

## Does Prosody Make Sign Language Syntax Different?

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## INTRODUCTION

- Goal
  - To consider the proposal that sign languages display special syntactic properties due to modality-specific factors
- Data
  - ASL & Libras – adding more naturalistic connected discourse, to supplement previous data based on individual sentences
  - Other sign languages – from literature

Introduction

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## The Structure of WH-Questions in Sign Languages

- On-going debate:
  - Do (some) sign languages employ structures apparently not found in spoken languages?
  - In particular, is WH-movement to a right-ward [Spec, CP] due to the nature of the sign language modality?

Background

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## The Structure of WH-Questions in Sign Languages

- Empirical motivation for the debate
  - (Most) sign languages typically use the sentence-final position for WH-elements
  - Sign languages also accompany WH-questions with a particular non-manual marker

Background

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## Cecchetto, Geraci & Zucchi (2009)

- WH-non-manual marking (WH-NMM) marks WH-dependencies (modality-specific)
- If WH-phrases moved to the left periphery, WH-NMM could not properly mark the WH-dependency
- Therefore, sign languages employ a structure in which the default linearization value is overridden

CGZ, 281, 302

Background

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## Italian Sign Language – LIS



GIANNI

EAT

wh  
WHAT

CGZ, 294

Background

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### ASL & Libras Data

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- Sample of naturalistic data
- Native signing Deaf consultant encouraged to ask questions
- YN and WH questions extracted with consideration of context
- Non-manual markers carefully coded
- Positions of WH-phrases categorized

	YN	WH	YN+WH	Total Q
ASL	67	63	20	150
Libras	15	92	0	107

WHQ structure 7

### Position of WH-element

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	Alone	Initial	Final	Double	In situ	Null
ASL	19	44 (13)	8 (5)	3	0	9
Libras	17	24 (2)	26 (23)	23	1	1

- Naturalistic data replicates our previous results with individual sentences
- Initial and final may be in situ (ambiguous)
- Null includes PRT; excludes common / lexicalized forms (e.g., WH-FOR, WH-MANY)

WHQ structure 8

### Summary of Position Data

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- WH-elements may be able to stay in situ
- Non-subject WH-elements do show up in the sentence-initial position, even long-distance
- We have no examples of non-doubled subject WH-elements in the sentence-final position
- WH-elements – and non-WH elements – may be doubled, in both initial and final position



WHQ structure 9

### WH-NMM

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- ASL:
  - Brows furrowed
  - Head forward / moving side to side
  - Eyes semi-open
  - Gaze to addressee

- Libras
  - Brows furrowed+raised
  - Head back
  - Eyes semi-open
  - Gaze to addressee

NMM 10

### ASL Example: What did you buy?

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NMM 11

### Libras Example: What laptop did you buy?

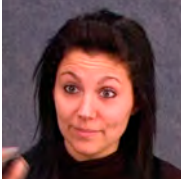

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NMM 12

### YN-NMM

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- ASL:
  - Brows raised
  - Head forward/down
  - Eyes wide open
  - Gaze to addressee
- Libras
  - Brows raised
  - Head forward/down
  - Eyes open
  - Gaze to addressee

NMM 13

### ASL: Did you go shopping?

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NMM 14

### Libras: Did you already buy it?

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NMM 15

### NMM vs. Affective Facial Expressions

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- Scope and timing differences (Baker-Shenk 1983; Sandler 2009a, b; numerous others)
- Acquisitional differences (Reilly 2006)
- General conclusion: NMM are linguistic

NMM 16

### NMM and Syntax

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- Some researchers take NMM to be overt realization of syntactic features (Petronio & Lillo-Martin 1997; Neidle et al. 2000; Wilbur 1999)
- Others argue that NMM is analogous to intonation, and dissociated from syntax (Sandler and colleagues)
- CGZ: NMM is intonation, but also plays a syntactic role (marking WH dependencies)

NMM 17

### Facial Expression as Intonation

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- Same pragmatic functions as intonation (*e.g.*, illocutionary force, continuation, shared information)
- Temporally aligned with prosodic units rather than syntactic ones (must have independent evidence for a particular structure)
- Can be dissociated from syntax – pragmatic force can override expected NMM

Sandler 2009

NMM 18

## Implications

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- WH-NMM need not be in a one-to-one association with WH-structures:
  - WH-structure with different NMM
    - Embedded / indirect questions

NMM

19

## ASL: I don't know why.

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NMM

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Libras: I want to know why,  
then I will be relieved.

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NMM

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## Implications

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- WH-NMM need not be in a one-to-one association with WH-structures:
  - WH-structure with different NMM
    - Embedded / indirect questions
    - WH-question with affective overlay

NMM

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ASL: How do you know my size?

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NMM

23

Libras: How can they cut (the budget)?

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NMM

24

## Implications

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- WH-NMM need not be in a one-to-one association with WH-structures:
  - WH-structure with different NMM
    - Embedded / indirect questions
    - WH-question with affective overlay
  - WH-like NMM with different structures
    - Null WH- or yes/no-questions seeking more information

NMM

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ASL: (Do you want me to) bring some food? Should I bring anything?

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NMM

26

Libras: (Which) place do you like best?

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NMM

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## Implications

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- WH-NMM need not be in a one-to-one association with WH-structures:
  - WH-structure with different NMM
    - Embedded / indirect questions
    - WH-question with affective overlay
  - WH-like NMM with different structures
    - Null WH- or yes/no-questions seeking more information
    - Non- WH-question with puzzled affect

NMM

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ASL: She should not have any problems with me.

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NMM

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## Intonational Analysis

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NMM serves pragmatic functions

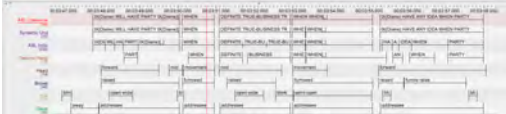
- WH-NMM seeks a content response
  - WH-questions
  - Yes-no questions
  - Declaratives with an implied question
- YN-NMM seeks a yes/no response or confirmation (cf. Dachkovsky & Sandler 2009)
  - Yes-no questions
  - Declaratives seeking confirmation

NMM

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### Timing generalizations

- For the most part, brows and head markers coincide with sign transitions
- Blinks indicate utterance boundaries (Wilbur 1994; Nespor & Sandler 1999; Leite 2008)
- Eye gaze to addressee remains while waiting for the answer



NMM

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### Scope & Timing of NMM

- Although the prosodic unit is generally coextensive with syntactic, there are exceptions
  - Choice questions (cf. Sandler & Lillo-Martin)

NMM

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### ASL: What flavor (cake do you want) – chocolate, vanilla, layer, or what?

NMM

33

### Scope & Timing of NMM

- Although the prosodic unit is generally coextensive with syntactic, there are exceptions
  - Choice questions (cf. Sandler & Lillo-Martin)
  - Hold at beginning/end of question

NMM

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### ASL: Did you buy something for me?

NMM

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### Libras: How did you fix that?

NMM

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## Summary

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- WH-NMM is not a syntactic marker of WH-dependencies
- WH and YN NMM are prosodic markers used for pragmatic functions (following Sandler)

NMM

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## CONCLUSION

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There is no need to claim that sign languages are different from spoken languages with respect to WH-movement and phrase structure universals.

Conclusion

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## ACKNOWLEDGMENTS

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