1st Meeting on the Morphosyntax of LGP and other sign languages
– Porto, November 26th, 2015 –

Sign language syntax: Typological and structural properties of sentential negation

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Introduction: Why Negation?

- 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

1. Negation: sign language typology
   – Manual dominant sign languages
   – Non-manual dominant sign languages
   – Negative Concord
2. Negation: towards a cross-modal typology
   – Typology of negation
   – Particles and affixes in sign languages
3. Syntax of sign language negation
   – Manual dominant sign languages
   – Non-manual dominant sign languages
4. Conclusion

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Part 1:
Negation: Sign Language Typology

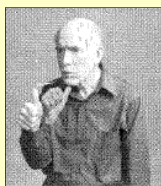## Manual & Non-manual Negation

- **Manual** negative particles
  - shared form characteristics across SLs;
  - grammaticalized from manual gestures;

Turkish SL
(Zeshan 2004:28)

Jordanian SL
(Hendriks 2008:80)

American SL
(Fischer 2006:187) 5

Manual & Non-manual Negation

- **Non-manual** markers
  - side-to-side headshake or backward head tilt;
  - grammaticalized from (culture-specific) non-manual gestures (Van Loon et al. 2014; Pfau 2015);
  - facial expressions (e.g. Inuit SL, Chinese SL)

(Schuit 2013; Yang & Fischer 2002) 6

A Basic Typological Division
(Zeshan 2004, 2006a)

- Manual dominant sign languages:
  - presence of a manual negator is required;
  - the non-manual usually only accompanies the manual negator (may spread under cliticization)
- Non-manual dominant sign languages:
  - presence of a manual negator is optional;
  - the non-manual is capable of spreading

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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

```
                                      hs
(1)  a.  PAOLO  CONTRACT  SIGN  NON
         'Paolo didn't sign the contract.'
         (_____) (_____)  __hs
     b.  *PAOLO  CONTRACT  SIGN
         'Paolo didn't sign the contract.'

                                   hs
(2)  a.  YESTERDAY  FATHER  GO  SHOP  NOT
         'It is not true that father went to shop yesterday.'
                                         hs
     b.  *YESTERDAY  NIGHT  FATHER  FAX  FRIEND
         'Father didn't fax his friend last night.'
```

(Geraci 2005; Tang 2006)

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Turkish Sign Language (TİD)


```
                             neg
CHILD++  BEAT  INDEX₁  NO-NO
'I don't beat (my) children.'
```

(Zeshan 2006b)

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Inuit Sign Language (IUR

(Schuit 2013)

```
                                                    hs
THROW-LINE  BRING-IN-LINE  INUK  FISHING-ROD  NEG-5
```

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Non-manual Dominant SLs

- E.g. American SL (1), German SL (2), Indo-Pakistani SL, New Zealand SL (see next slide)

```
         ____ (_____hs)
(1)  a.  JOHN  NOT  BUY  HOUSE
         'John is not buying a house.'
                   hs
     b.  JOHN BUY HOUSE
         'John is not buying a house.'
                       (____)    hs
(2)  a.  POSS₁ BROTHER  WINE  LIKE  NOT
         'My brother doesn't like wine.'
                       (____)  hs
     b.  POSS₁ BROTHER  WINE  LIKE
         'My brother doesn't like wine.'
```

(Neidle et al. 2000; Pfau 2015)

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New Zealand Sign Language


```
         top           neg
NEXT  MEETING, INDEX₁  GO  INDEX₁
'As for the next meeting, I'm not going.'
```

(McKee 2006)

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Non-manual Spreading

- Within non-manual dominant group: differences in spreading patterns
- Headshake on **Neg sign only** is grammatical in ASL & Catalan SL, but not in DGS

a.	JOHN **NOT** BUY HOUSE	[ASL]
b.	SANTI MEAT EAT **NOT**	[LSC]
c. *	MOTHER FLOWER BUY **NOT**	[DGS]

(Pfau & Quer 2002; Pfau 2015)

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Non-manual Spreading

- Headshake on **verb sign only** is grammatical in LSC and DGS, but not in ASL (where hs must spread onto object)

a. *	JOHN **BUY** HOUSE	[ASL]
b.	SANTI MEAT **EAT**	[LSC]
c.	POSS₁ FRIEND MEAT **EAT**	[DGS]

(Pfau & Quer 2002; Pfau 2015)

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Negative Concord (NC)

- Within both groups, SLs differ from each other w.r.t. availability of (manual) Negative Concord
- Manual dominant SLs: NC is attested in TİD (a), but impossible in LIS (b)

a.   INDEX₁ ₁LOOK-AT₃ **NOT NO**
'I didn't look at him.'

