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Sign Language Negation: From Head Movement to Negative Head

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Introduction

- The realization of sentential negation has been described for various sign languages (SLs) from all continents, including urban and rural (shared/village) SLs
- SL negation often involves elements that are also commonly found as co-speech gestures
- Research has revealed interesting typological variation across SLs as well as typological similarities between SLs and spoken languages

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Overview

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- 1 - From Gesture to Grammar

Grammaticalization of Gestures

(Van Loon, Pfau & Steinbach 2014)

- SLs have the unique possibility of grammaticalizing manual and non-manual gestures
- Two grammaticalization paths (Wilcox 2004, 2007):
  - (i) gesture first develops into a lexical element, which may then further develop into a functional element.
  - (ii) grammaticalization proceeds directly from a gestural source to a functional element, skipping the intermediate lexicalization stage.

→ Path (ii) is relevant for negation

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Manual Negation

- Many, if not most, manual negators seem to have originated from manual gestures expressing rejection, denial, prohibition

Turkish SL
(Zeshan 2004:28)

Jordanian SL
(Hendriks 2008:80)

American SL
(Fischer 2006:187)

Origin of Headshake

- Headnod as "obvious visual representation of bowing before the demand" symbolizes obedience (Jakobson 1972: 92)
- Semantically opposite sign requires contrasting head motion
  → headshake (or backwards head tilt)
- Alternative: rooted in infants' experience during (breast)feeding (Spitz 1957)
  → turning head away from food source

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Gestural Uses of Headshake

(McClave 2000, 2001; Kendon 2002)

- Headshakes as **negative** replies or accompanying negative statements

<+++++++++++++++>
G: No, stann tutti chiusi, tutti sigilatti
No, they are all closed, all sealed up.

<++++++> <++++>
S: He was not impressed with us playing with Peter

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Gestural Uses of Headshake

(McClave 2000, 2001; Kendon 2002)

- Headshakes signalling **uncertainty**

A: I don't know what date it would have been
<+++++++++++++++>
eighteen twenties or eighteee-e-n… something like that

- or **intensification**

←————→
I had had such a great day.
←————————→
She's totally she's so cool.

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Negative Headshakes

- However, when used as a marker of negation in SL, headshakes appear to be tightly linked to the syntactic structure of the utterance they accompany
- In addition, the use and distribution (scope) of the headshake is subject to language-specific constraints
  (Pfau 2002, 2015a; Pfau & Quer 2002)

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A Typological Division

- In all SLs studied to date, negation can be expressed by a manual sign and/or a non-manual marker, the headshake (Zeshan 2004, 2006a).
- In some SLs, the manual element is obligatory, i.e. a proposition cannot be negated by headshake alone → **manual dominant** SLs
- In these SLs, the headshake usually only accompanies the manual negator

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Manual Dominant Sign Languages

- E.g. Italian SL (1), Hong Kong SL (2), Turkish SL → note the ungrammaticality of b-examples

(1) a. PAOLO CONTRACT SIGN NON (neg)
'Paolo didn't sign the contract.'

b. *PAOLO CONTRACT SIGN (neg)

(2) a. INDEX3 TOMORROW FLY NOT (neg)
'It is not true that he is flying tomorrow.'

b. *YESTERDAY NIGHT FATHER FAX FRIEND (neg)
'Father didn't fax his friend last night.'

(Geraci 2005; Tang 2006)

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Turkish Sign Language (TİD)

neg
CHILD++ BEAT INDEX$_1$ NO-NO
'I don't beat (my) children.'

(Zeshan 2006b)

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Non-manual Dominant SLs

- In other SLs, the use of a manual negator is optional; sentences are commonly negated by headshake only → **non-manual dominant** SLs
- Also, the headshake is capable of spreading
- E.g. DGS (a), ASL (b), Indo-Pakistani SL, New Zealand SL

(_____) hs
a. MOTHER FLOWER BUY
'(My) mother does not buy a flower.'

hs
b. JOHN BUY HOUSE
'John is not buying a house.'

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New Zealand Sign Language

top neg
NEXT MEETING, INDEX$_1$ GO INDEX$_1$
'As for the next meeting, I'm not going.'

