

Gestural analogues & the origins of signs in San Juan Quiahije Chatino Sign Language





Field site

*Gestural
Analogues*

2 Relevant Studies



Field Site: San Juan Quiahije



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San Juan Quiahije Municipality

- Two villages
- Combined pop. ~3600 (INEGI, 2015)

Spoken languages

- SJQ Chatino
(E. Cruz, 2011; H. Cruz, 2014)
- Mexican Spanish



Field Site: San Juan Quiahije

11 deaf people — 0.3% of the population

San Juan Quiahije Chatino Sign Language:
six emerging family SLs (Hou, 2016)



Gestural Analogues: manual forms shared by deaf and hearing signers in the same communicative ecology

What are the form-meaning mappings of hearing non-signers (majority of population)?

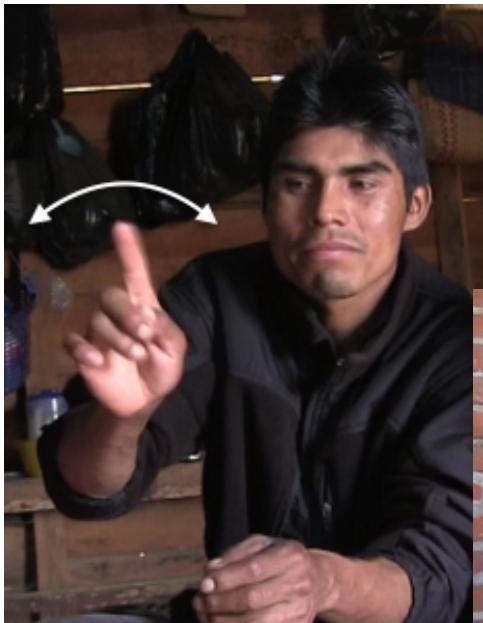
Do signers adapt the form-meaning mappings as they create a fully visual-manual language?





Study 1: Negation in SJQCSL

Gestural Analogues with Negative Meanings



Negative Analogues: Dataset & Coding

Recordings of spontaneous talk:
5:20 of signers, 11:00 of speakers

A survey for speakers about the
functions of 14 gestures

Identification of the function of each negative emblem:
denial, rejection, non-existence, negative imperatives

(Cf. Bloom, 1970)

Negative Analogues: Results

WAG



Negative Analogues: Results

WAG

Signers and
speakers alike
use the WAG
form for *negative*
imperatives and
denial

- 1 *chaq-C niqan-J ndywin-E ne-C jan-A qan-G*
 'I'm speaking Chatino since'
- 2 [NEG:WAG-1]
 [...*ja-A ntyka-E qiyani-I chaq-C xlyqa*]
 [...] 'I can't speak Spanish']

Negative Analogues: Results

WAG

Signers and speakers alike use the WAG form for *negative imperatives* and *denial*



Negative Analogues: Results

WAG

Signers and speakers alike use the WAG form for *negative imperatives* and *denial*



Negative Analogues: Results

TWIST

...with 2 handshape variants



Negative Analogues: Results

TWIST

Signers and
speakers alike
use the TWIST
form to convey
non-existence

- 1 *qan-E ngya-E chaq-C qa-J*
'it's how to say,'
[NEG:TWIST-5]
- 2 *[ja-A la-J qa-J squy-J ran-C qi-H ja-A la-J squy-J ran-C...]*
[*there isn't any, there isn't any anymore...*]]

Negative Analogues: Results

TWIST

Signers and speakers alike use the TWIST form to convey *non-existence*



Negative Analogues: Results

TWIST

Deaf signers
alone use twist
with a function
of *denial*



Negative Analogues: Results

PALM-DOWN



Negative Analogues: Results

PALM-DOWN

Signers and speakers alike use the PALM-DOWN form for *denial*

- | | |
|---|--|
| 1 | [PALM-DOWN] |
| | <i>chaq-C non-A ndya-J [gra-J ba-E no-C chaq-C tyqi-C ti-C nten-B]</i>
‘Whenever [a person’s voice is recorded’] |
| 2 | <i>jan-C ska-A la-E niyan-J ran-C</i>
‘it’s different...’ |