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

(Gökgöz 2011; Geraci 2005)

Negative Concord

- Within non-manual dominant group: NC is attested in ASL (a) and LSC (b), but not in DGS (cd) (Wood 1999; Pfau & Quer 2002)

a.   JOHN **NOT** LEARN ASL **NEVER**
'John will not ever learn ASL.'

b.   INDEX₁ SMOKE **NOT NEVER**
'I have never smoked.'

c. * **NO-ONE** WINE LIKE **NOT**
'No-one likes wine.'

d. * INDEX₁ SMOKE **NEVER NOT**
'I have never smoked.'

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Intermediate Summary

- Language-specific rules determine position of manual negator (and availability of NC)
- Also, language-specific rules determine use and scope of the negative non-manual marker
- Rule-based behavior strongly suggests that the negative headshake, as used in SLs, is not a gestural element
- Headshake is a grammaticalized gesture
(Van Loon, Pfau & Steinbach 2014; Pfau 2015)

Part 2:

Negation: Towards a
Cross-modal Typology

"Classical" Typology
(Dahl 1979, 2011; Payne 1985)

- "Standard negation" is **clausal** (does not include affixes such as English *un-* & *dis-*)
- Distinction with respect to morphological nature of the negative element(s)
  - negative verbs
    - (i) higher negative verb;
    - (ii) negative auxiliaries;
  - negative particles;
  - morphological negatives.

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Negative Verbs

- **Tongan**: Higher negative verb *'ikai* taking complement clause (Churchward 1953)

a.	Na'e	'alu	'a	Siale
	ASP	go	ABS	Charlie
	'Charlie went.'			
b.	Na'e	'ikai	[s ke	'alu 'a Siale]
	ASP	NEG	ASP	go ABS Charlie
	'Charlie didn't go.'			

- **Evenki**: Negative auxiliary *ə* takes over inflections
  (Nedyalkov 1994)

a.	Nuŋan	min-du	purta-va	bū-che-n
	he	1.SG-DAT	knife-ACC	give-PAST-3.SG
	'He gave me the knife.'			
b.	Nuŋan	min-du	purta-va	ə-che-n bū-re
	he	1.SG-DAT	knife-ACC	NEG-PAST-3.SG give-PART
	'He did not give me the knife.'			

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Negative Particle

- For instance, **Dutch** (cf. also the English translation)
- Particles are independent words and are uninflected; position in clause

a.	Hans	koop-t	het	auto	
	Hans	buy-3SG	the	car	
	'Hans buys the car.'				
b.	Hans	koop-t	het	auto	**niet**
	Hans	buy-3SG	the	car	NEG
	'Hans does **not** buy the car.'				

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Morphological Negation

- For instance, **Turkish**
- Negative suffix *-mV* attaches to verb stem, is followed by inflectional suffixes

a.	Oku-yor-um
	read-PROG-1.SG
	'I am reading.'
b.	Oku-**mu**-yor-um
	read-NEG-PROG-1.SG
	'I am not reading.'

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A Special Case: Split Negation

- For instance, **Standard French**
- Sentential negation requires the presence of two negative elements

|						
a.	Il	veut	rest-er	à	la	maison
	he	want.3SG	stay-INF	at	the	house
	'He wants to stay at home.'					
b.	Il	**ne** veut	**pas** rest-er	à	la	maison
	he	NEG want.3SG	NEG stay-INF	at	the	house
	'He doesn't want to stay at home.'					

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Sign Languages

- How do sign languages fit into this typological picture? Do they fit at all?
- Potential challenge: common combination of manual and non-manual markers
- (General concern: Is it even desirable to "squeeze" them into existing typology?)

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Manual Dominant SLs

- Manual dominant SLs employ a negative particle that is lexically specified for the non-manual
- Non-manual
  ≈ suprasegmental
- Compare TİD and Musgu (Cameroon)
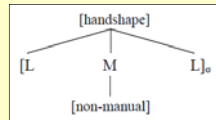
		hs
a.	CHILD+ BEAT INDEX₁ NO-NO	
	'(I) don't beat my children.'	

b. à   sədà   cécébè pày
3SG.M know jackal NEG
'He didn't see the jackal.'