(McKee 2006)

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Intra-modal Variation

(Pfau 2002; Pfau & Quer 2002, 2007)

- Comparison of ASL, DGS, and LSC reveals variation w.r.t. scope of headshake
- Scope of headshake in the presence of the manual negator NOT (ASL: Neidle et al. 2000)

neg
a. JOHN NOT BUY HOUSE [ASL]

neg
b. SANTI MEAT EAT NOT [LSC]

neg
c. * MOTHER FLOWER BUY NOT [DGS]

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Intra-modal Variation

- Scope of headshake in the absence of NOT: headshake must spread onto object in ASL (ab), while spreading is optional in DGS and LSC

neg
a. * JOHN BUY HOUSE [ASL]

neg
b. JOHN BUY HOUSE [ASL]

neg
c. SANTI MEAT EAT [LSC]

neg
d. POSS$_1$ FRIEND MEAT EAT [DGS]

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Intermediate Summary

- Language-specific rules determine use and scope of the negative non-manual marker
- The negative headshake, as used in SLs, is a grammaticalized gesture (Pfau 2015a)
- Analysis DGS: combination of (optional) particle and (non-manual) affix → split negation
- Analysis LIS: negative particle is lexically specified for headshake

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A Featural Account of Sign Language Negation
(Pfau 2015b)

Negative Elements
(Zeijlstra 2004, 2008)

- Distinction between negative affixes, negative particles, and negative adverbs
- Negative affixes and particles are X^0-elements → negative phrase (NegP) is projected
- In languages with negative adverbs, NegP is not projected

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Negative Concord (NC)

- According to Zeijlstra, all languages that have a negative marker X° are NC languages (e.g. French (a), Czech (b), Turkish)

a. Pierre **ne** vient **pas** ce soir
Pierre NEG come.3SG NEG this evening
'Pierre doesn't come tonight.'

b. Milan **nevidi** **nikoho**
Milan NEG.sees n-body
'Milan doesn't see anybody.'

- Combination of X^0 & adverb (a) or of X^0 and n-word (b) obligatory → **Strict NC** languages

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(Un)Interpretable Features

- NC is an Agree relation between a negative operator carrying [iNEG] and one or more elements carrying [uNEG]
- In Strict NC languages, the negative marker X^0 carries a feature [uNEG] (Zeijlstra 2004, 2008)
- Following Laka (1990) and Giannakidou (2000), Zeijlstra argues that n-words in NC languages are non-negative indefinites, i.e. they are NPIs that are licensed by an overt or covert negation

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NegP in DGS

- DGS has split negation: optional adverb & affix
- The manual negator occupies SpecNegP; this sign is lexically specified for a headshake (evidence from WHY-test; Merchant 2001)
- The headshake is a non-manual affix in Neg°, which triggers V-to-Neg movement (Pfau 2002)

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Negative Concord in DGS

- Consequently, DGS is a **Strict NC** language:
  - the headshake in X^0 carries [uNEG];
  - the optional negative adverb carries [iNEG]
  - n-words are non-neg. indefinites and carry [uNEG]
- Headshake always accompanies n-words (a), but negative adverbial cannot combine with n-word (b)

*(hs)
a. MOTHER NOTHING BUY
'My mother did not buy anything.'

hs
b. * MOTHER NOTHING BUY NOT
'My mother did not buy anything.'

(Un)Interpretable Features

- Thus, in DGS (as e.g. in Czech), it is an abstract negative operator carrying [iNEG] that is responsible for semantic negation; this operator c-commands the highest instance of [uNEG]

a. [$_{TP}$ SUBJECT [$_{NegP}$ [$_{vP}$ **N-WORD**$_{[u\text{NEG}]}$ tv] [$_{Neg^0}$ V+**hs**$_{[u\text{NEG}]}$] *Op*$_{-[i\text{NEG}]}$]]

b. [$_{TP}$ SUBJECT [$_{NegP}$ [$_{vP}$ OBJECT tv] [$_{Neg^0}$ V+**hs**$_{[u\text{NEG}]}$] **NOT**$_{[i\text{NEG}]}$]]

- Sentences (ab) only contain one negation (they do not exemplify Double Negation)

a. MOTHER FLOWER BUY NOT (hs)
'My mother did not buy a flower.'

b. MOTHER NOTHING BUY (hs)
'My mother did not buy anything.'

Evidence for [iNEG] Operator

- Scope of quantifying DP: quantifier dominates negative marker, but is outscoped by negation; cf. DGS (a) with Czech (b) (Zeijlstra 2008)

a. POSS$_1$ BROTHER MUCH EAT (hs)
¬ > much: 'My brother hasn't eaten much.'
* much > ¬: 'There is much that my brother doesn't eat.'

b. Milan moc **nejedl**
Milan much NEG.eat.PERF
¬ > much: 'Milan hasn't eaten much.'
* much > ¬: 'There is much that Milan doesn't eat.'