Negative Analogues: Results

PALM-DOWN

Signers and
speakers alike
use the PALM-
DOWN form
for *denial*



Negative Analogues: Results

PALM-UP

...with 2 handshape variants



Negative Analogues: Results

PALM-UP

Signers and speakers alike use the PALM-UP form for *refusal* and to assert that they *lack knowledge*

- 1 *ti-E squy-E no-A ti-C sqne-E ndywiq-A yu-A qi-H non-A como-A...*
‘there still is (a footpath), from before, they say,’
- 2 [NEG:PALM-UP]
- 3 *na-E chaq-C ndywiq-J non-A nga-J ne-I tla-A ti-A styqan-J chaq-C ja-C ne-I*
‘one hears it said by the elders, one supposes.’

Negative Analogues: Results

PALM-UP

Signers and speakers alike use the PALM-UP form for *refusal* and to assert that they *lack knowledge*



Negative Analogues: Results

PALM-UP

Signers and speakers alike use the PALM-UP form for *refusal* and to assert that they *lack knowledge*



Negative Analogues: Results

PALM-UP

Deaf signers alone use PALM-UP near the head to negate the (non-overt) predicate, *know*



Negative Analogues: Results

DEAD



Negative Analogues: Results

DEAD

Deaf signers
alone use the
DEAD form for
intensive *denial*



Negative Analogues: Summary

- Clear overlap of form-meaning mappings between speakers & signers
 - Overlap facilitates communication between deaf and hearing people in a language ecology with highly shared context
- Deaf signers however adapt two of the negatives, DEAD and PALM-UP, broadening the meaning of these gestural analogues



Study 2: Indicating Practices in SJQCSL

Indicating Expressions



- direct the addressee's attention to a delimited area of space
- **in gesture or sign**, by extending or tracing an articulator in the direction of a focused area

Indicating Practices in San Juan Quiahije: Initial Observations

Two clear extremes for indicating gestures

- **Promimal:** low, unextended arm, 1-HS
- **Distal:** high, extended arm, B-HS



Indicating Practices in San Juan Quiahije: Initial Observations



Indicating Practices: **Hypothesis**

Formation features of indicating gestures systematically covary with the **distance** of the indicated target

- a. **Elbow Height:** increased distance -> increased height
- b. **Arm Extension:** increased distance -> greater extension
- c. **Handshape:** increased distance - > increased use of open hand

Indicating Practices: Task



Local environment interviews (Kita 2001)

