Systemic structure of kinship is shaped by evolutionary processes

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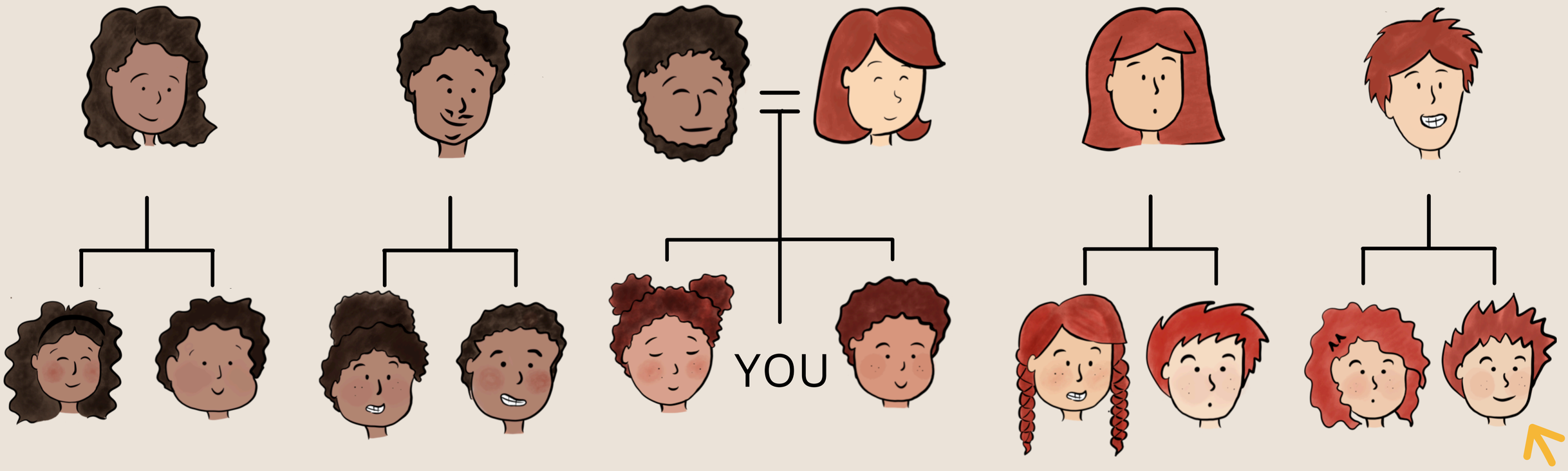


Kinship systems vary crosslinguistically, but that **variation is highly constrained**[1].

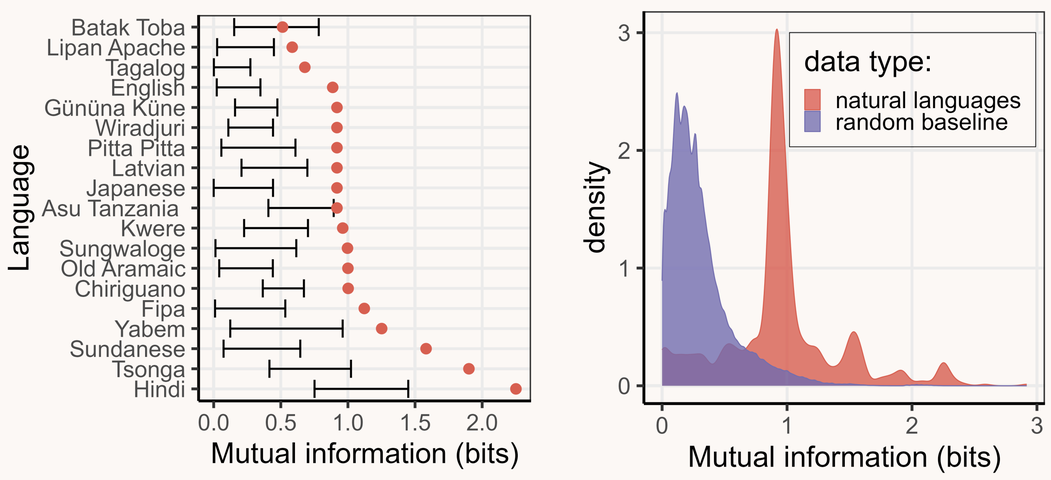
When kinship systems change, **changes to one category will be mirrored** in other categories[2].

As a result: there should be **predictive relationships** between kin terms.

How does this process affect the structure of kinship categories?

ARE KINSHIP CATEGORIES PREDICTABLE?