Non-strict NC Languages

- In Non-strict NC languages, NC between Neg and n-word is not always observed; e.g. Italian

a. Gianni **non** ha telefonato a **nessuno**
Gianni NEG have.3SG called to n-body
'Gianni didn't call anybody.'

b. **Nessuno** (***non**) ha telefonato
n-body NEG have.3SG called
'Nobody called.'

- In Non-strict NC languages, the negative marker X^0 carries an interpretable feature [iNEG]

[$_{TP}$ Subject [$_{NegP}$ **non**$_{[i\text{NEG}]}$ Verb [$_{vP}$ a **n-word**$_{[u\text{NEG}]}$]]]

Turkish Sign Language (TİD)

- Manual dominant SL; sentence-final negative particle lexically specified for non-manual

a. INDEX$_1$ BANANA THROW$_{front}$ NOT (bht)
'I did not throw the banana to the front.'

b. CHILD+ BEAT NO-NO (hs)
'(I) don't beat my children.'

(Gökgöz 2011; Zeshan 2006b)

- NC between two manual negative elements is possible, but not obligatory

NC in TİD

- NC between negative adverbial and n-word (a) or between particle and negative adverbial (b)

a. NONE(2) APPEAR NO-NO (hs)
'Nobody appeared.'

b. INDEX$_1$ $_1$LOOK-AT$_3$ NOT NO
'I didn't look at him.'

(Gökgöz 2011; Zeshan 2006b)

- The negative particle carries an interpretable negative feature [iNEG] and realizes the negative operator – just as in Italian

NC in TİD

- (Optional) manual negative elements occupying SpecNegP (a), as well as n-words (b) carry an uninterpretable feature [uNEG].

a. [$_{TP}$ SUBJECT [$_{NegP}$ [$_{vP}$ OBJECT V] [$_{Neg^0}$ **NOT**/*Op*$_{-[i\text{NEG}]}$] (**NEG**$_{[u\text{NEG}]}$)]]

b. [$_{TP}$ **N-WORD**$_{[u\text{NEG}]}$ [$_{NegP}$ [$_{vP}$ OBJECT V] [$_{Neg^0}$ **NOT**$_{[i\text{NEG}]}$]]]

- In the absence of the negative particle, Neg^0 is occupied by negative operator
- (Weaker version of Agree: feature checking not top-down, but under Spec-head agreement)

Non-manuals in TİD

- Gögköz (2011) adds to the discussion an additional non-manual, 'non-neutral brow position' ('nbp'); 'nbp' is capable of spreading

bht
nbp
INDEX$_1$ BANANA THROW$_{front}$ **NOT**
'I did not throw the banana to the front.'

- In a sense, TİD is a hybrid manual-dominant SL
- In Pfau (2015b), I show that this does not change TİD's status as Non-strict NC language

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Double Negation

- Languages in which the combination of two negative elements yields an affirmative sentence are **Double Negation (DN)** languages

Ich	hab-e	**nicht**	**niemand**	angerufen
I	have-1SG	NEG	nobody	called

'I didn't call nobody (= I called somebody).' (German)

- According to Zeijlstra (2008), DN languages do not have formal negative features, i.e. negative elements are purely semantic and do not project

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Speculations on a DN SL

- A DN SL can only be a manual dominant SL
- The combination of two negative elements should yield an affirmative reading
- This is actually what Geraci (2005) describes for LIS – albeit with an uncertain example

a. * NOBODY CONTRACT SIGN NON
'Nobody signed the contract.'

b. ? SMOKE CANNOT NOBODY
'Everybody must smoke.'

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Speculations on a DN SL

- However, Geraci also provides evidence for the assumption that LIS *does* project a NegP and that the manual negator occupies SpecNegP (while Neg^0 hosts [+neg])
- We must conclude that, to date, no sign language has been described that would unambiguously qualify as a DN language

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- 3.1 -
Adding to the Typological Picture:
A Corpus-based Study of NGT Negation
(Oomen & Pfau: poster)

Data

- Analysis of 35 video clips from Corpus NGT → total length 1 h : 35 min
- 22 native signers from the Groningen region (14 female, 8 male)
- 198 negative clauses (incl. 5 cases of NC): with NOT, hs only, n-word or NEVER, negative modal (→ see next slide)

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Data

Sentence negated by	N	%	total (%)
(i) basic clause negator NOT	49	25.4%	120 (62.2%)
(ii) headshake only	71	36.8%	
(iii) n-word NOTHING, neg.adv. NEVER, neg.compl. NOT-YET	38	19.7%	73 (37.8%)
(iv) negative modal	35	18.1%	
TOTAL	**193**	**100%**	

