

Metaphorical height contrasts across sign languages and in cross-signing

Carl Börstell

Centre for Language Studies
c.borstell@let.ru.nl

Radboud University



"Is space used to convey valence across sign languages?"

Data & Methodology

Dataset 1

786 property signs (positive vs. negative)
27 sign languages¹

Dataset 2

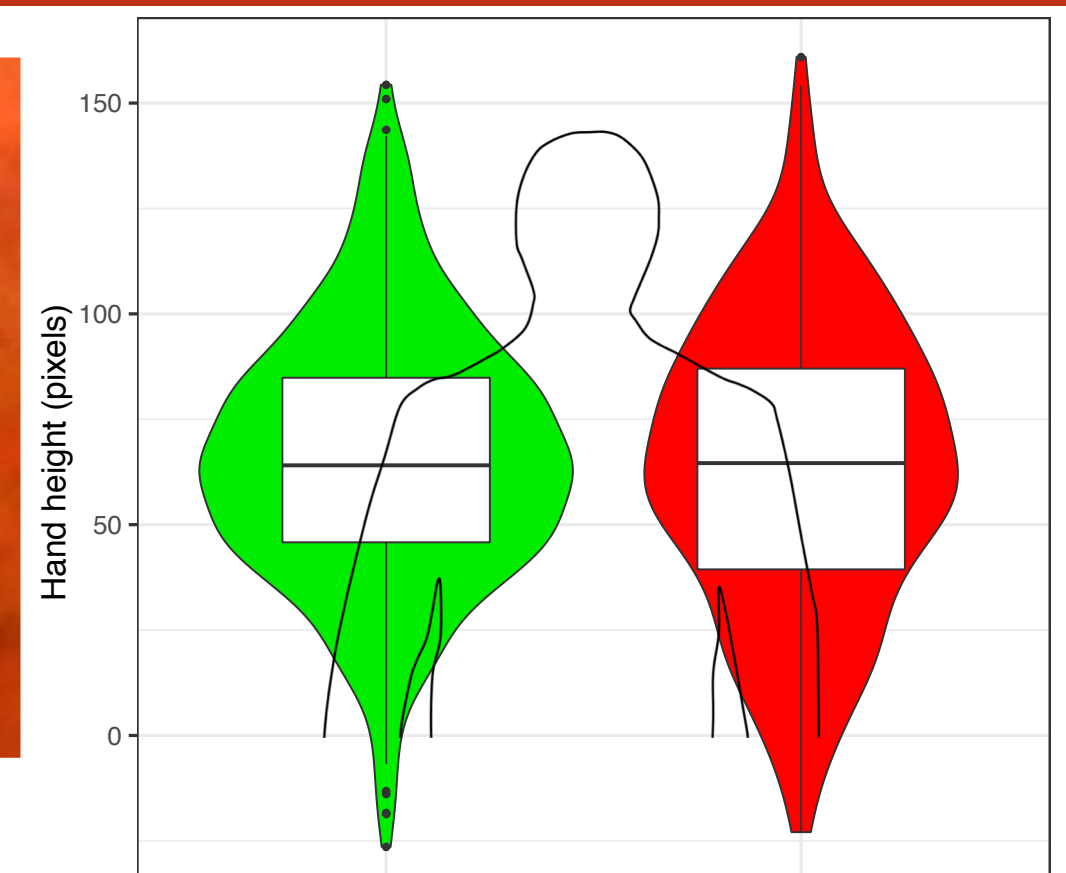
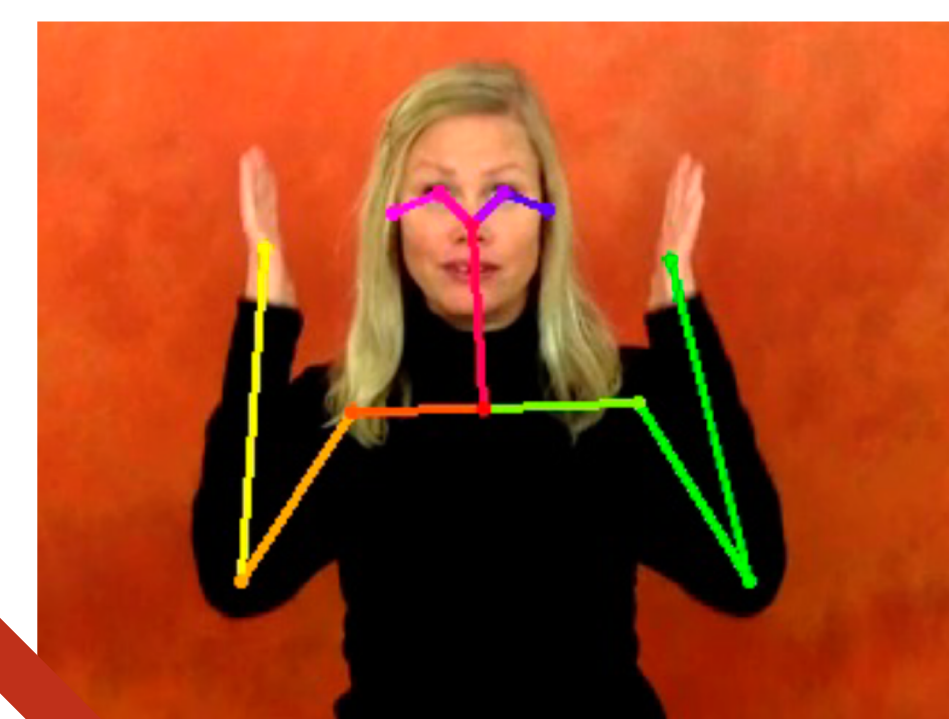
15 mins of cross-signing
(NGT ~ Chinese SL)