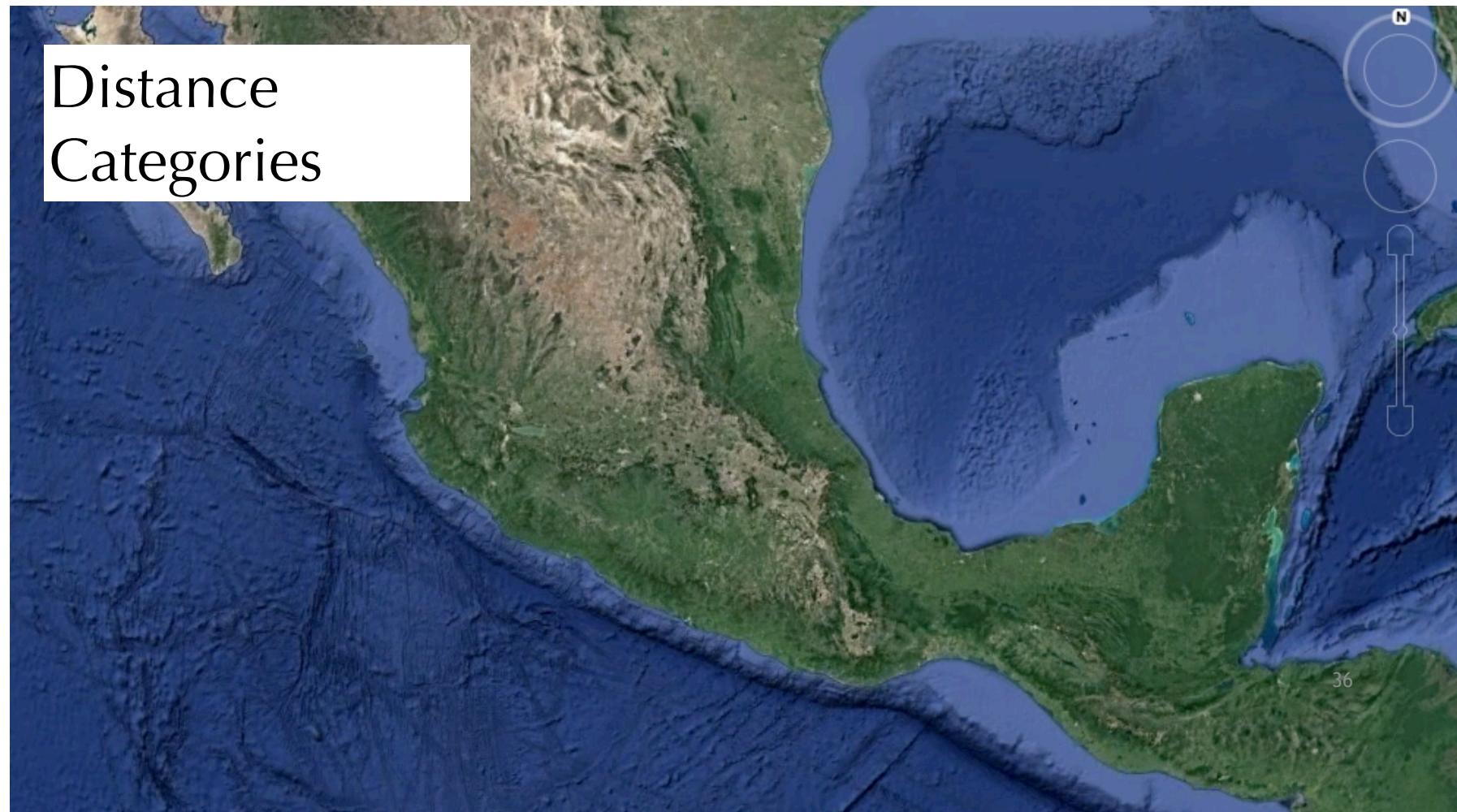
Indicating Practices: Dataset

Filmed local environment interviews (Kita 2001)

- 29 hearing participants
- Six hr., 30 min. of footage
- 873 Indicating gestures
- 2 deaf participants
- 31.5 min. of footage
- 222 Indicating signs