(Dryer 2005)   25

Non-manual Dominant SLs

- DGS, a non-manual dominant SL, resembles French in that it combines a negative particle and a negative affix
- However, the affix is a featural affix – again, compare tone (Akinlabi 1996)
- Negation by means of particle and tone change (b) or tone change alone (d) in Ógbrû (Ivory Coast) (→ next slide)

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Negation in Ógbrû

a. Kirî ò   búkù   òkókò
   Kéré ASP ask.for.RES banana
   'Kéré has asked for the banana.'

b. Kirî ó   búkù   mú   òkókò
   Kéré ASP.NEG ask.for.RES NEG banana
   'Kéré has not asked for the banana.'

c. Kirî à   pá   òkókò
   Kéré ASP buy.RES banana
   'Kéré has bought bananas.'

d. Kirî á   pá   òkókò
   Kéré ASP.NEG buy.RES banana
   'Kéré has not bought bananas.'

(Mboua 1999)   27

Suprasegmental Negation

- In the absence of manual negator; compare Mbembe (Nigeria) and DGS

a. mɔ́-tá   b. mɔ̀-tá
   3.FUT-go   3.NEG-go
   'He will go.'   'He won't go.'   (Dahl 2011)

a. MOTHER FLOWER BUY   b. MOTHER FLOWER BUY (hs)
   'Mother buys a flower.'   'Mother doesn't buy a flower.'

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Spreading

- Spreading of headshake is an instance of suprasegmental spreading
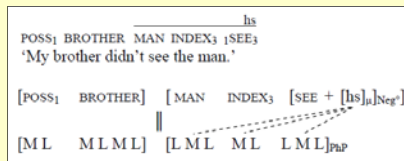- Cf. external tone sandhi, e.g. progressive H-spreading in Tsonga (South Africa)

xikòxà (L-L-L)   →   vá   pfúná xíkòxà (H-H-L)
old.woman   they help old.woman
                      'They help the old woman.'

nhwànyànà (L-L-L) →   ú   rhándzá nhwányánà (H-H-L)
girl   he likes   girl
                       'He likes the girl.'

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Spreading

- In DGS, spreading must target entire constituents; non-pronominal subjects are usually outside the spreading domain

```
                          hs
POSS₁ BROTHER MAN INDEX₃ ₁SEE₃
'My brother didn't see the man.'

[POSS₁ BROTHER] [MAN INDEX₃ [SEE + [hs]ₐ]Neg°]
        ‖
[M L    M L M L] [L M L  M L  L M L]PhP
```

- What is the relevant spreading domain?

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Part 3:

Syntax of sign language negation

Syntactic Accounts of Negation

- Functional categories, just like lexical categories, project phrases (XPs)
- Negative head (Neg°) projects a negative phrase (NegP) (Pollock 1989; Haegeman 1995)
- The head and/or the specifier of NegP may be occupied by negative elements
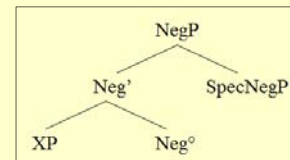
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The Negative Phrase

NegP

SpecNegP   Neg'

Neg   XP
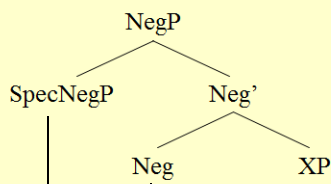
- English: **not**   Ø   → I do **not** know
- Turkish: Ø   **-mV**   → bil-**mi**-yor-um
- French: **pas**   **ne**   → Je **ne** sais **pas**₃₃

The Negative Phrase

- Obviously, further operations apply; e.g. movement of V to Neg in Turkish, and further up in French.
- Also, structure may be the mirror image:

NegP

Neg'   SpecNegP

XP   Neg°

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Applicability to SLs

- Can this scheme be applied to sign languages?
- Can it capture the difference between manual dominant and non-manual dominant sign languages?