Analyses

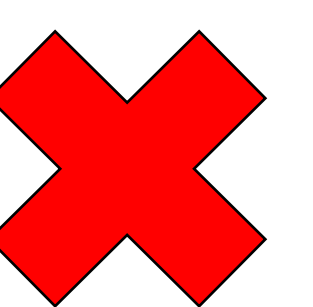
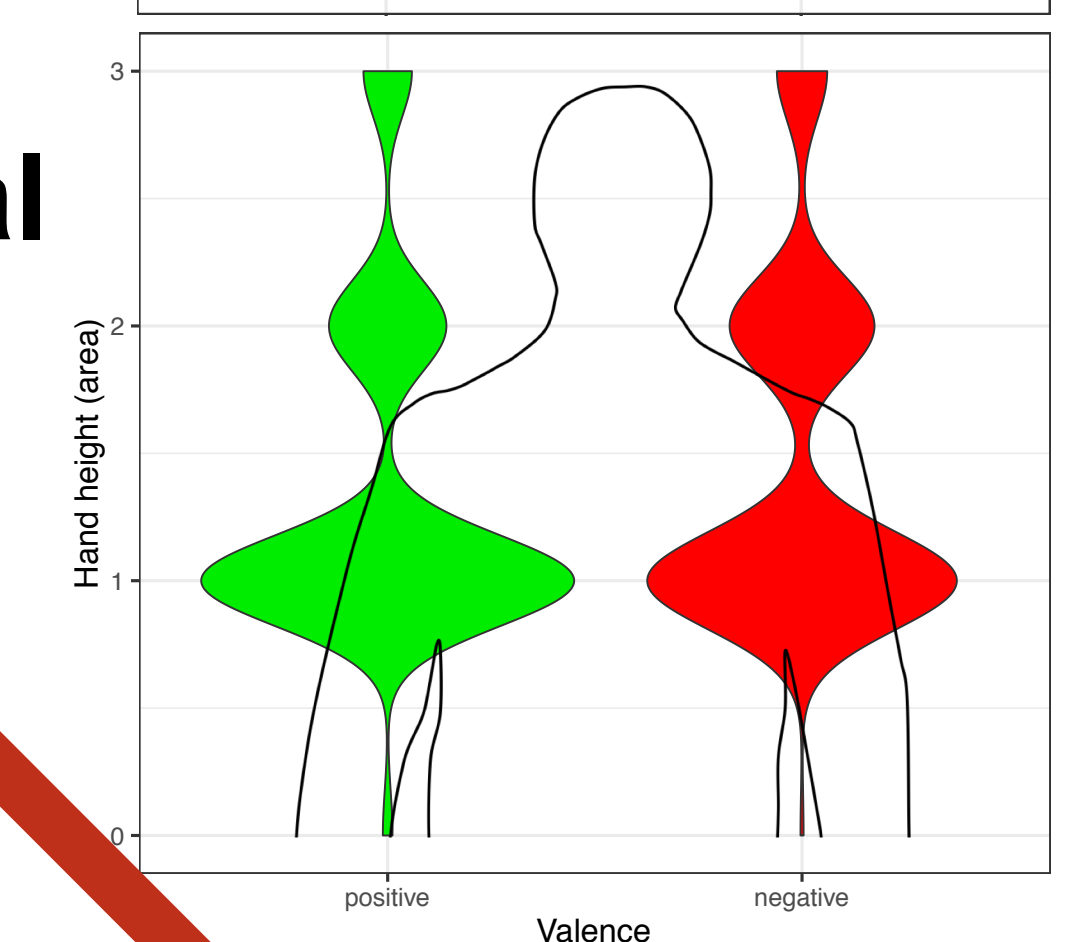
Manual/automated²
sign height and
movement
directions +
stats and
plots³