Indicating Practices: Coding



Indicating Practices: Coding

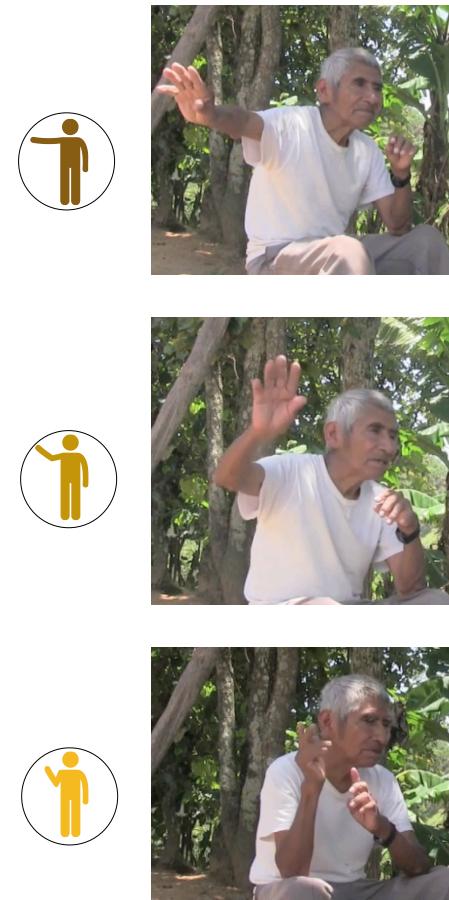
Elbow Height



Handshape



Arm Extension

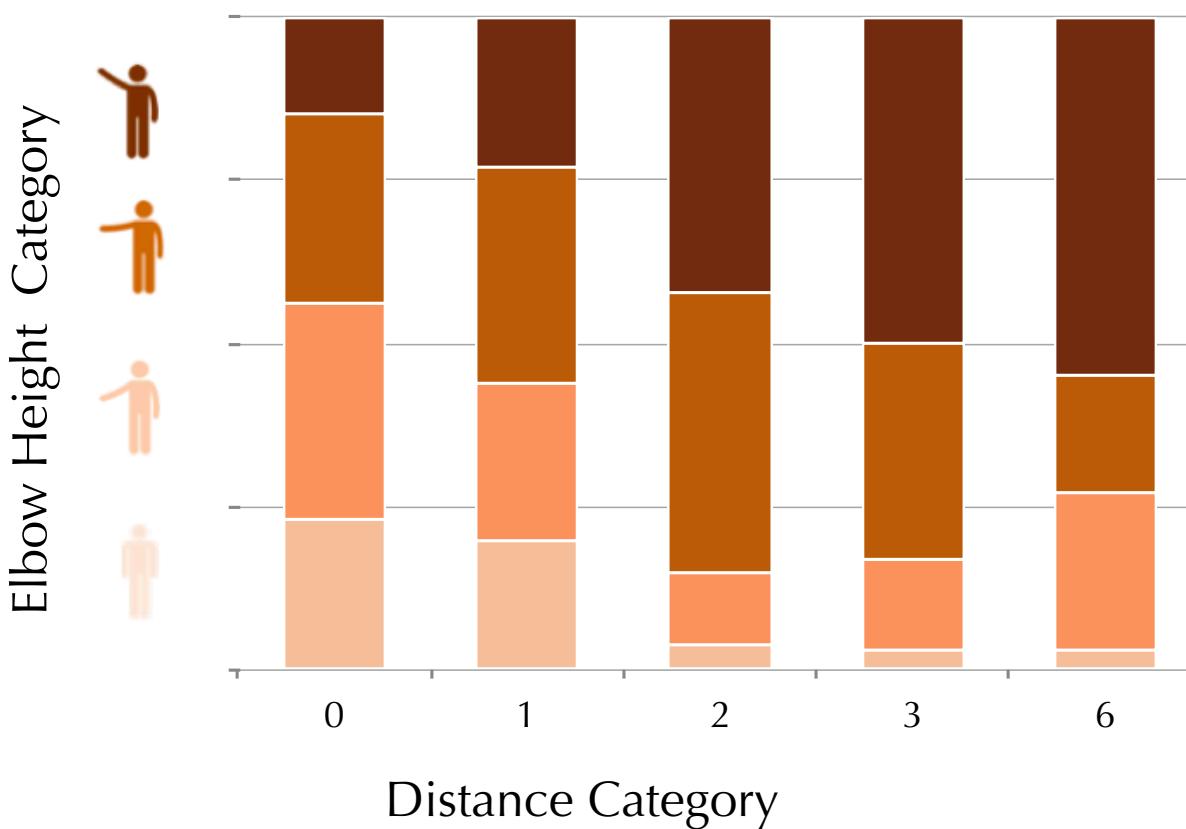


2. Indicating Gestures: Results



