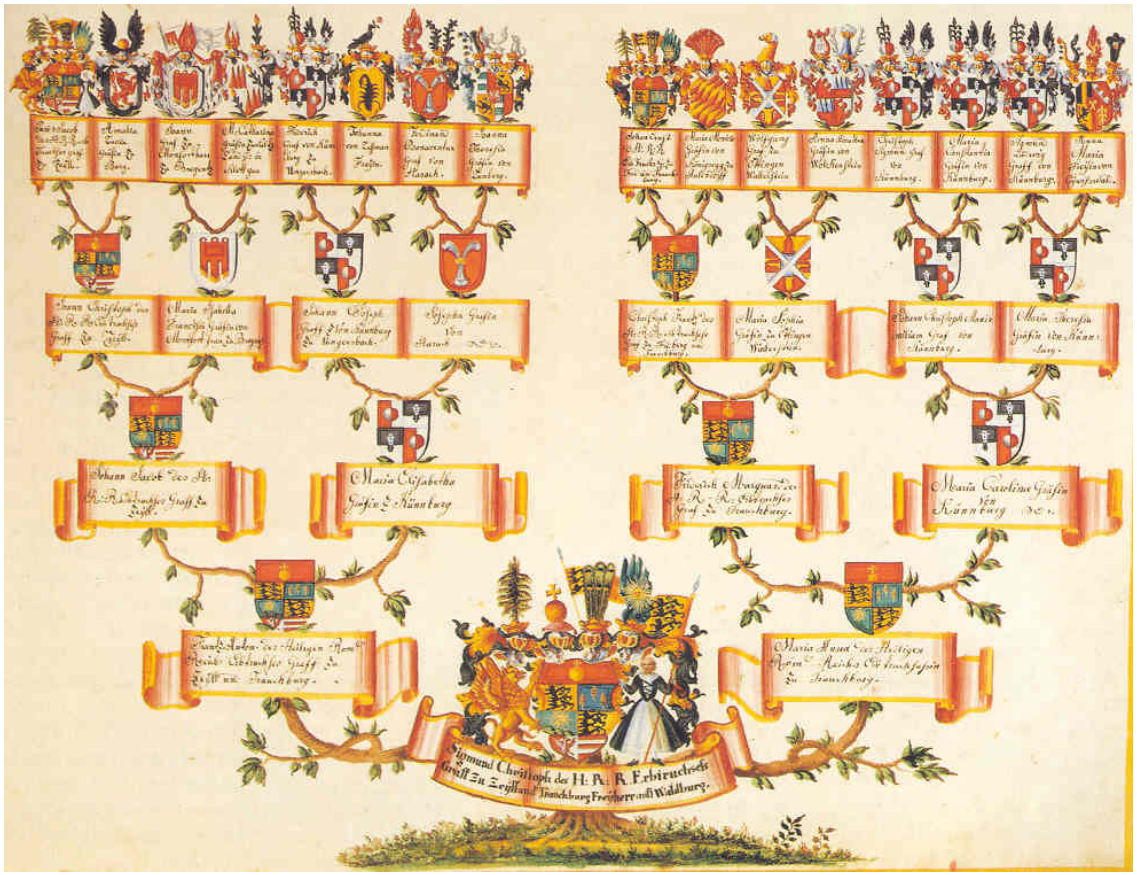
# Introduction

We use a family tree to represent the relations of people in a family.



But what about languages?