Static sign height is *not* relevant

Auto



Manual



POSITIVE

good, happy, alive, ...

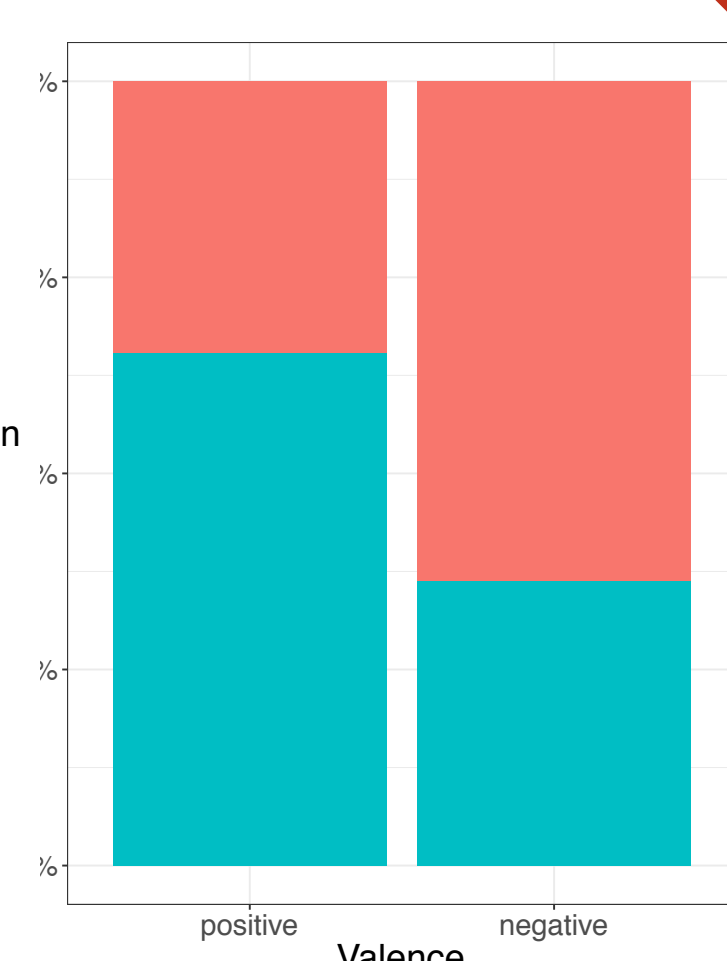
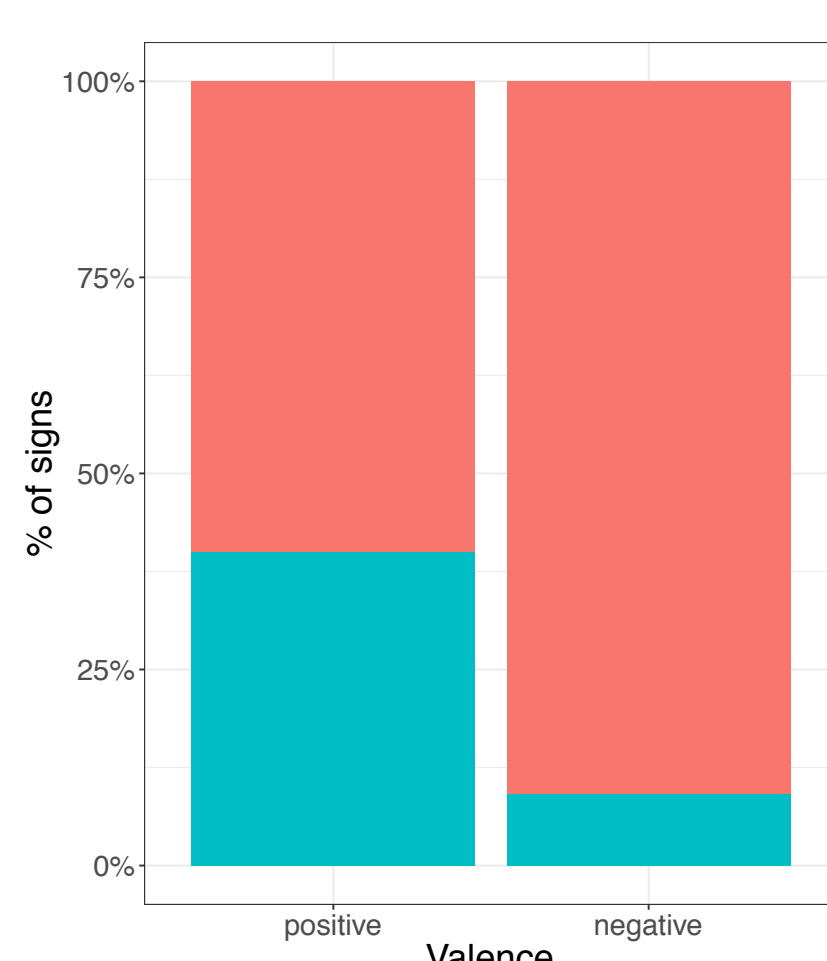
**Vertical movements
(upward/downward)
are associated with
valence in antonyms
across languages**

NEGATIVE

bad, sad, dead, ...