Indicating Practices: Speaker Results

- There is a Significant effect of distance on **Elbow Height**



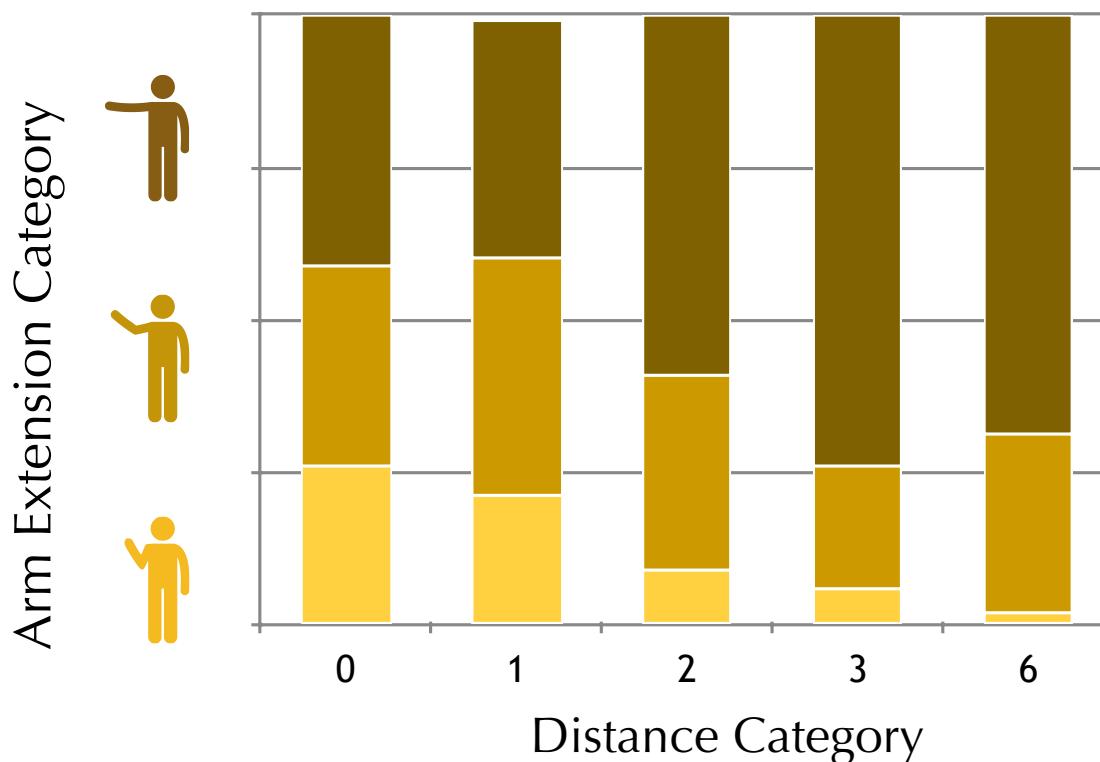
Fixed Effects	Estimate	SE	Pr(> t)
(Intercept)	1.04	0.20	< 0.001
Distance	0.18	0.02	< 0.001