# Languages evolve in their own ways

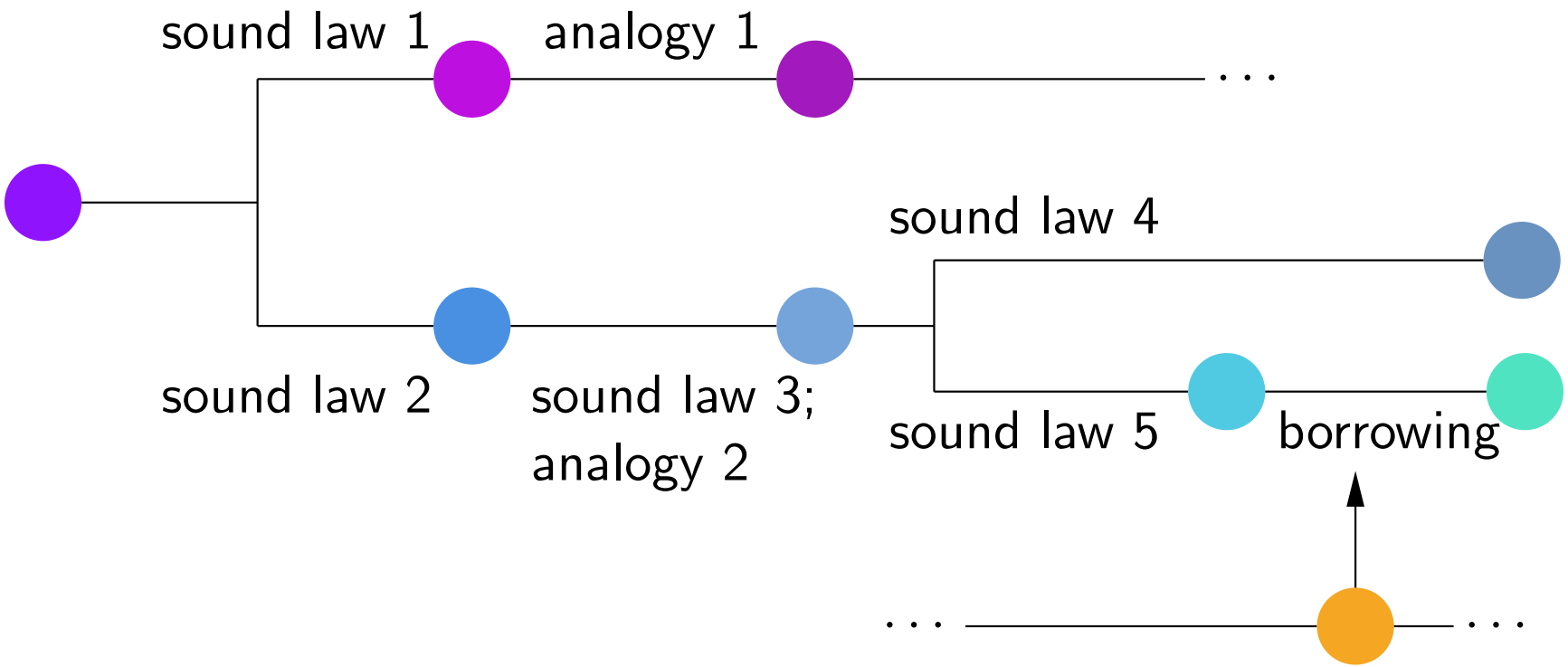
**History of language $\neq$ history of people**

- Linguistic generic relation $\neq$ blood relation

"**Neogrammarian hypothesis**": changes can only arise from

- Regular sound laws: $p > f$ (in *all* words when surrounded by certain other sounds)
- Borrowing: Arabic *ṣuffa* > French *sofa* > English *sofa* > Mandarin Chinese *shāfā*
- Analogy (self-regularization): do you know once people said *baken* instead of *baked*?

# The tree model of language evolution




In short, it's like a family tree of microbes.

# The comparative method

1. Finding regularly corresponding sounds in languages:

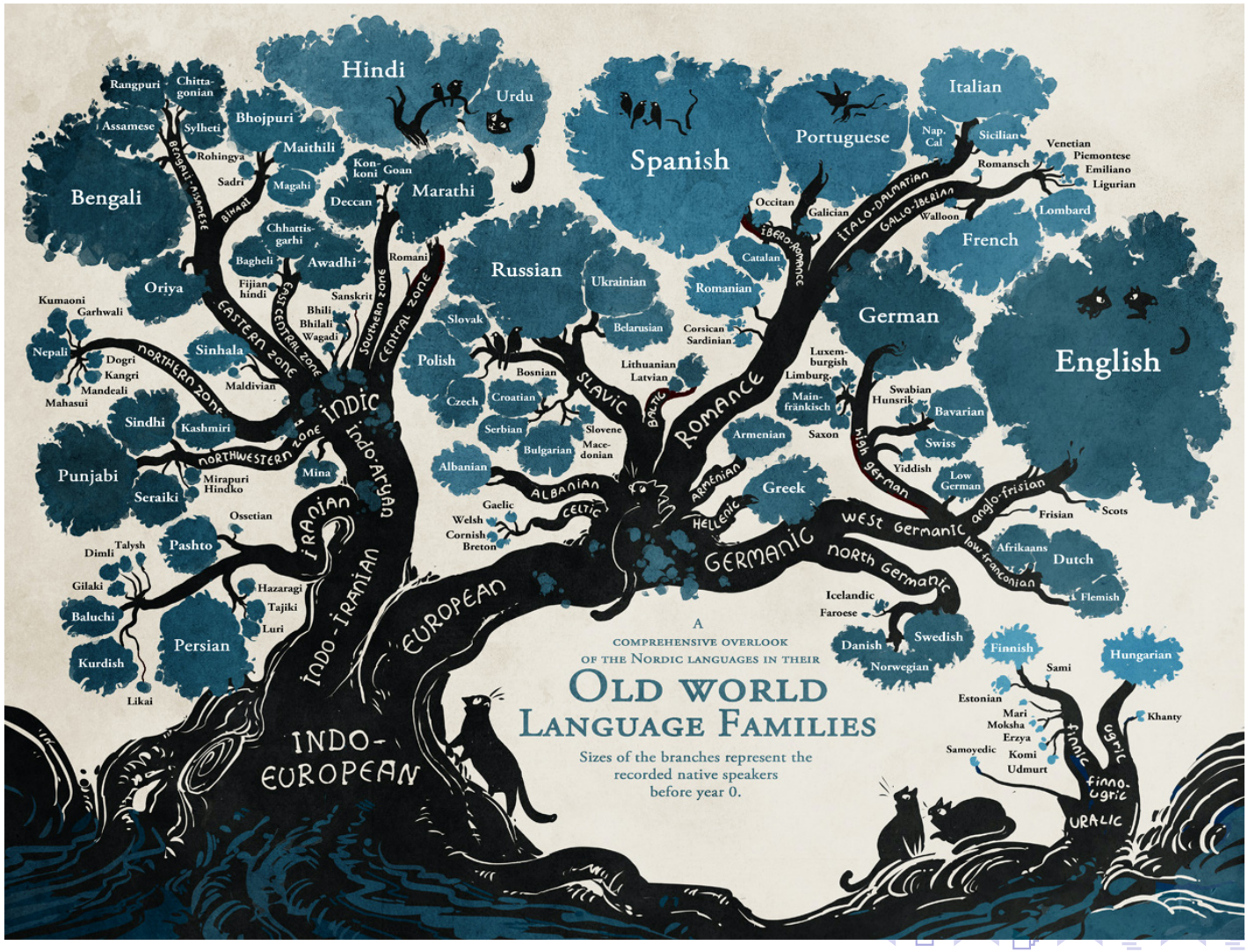
| | | | | | |
|---|---|---|---|---|---|
| **English** | ten | two | tow | tongue | tooth |
| **Latin** | decem | duo | dūco | dingua | dent- |