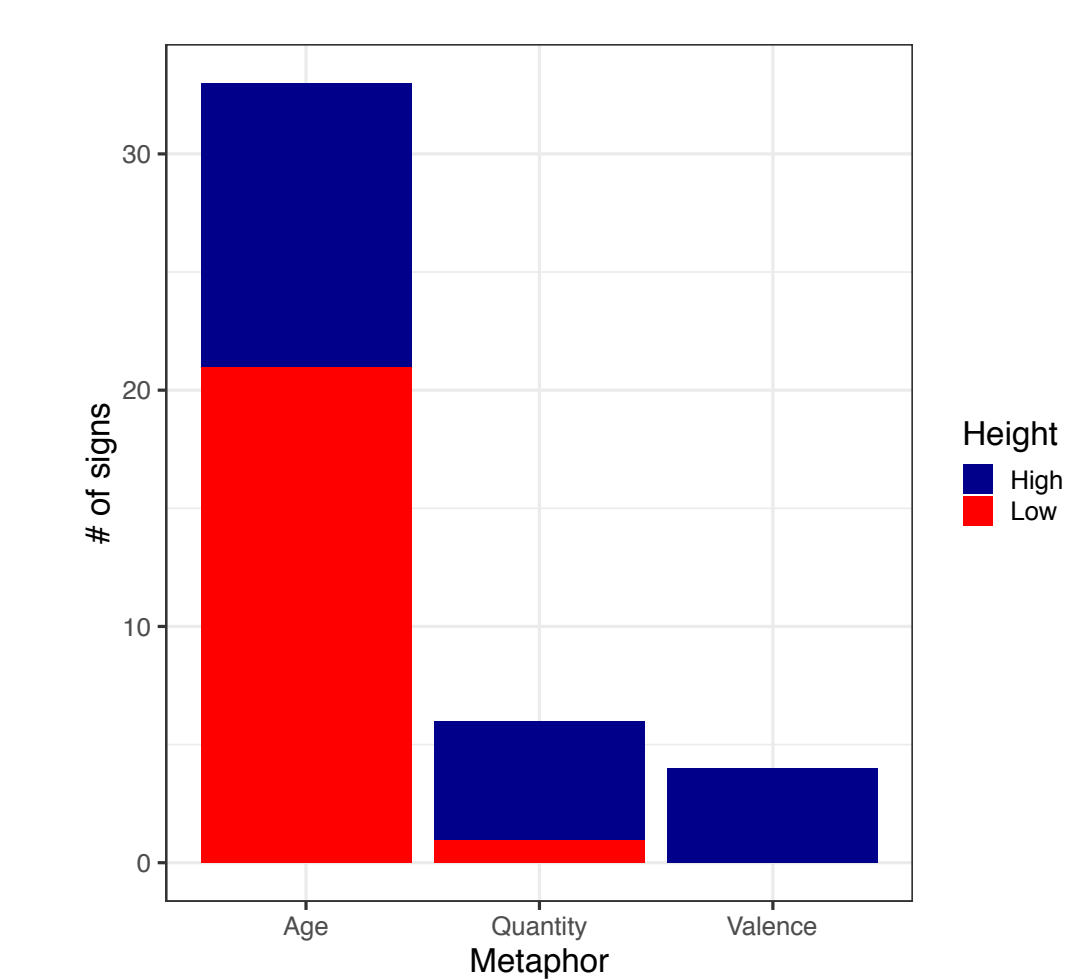
In the language sample, movement in signing space is associated with valence (pos vs. neg):

- **Upwards = positive^{4,5}**
- **Outwards = positive!**



In cross-signing, height is used for metaphorical contrasts such as:

- **Age**
- **Quantity**
- **Valence**



Supports the idea of spatial metaphors in language!

Directional movements *are* relevant

Vertical contrasts in cross-signing

1. European Sign Language Center. 2012. Spread the Sign. <http://www.spreadthesign.com> (3 September, 2015).
2. Cao, Zhe, Gines Hidalgo, Tomas Simon, Shih-En Wei & Yaser Sheikh. 2018. OpenPose: realtime multi-person 2D pose estimation using Part Affinity Fields. arXiv preprint arXiv:1812.08008.
3. R Core Team. 2017. R: A Language and Environment for Statistical Computing. Vienna, Austria: R Foundation for Statistical Computing. <https://www.R-project.org/>.
4. Woodin, Greg & Bodo Winter. 2018. Placing Abstract Concepts in Space: Quantity, Time and Emotional Valence. *Frontiers in Psychology* 9, 2169. doi:10.3389/fpsyg.2018.02169.
5. Yap, Defu F., Laura Staum Casasanto, & Daniel Casasanto. 2014. Metaphoric iconicity in signed and spoken languages. In Paul Bello, Marcello Guarini, Marjorie McShane & Brian Scassellati (eds.), *Proceedings of the 36th Annual Conference of the Cognitive Science Society, 1808–1813*, Austin, TX: Cognitive Science Society.

Acknowledgments

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