Random Effects	Variance
Person (Intercept)	0.36
Residual	0.76

Mixed effects linear regression analysis

Indicating Practices: Speaker Results

- There is a Significant effect of distance on **Arm Extension**



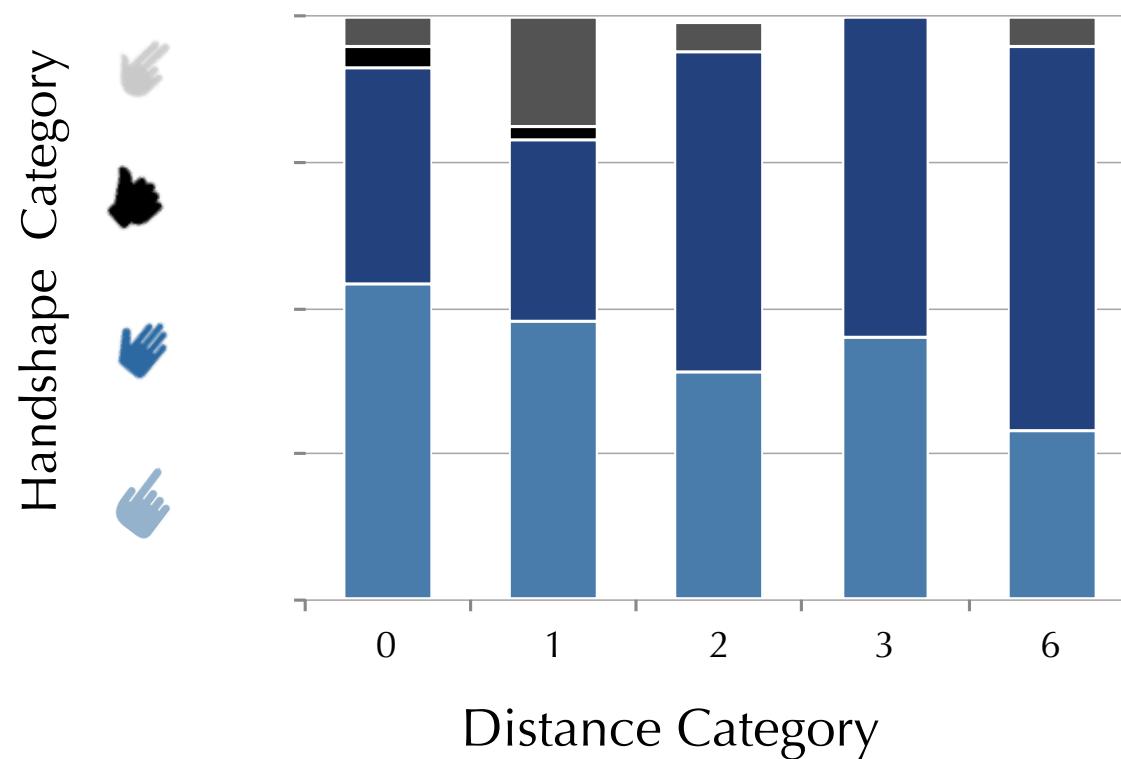
Fixed Effects	Estimate	SE	Pr(> t)
(Intercept)	1.10	0.15	< 0.001
Distance	0.11	0.01	< 0.001

Random Effects	Variance
Person (Intercept)	0.20
Residual	0.41

Mixed effects linear regression analysis

Indicating Practices: Speaker Results

- There is a Significant effect of distance on **Handshape**



Fixed Effects	Estimate	SE	Pr(> t)
(Intercept)	0.67	0.39	0.51
Distance	1.38	0.08	< 0.001

Random Effects	Variance
Person (Intercept)	2.52

Mixed effects logistic regression analysis

Indicating Practices: Speaker Summary

Hypothesis: formational features of IGs systematically covary with the **distance** of the indicated target

- a. **Elbow Height:** increased distance -> increased height
- b. **Arm Extension:** increased distance -> greater extension
- c. **Handshape:** increased distance -> increased use of open hand



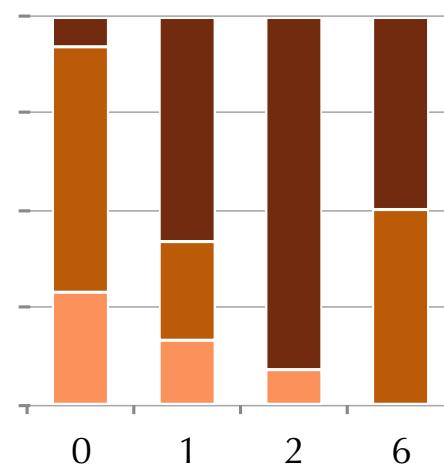
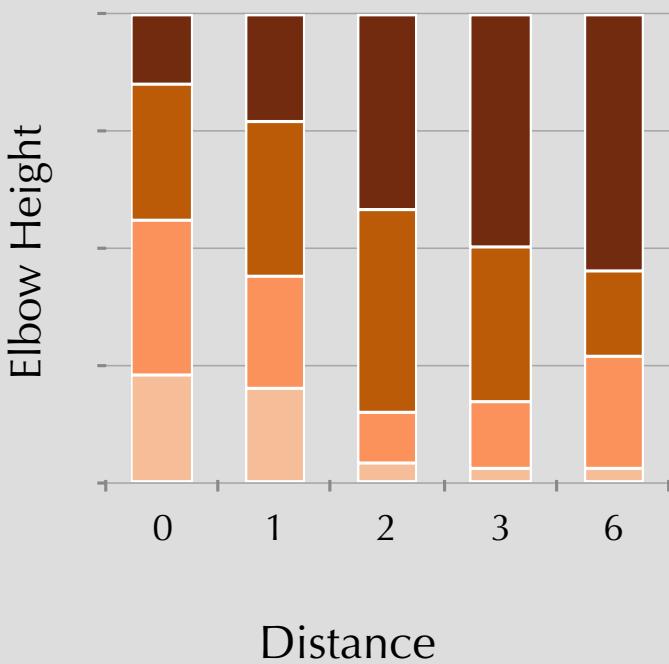
Indicating Practices: Speaker Summary

