

# A cross-linguistic study of body-part metaphors and their cognitive basis

## Introduction

Thus far, the cognitive foundation of lexicalized terms for object and landscape properties, which are retrieved from the body domain, have not been fully explored. A common assumption is that the conceptualization of these body-part metaphors is rooted in perceptual properties of objects and landscapes [1]. In my MA thesis, I conducted the first systematic typological study that investigates the following questions:

- ▶ How productively do languages use body-part terms to express parts of objects and landscapes?
- ▶ Of the three dimensions of similarity (*shape*, *spatial alignment*, *function*) is one used more productively than the others?
- ▶ How much variation do we find between languages with respect to 1) and 2)?

## Body-part Metaphors

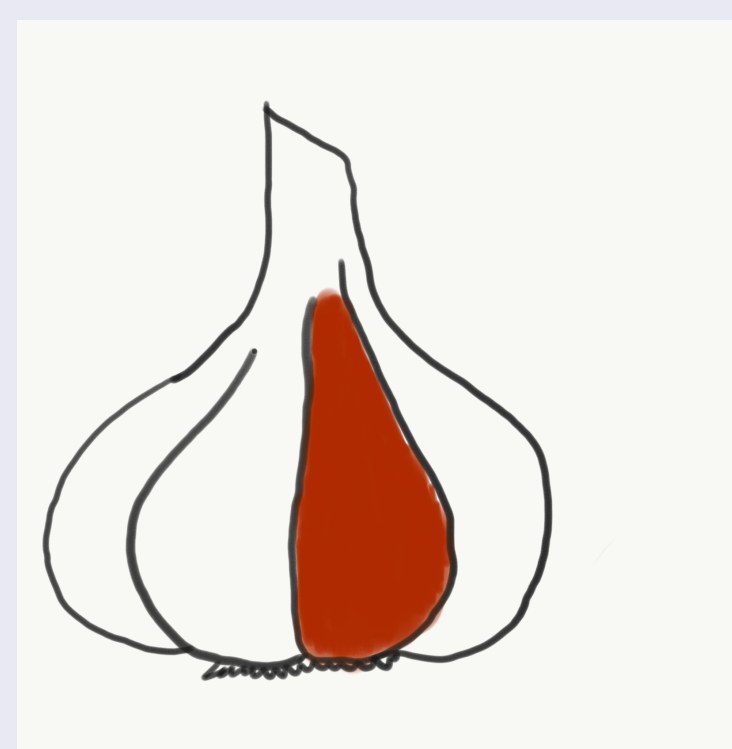
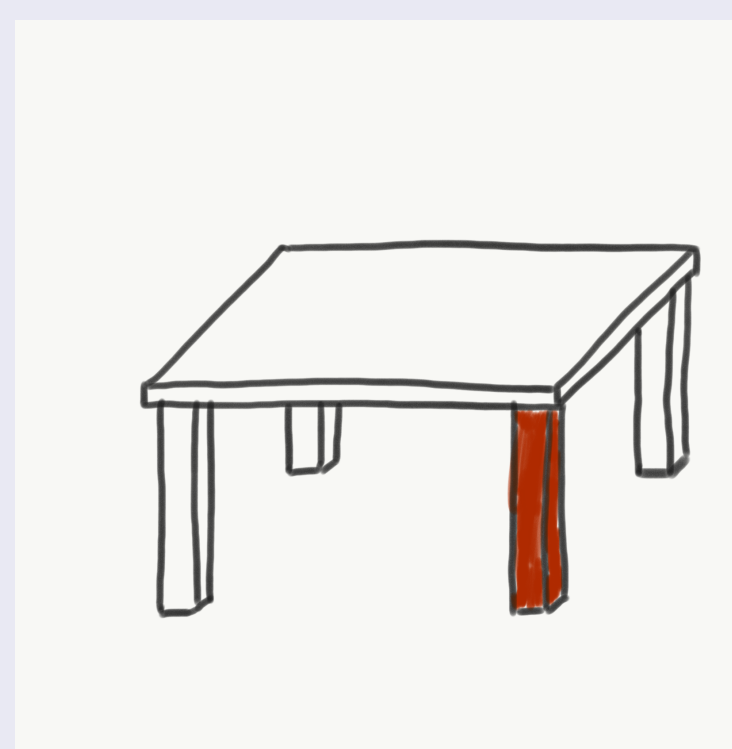
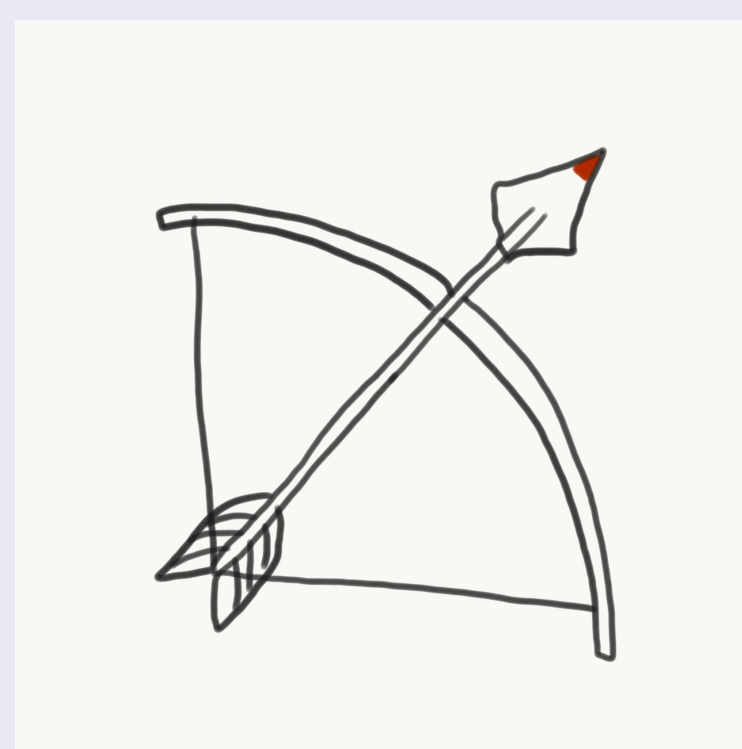
- ▶ A body-part term refers to an object or landscape feature: ***leg of the table***, ***foot of the mountain***.
- ▶ It is assumed that these metaphors are widespread in various languages [1, 2].
- ▶ Others argue that these expressions are based on a geometrical algorithm instead of a metaphorical mapping [3].