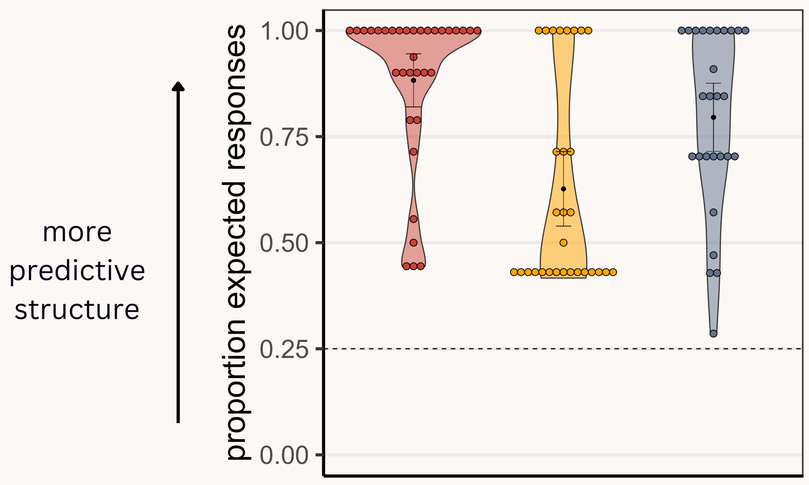
We measured the systemic predictability of kin terms in 1024 languages and compared to simulated random baselines.



Yes! Kinship systems have more predictive structure between generations than chance.

DOES PREDICTIVE STRUCTURE FACILITATE KIN TERM GENERALISATION?

Participants were shown novel kinship systems and generalised from known kin terms to new referents.



Yes! Participants do generalise kin in ways that increase predictive structure.

But! There are other ways they may choose to generalise.

HOW DO PARTICIPANTS CHOOSE TO CATEGORISE KIN?

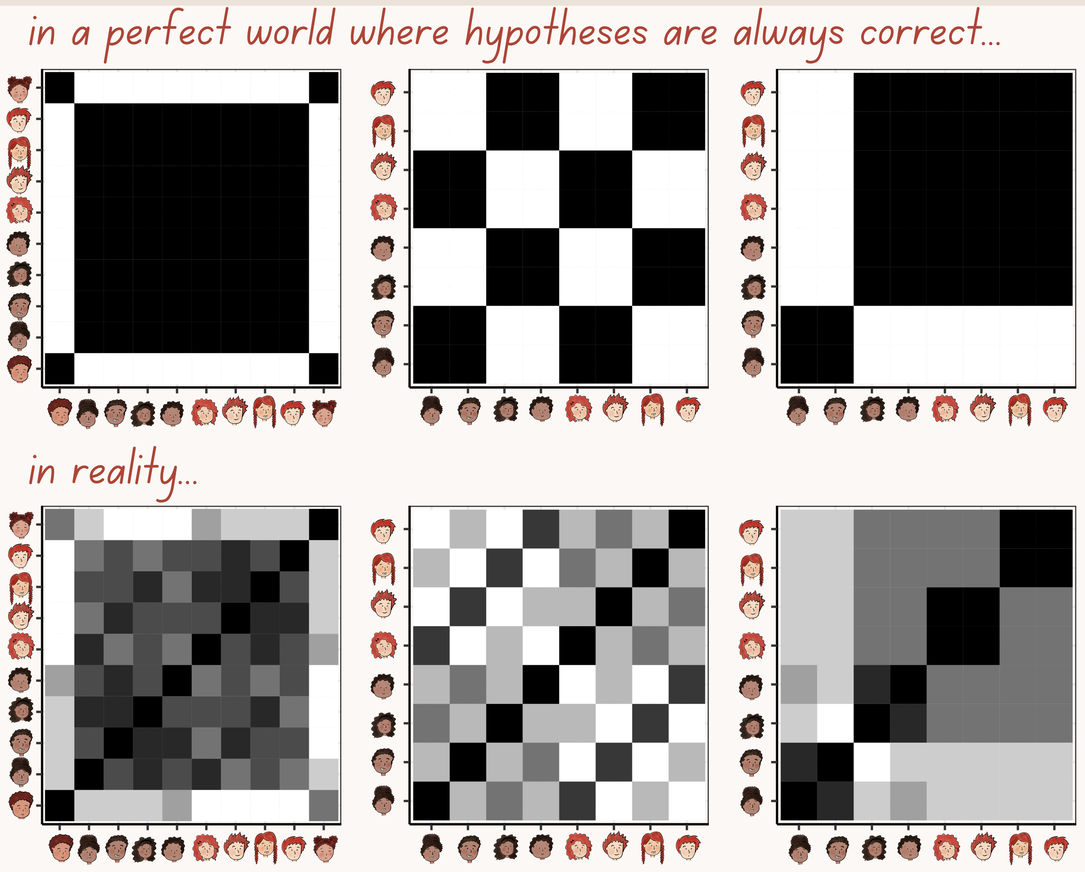
These heatmaps visualise the way participants chose to categorise kin: who shared a term and who didn't?

The shading in each cell represents how often participants used the same label for two referents.

Predictive structure. The similarities between predictions and data suggest a preference for predictive structure.

Gender. The checkerboarding effect indicates a preference to distinguish boys and girls.

Lineage. Diagonal lines indicate a preference for distinguishing based on shared parentage.



1 Kemp, C. & Regier, T. (2012) Kinship categories across languages reflect general communicative principles. Science 336. 1049–1054.
2 Passmore, S. , Barth, W., Quinn, K., Greenhill, S., Evans, N. & Jordan, F. M. (2021) Kin Against Kin: Internal Co-Selection and the Coherence of Kinship Typologies. Biological Theory 16. 176–193.