Hypothesis: formational features of IGs systematically covary with the **distance** of the indicated target

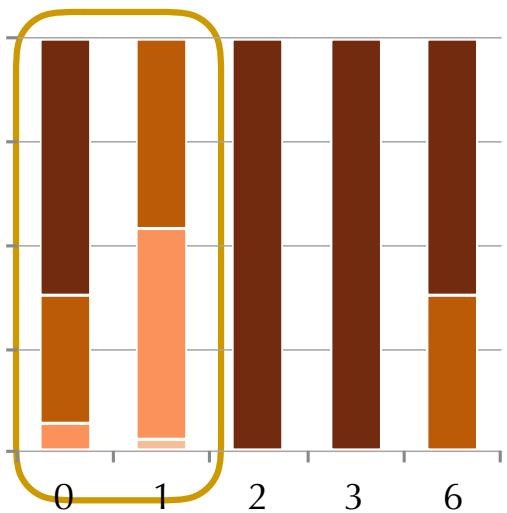
How do signers compare?



Indicating Practices: Speakers vs signers, elbow height

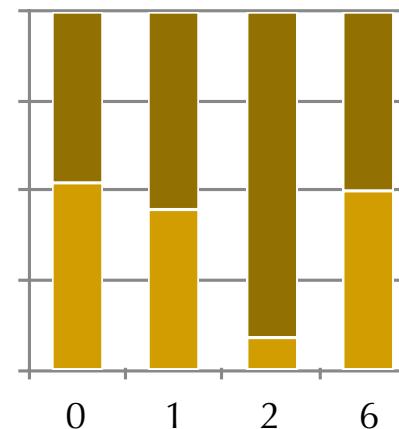
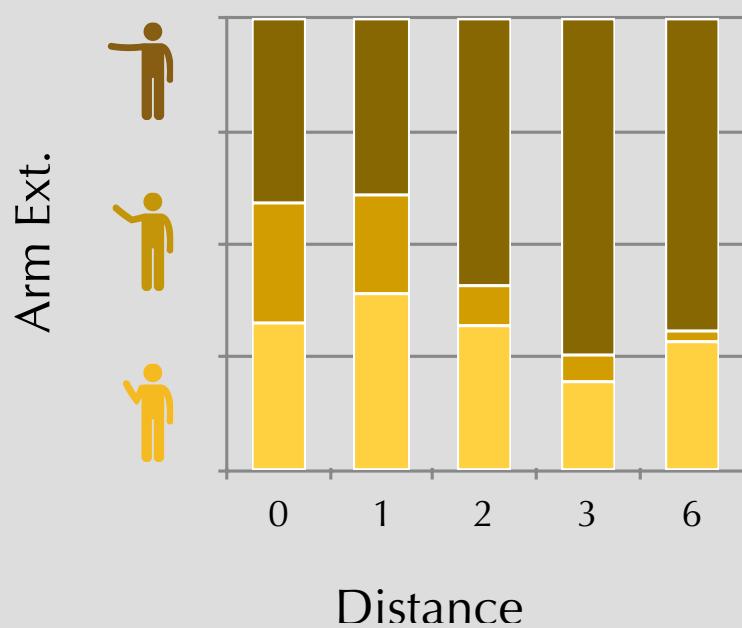


Sendo

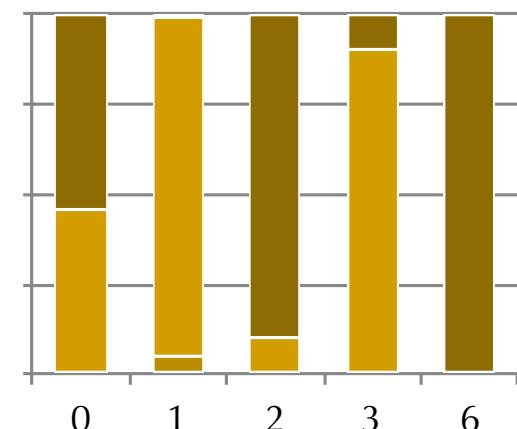


Koyu

Indicating Practices: Speakers vs signers, Arm Ext.