## Dimensions of Similarity

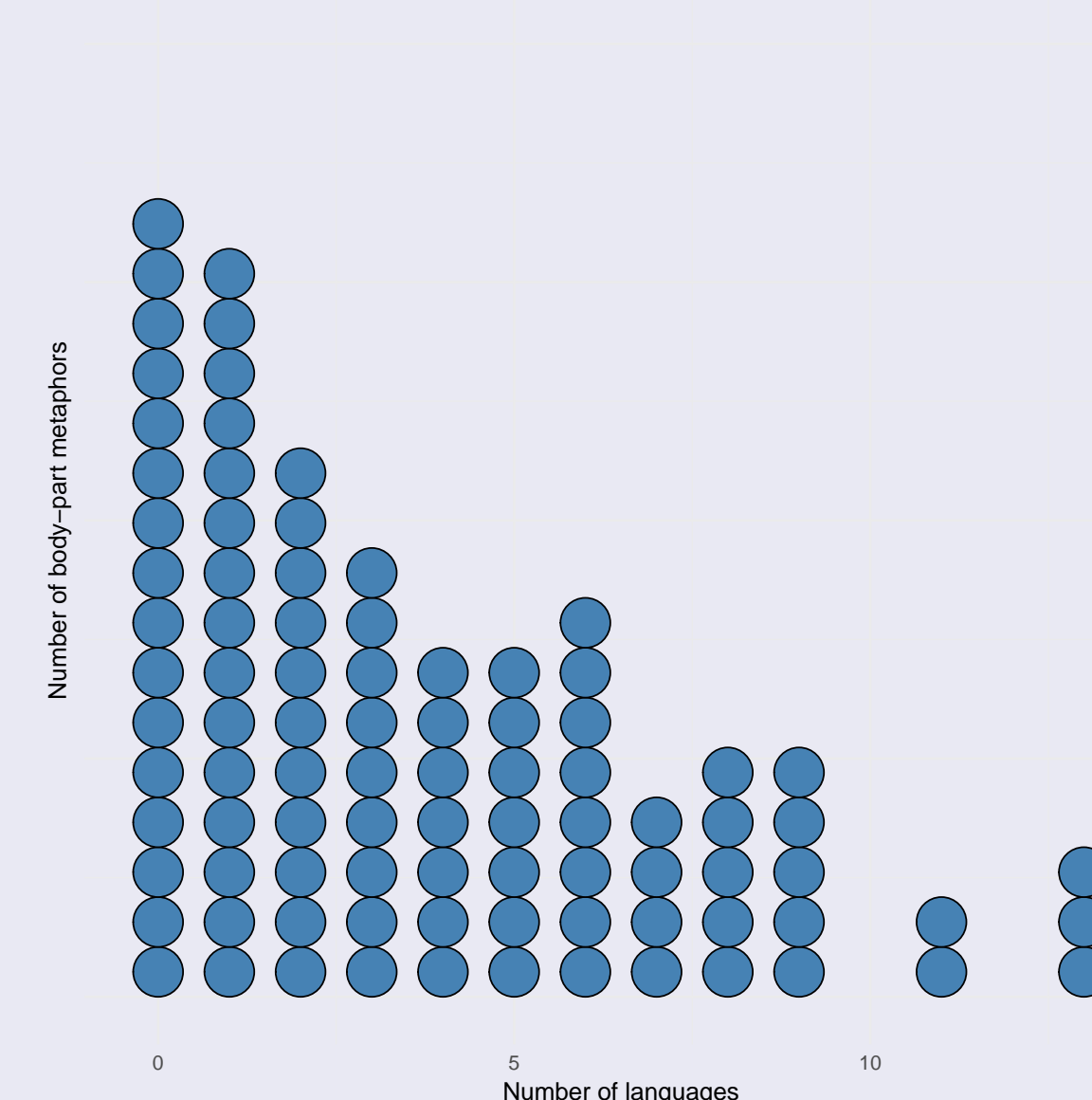
- ▶ The similarity between a body-part and a property of an object or landscape determines the metaphorical mapping [3, 4, 5].
- ▶ In particular, the dimensions of ***shape***, ***function***, and ***spatial alignment*** seem to play a crucial role in the categorization of our environment.