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Impact of Corpus Data

- Clear evidence concerning
  - status of NGT as non-manual dominant SL
  - fact that NOT is used (contra Van Gijn 2004)
- Challenges / uncertainties:
  - only few sentences with subject and object
  - compatibility with S-O-V and S-V-O order
  - variable position of NOT – sentence-final vs. pre-VP

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Typological Picture

- Most of the data are compatible with (previously established) S-O-V(-Neg) order
- In contrast to DGS, NGT seems to allow headshake on NOT only (3 instances)
- Also, NGT seems to allow for NC involving two manual negators (5 instances)

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Typological Picture

- NGT thus shows features of DGS/LSC (non-manual dominant) and of TİD (manual NC attested)
- Possibly, hs-affix occupies Neg^0 (as in DGS), but element in Neg^0 carries [iNeg] (as in TİD)
- NOT is [uNeg] and occupies SpecNegP
- NGT is a **Non-Strict NC** language

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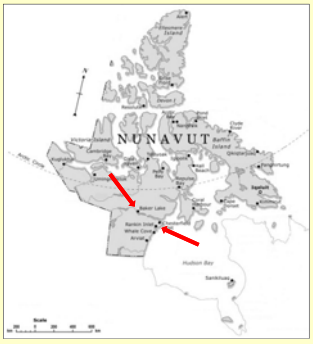
- 3.2 -
Adding to the Typological Picture:

Negation in Inuit Sign Language (IUR)
(Pfau & Schuit, in prep.)

Nunavut

- Inuit SL (IUR): used in various communities throughout Nunavut (Canada) (Schuit 2013)
- Fieldwork sites: Rankin Inlet, Baker Lake



Methodology

- Conversations of two pairs of signers in two Nunavut communities

Participant	Gender	Age	Hearing status	Deaf relatives?	Location
YS	male	late 60s	deaf	deaf brother	Rankin Inlet
PU	male	early 40s	deaf	3 deaf siblings	
BS	male	early 40s	deaf	---	Baker Lake
DK	male	early 40s	hearing	---	

- Total length of recordings: 2:20.00

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Expression of Negation

- Data analysis yielded 82 negative clauses (excl. examples consisting of NEG only)
- Two basic clause negators: NEG-1 () and NEG-5 (see below), which appear to be used interchangeably

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Expression of Negation

hs, ffr
a. WOLVERINE EAT NEG-5
'I do not eat wolverine.' → 45 instances

hs, ffr
b. PRO.PL FISH-BITE NEG-1
'The fish didn't take their bait.' → 11 instances

- 56/82 negative clauses contain manual NEG → suggests non-manual dominance
- Non-manuals: hs & facial frown ('ffr'); 37/56 examples contain both

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Non-manual Dominant?

- Arguments against classification as non-manual dominant
  - hs never spreads beyond the manual negator
  - examples that do not contain NEG-1/5 **all** contain either the sign PALMS-UP (10 instances) or WAIT (16 instances)

hs
a. WARM FINE GO, COLD WAIT
'When it's warm, it's fine to go out, when it's cold, I don't.'

hs
ffr
b. INDEX$_{Iqaluit}$ IQALUIT INDEX$_{left}$ THINK PALMS-UP
'I don't know whether it was in Iqaluit or there (unknown).'

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Grammaticalization

- The signs PALMS-UP (PU) and WAIT have grammaticalized into markers of negation
- PU is also observed in other SLs in the context of negation (Zeshan 2004)
- [For NGT: Coerts (1992); 30/102 negative clauses contain PU, sometimes NEG + PU]
- Not clear yet whether use of WAIT is constrained to specific verbs (e.g. GO, SHOOT)

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Grammaticalization

- Grammaticalization of negative markers from verbs 'leave, lose'; e.g. Fulfulde

a. o **waas**-ii debbo makko
he lose-TNS woman his
'He has lost his wife.'

b. ko miin **was**-i am-de
FOC me NEG-TNS dance-INF
'It's me who did not dance.'

(Marchese 1986; in Heine & Kuteva 2002:188)

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Typological Picture

- IUR is a **manual dominant** sign language
- The manual dominant pattern has also been described for other rural SLs; e.g. Kata Kolok (Bali) and Yolngu SL (NE Australia) (Marsaja 2008; Bauer 2012 – also see De Vos & Pfau 2015)
- IUR displays interesting grammaticalization patterns in the domain of negation
- Future research on SL negation should include PALMS-UP

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- 4 - Conclusions

Conclusions

- SLs differ typologically when it comes to the realization of sentential negation
- They employ negative affixes, particles, adverbs, and n-words, but display different combinatory possibilities
- I presented an attempt to account for the attested differences in terms of formal features associated with negative elements

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