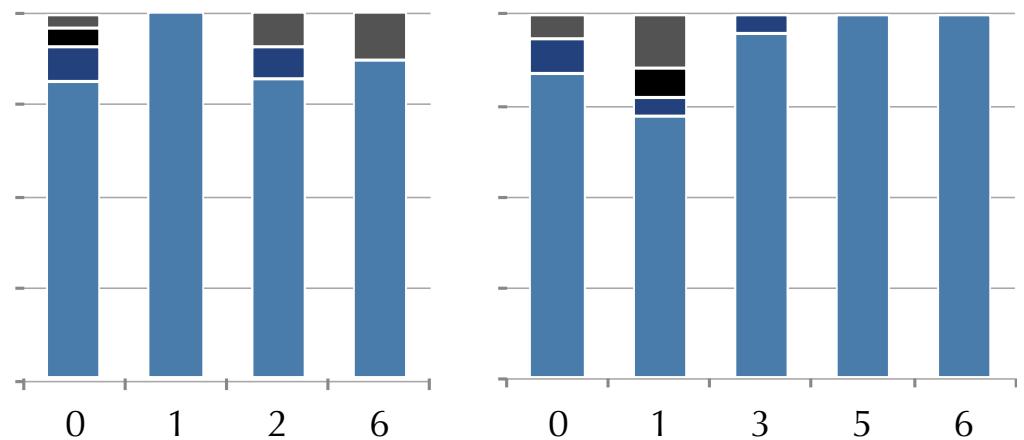
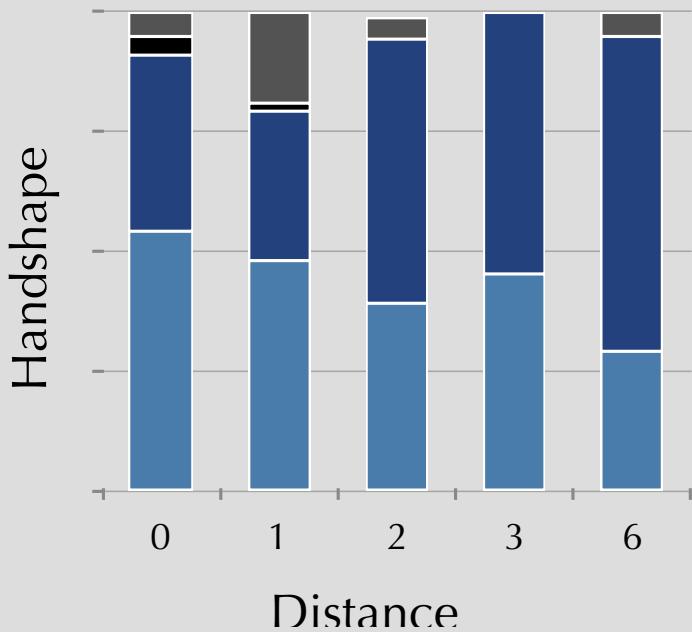


Sendo



Koyu

Indicating Practices: Speakers vs signers, Handshape



Sendo



Koyu

Indicating Practices: Results

Elbow Height



- Community conventions for modulating the **height** of indicating gestures are shared across speakers and signers

Indicating Practices: Results

Elbow Height



Arm Extension



Handshape



- Other community conventions for indicating gesture forms are not shared

Indicating Practices: Discussion



- Signers don't simply omit features of the larger system: they replace them



Conclusions

Creators of signed languages do not merely “borrow” gestural practices:



- They are recipients of a process of cultural transmission, like their hearing counterparts
- They modify the practices that they receive, in ways that are evident when signers and gesturers are **systematically** compared



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