## The Study

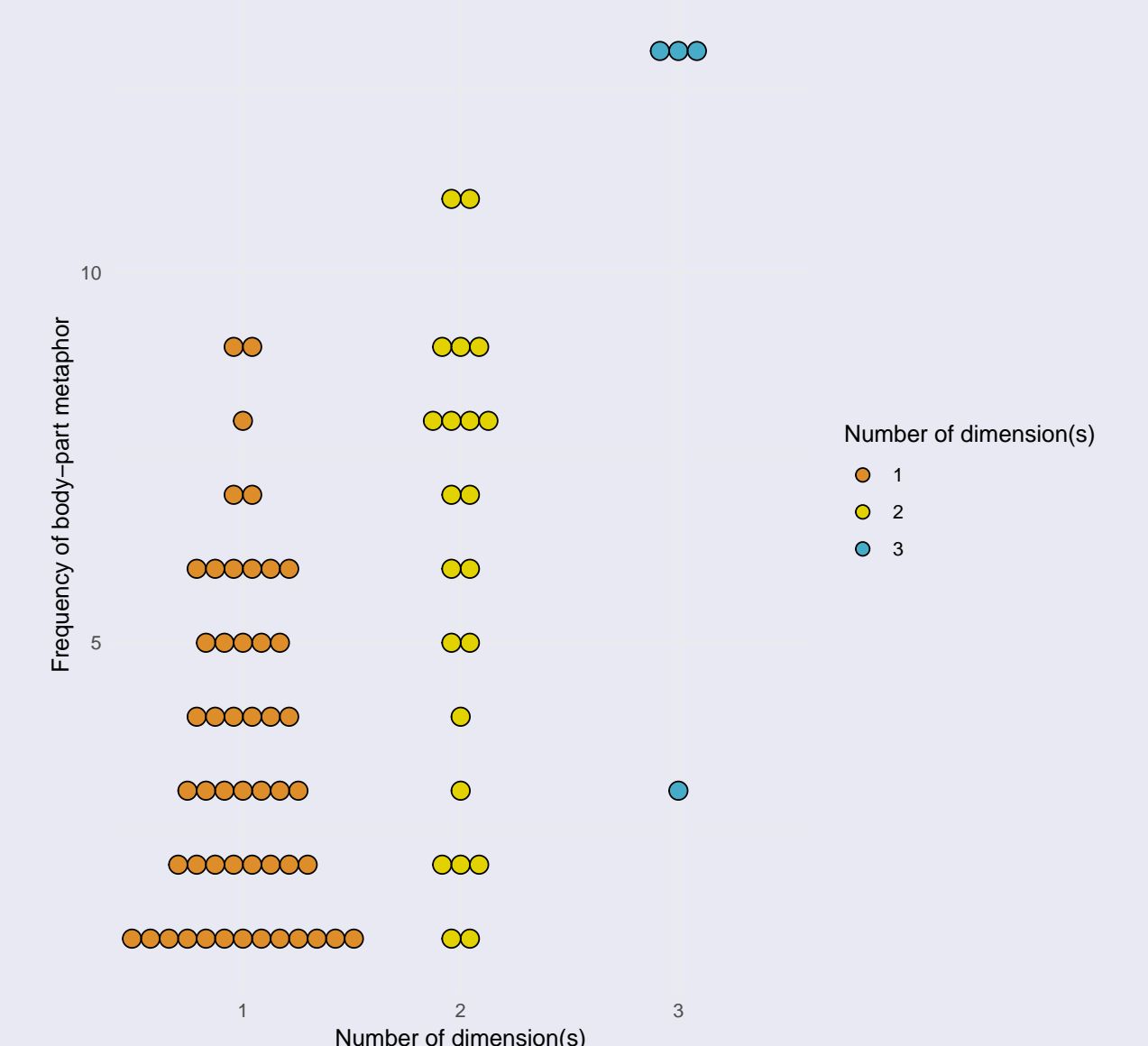
- ▶ Participants:
  - One native speaker of one of the following **13 languages**: Czech, Greek, Hebrew, Hungarian, Bahasa Indonesia, Japanese, Khoekhoe, Mandarin Chinese, Marathi, Persian, Turkish, and Vietnamese.
- ▶ Procedure:
  - Elicitation study with **92 body-part metaphors** and **53 pictures**.
  - Participants were asked whether or not they can refer to a certain object or landscape feature with a body-part term.
- ▶ Elicitation material:



## Results



**Figure:** Frequency of each body-part metaphor.



**Figure:** Correlation between frequency and dimension.

The occurrence of a body-part metaphor in many languages seems to rely on the number of dimensions it relates to.

## Examples

### (1) Khoekhoe

||gau-b am-s  
arrow-M mouth-F  
'tip of the arrow'  
(lit. 'arrow mouth')

### (2) Turkish

sarımsağ-ın dişi  
garlic-GEN tooth  
'garlic clove'  
(lit. 'garlic tooth')

## Conclusion

- ▶ Only a few body-part metaphors seem to occur in a wide range of languages, e.g., *leg of the table/bed/chair*.
- ▶ Languages differ in terms of which dimension they prefer to map body-part terms to object and landscape features.
- ▶ Factors such as *similarity in color* could also play a role in the choice of a certain body-part term.
- ▶ Body-part metaphors that are categorized in more than one dimension seem to be more frequent.

## References

- [1] Iwona Kraska-Szlenk. Semantic extensions of Body Part Terms: Common patterns and their interpretation. *Language Sciences*, 44:15–39, 2014.
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- [5] Timothy James Tilbe. *Parts and Wholes in Mesoamerican Language and Cognition*. State University of New York at Buffalo, 2017.