How quickly does phonology emerge in a "village" vs. "community" sign language?

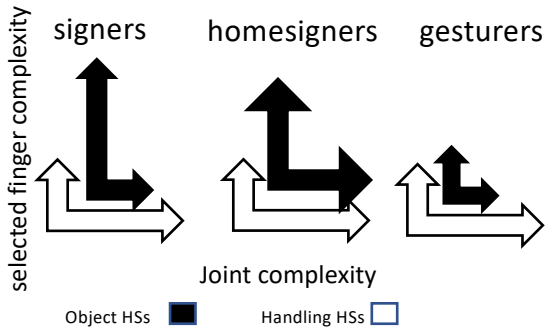
Diane Brentari[1], Rabia Ergin[2], Ann Senghas[3], Pyeong-Whan Cho[4], Eli Owens[1]
Marie Coppola[5]

[1]University of Chicago; [2]Max Planck Insitute for Psycholinguistics; [3]Barnard College, Columbia University; [4]University of Michigan; [5]University of Connecticut

RESEARCH QUESTION:

How does the language ecology affect the speed of the emergence of phonology?

BACKGROUND:[1,2]



METHODS:

Participants: 25 signers

--12 signers of Central Taurus Sign Language (CTSL): CTSL-cohorts 1,2,3 (4 signers each)

--13 signers of from Nicaragua: homesigners (4), & Nicaraguan Sign Language (NSL): NSL-cohort1 (4), NSL-cohort2 (5)

Types of interaction/input:

	-horizontal	+horizontal
-vertical	Homesigners (Nic.)	NSL1, CTSL1
+vertical		NSL2,CTSL2, CTSL3

±***Horizontal contact***: does the person sign with other signers

±***vertical contact***: does the person sign have a language model from the previous cohort

Esogenic: homogeneous community membership

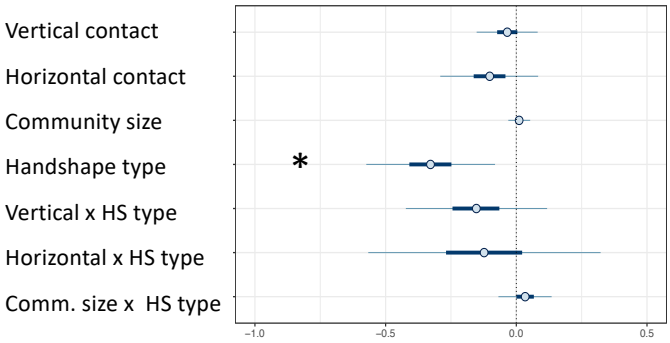
Exogenic: heterogeneous community membership

Data: 1992 vignette descriptions; 6452 handshapes

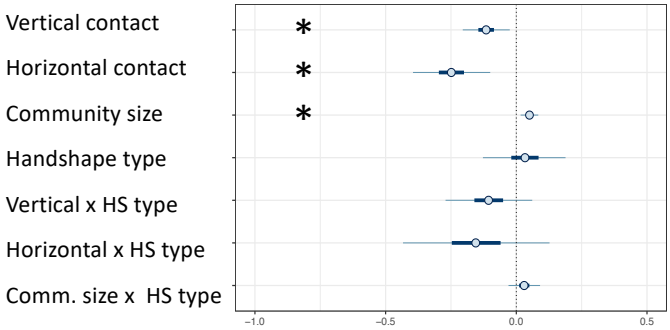
Stimuli:

ANALYSIS:

Joint complexity model predictions



Selected finger complexity model predictions



CONCLUSIONS:

--Community size is important: a larger community (NSL) has **higher** complexity than a smaller one (CTSL),

--Language ecology matters too: CTSL (esogenic) has **lower** complexity than NSL (exogenic)

--The kind of interactions with others is also important: horizontal and vertical contact among signers **decreases** complexity

--Phonologization involves **pruning** (more evident in joint complexity) and **building** (more evident in selected finger complexity.

---Pruning is associated with joint complexity; building is associated with selected finger complexity.

REFERENCES:

[1] Brentari, D., M. Coppola, P.W. Cho, and A. Senghas. 2017. Handshape complexity as a pre-cursor to phonology: Variation, emergence, and acquisition. *Language Acquisition* 24(4): 283-306.

[2] Brentari, D., M. Coppola, L. Mazzoni, and S. Goldin-Meadow. When does a system become phonological? Handshape production in gesturers, signers, and homesigners. *Natural Language and Linguistic Theory,* 30(1), 1-31.