   Borrowed words can be kicked out in this step.
2. Finding complementary distribution – it means a sound historically split into two with different surrounding sounds
3. Reconstruct proto-sound
4. Compare shared mutations to draw a family tree

# Some family trees

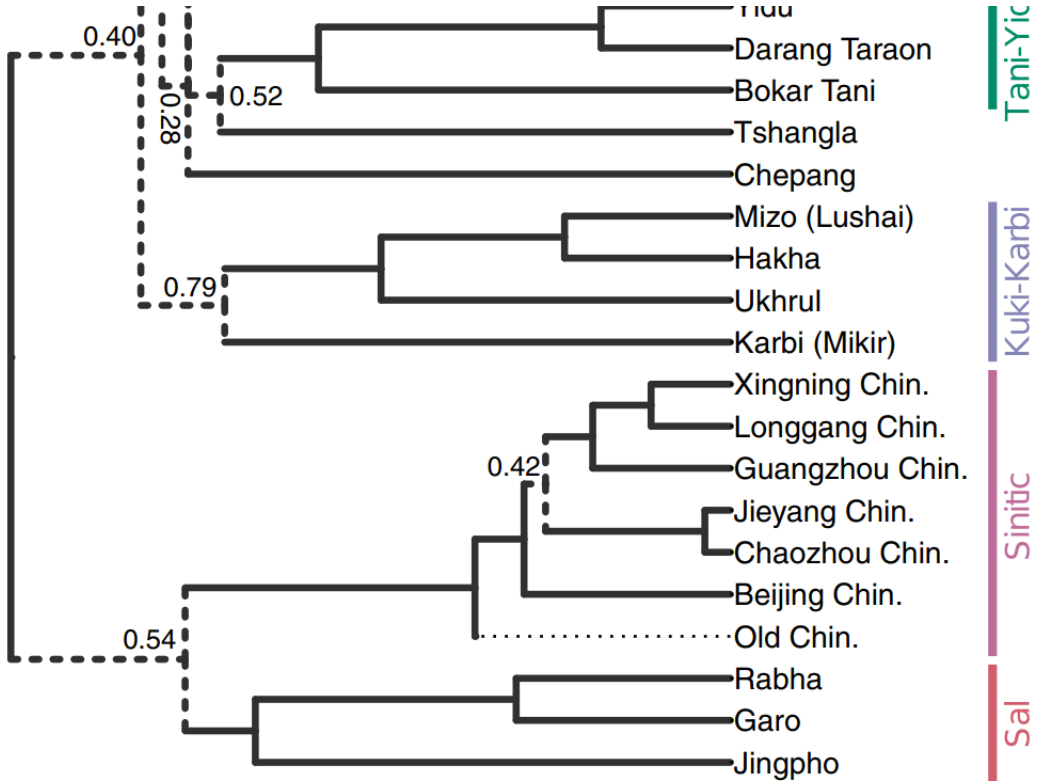
## Indo-European

A very, very large family (figure from here)



# Some family trees

## Sino-Tibetan



# Conclusion

- Languages have their own way of historical development, quite similar to the case of microbes
- This fact can be used to build family trees of languages
- Linguists have already reconstructed several family trees for famous world languages