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Part 3-1:

Non-manual dominant sign languages: ASL, LSC & DGS

American Sign Language

- Headshake may co-occur with NOT only
- In the absence of NOT, hs must spread over entire VP

```
         ___ (_____ hs)
a.   JOHN  NOT  BUY HOUSE
     'John is not buying a house.'
            ___ hs
b.  * JOHN   BUY HOUSE
       'John is not buying a house.'
         _____ hs
c.   JOHN   BUY HOUSE
     'John is not buying a house.'
```

(Neidle et al. 2000)

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Structure for ASL
(Neidle et al. 2000)

```
              NegP
           /        \
        Spec        Neg'
         |         /     \
        Op       Neg      VP
                          /  \
           (NOT)+[+neg]  V    DP
```

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Headshake on NOT only

```
              NegP
           /        \
        Spec        Neg'
         |         /     \
        Op       Neg      VP
                  |       /  \
              (NOT+[+neg]) V   DP
```

→ headshake which realizes [+neg] can combine with NOT 39

Headshake on NOT only

```
              NegP
           /        \
        Spec        Neg'
         |         /     \
        Op       Neg      VP
                  |       /   \
                  hs     V     DP
                 NOT    BUY   HOUSE
```

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Headshake over VP

```
              NegP
           /        \
        Spec        Neg'
         |         /     \
        Op       Neg      VP
                  |       /  \
               [+neg]    V    DP
```

→ verb cannot move to Neg 41

Headshake over VP

```
              NegP
           /        \
        Spec        Neg'
         |         /     \
        Op       Neg      VP
                  |       /   \
               [+neg]   BUY   HOUSE
                              hs
```

→ headshake spreads over c-command domain (VP) 42

Catalan Sign Language

- Headshake may co-occur with NOT only
- In the absence of NOT, spreading of hs is optional

(Pfau & Quer 2002, 2007)

$$\overline{(\underline{\quad})(\underline{\quad})\underline{\quad hs}}$$
a. SANTI MEAT EAT **NOT**
    'Santi doesn't eat meat.'

$$\overline{(\underline{\quad})\underline{\quad hs}}$$
b. SANTI MEAT EAT
    'Santi doesn't eat meat.'

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Structure for LSC
(Pfau & Quer 2002)
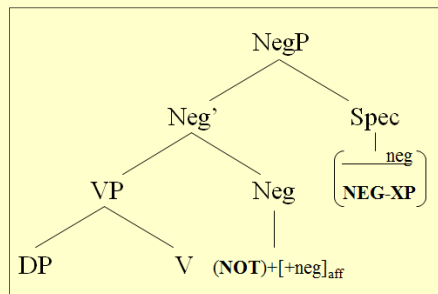
44

Headshake on NOT only
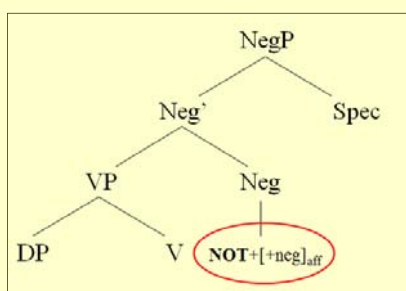
→ headshake which realizes [+neg] attaches to NOT

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Headshake on NOT only
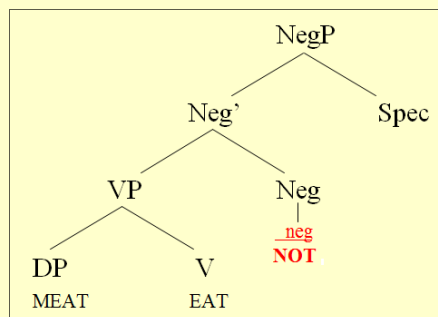
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Headshake on Verb only
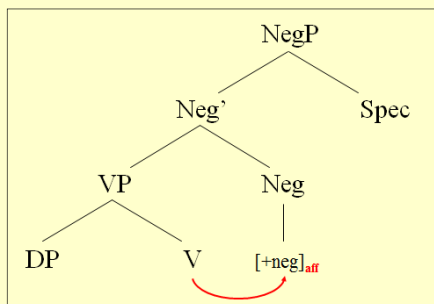
→ featural affix triggers verb movement in the absence of NOT

Headshake on Verb only
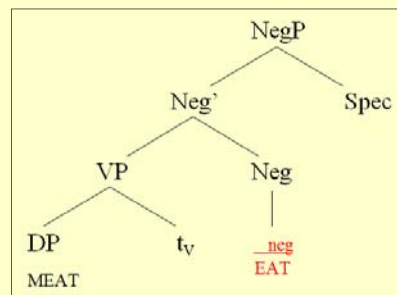
→ headshake affix attaches to verb

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Negative Concord in LSC
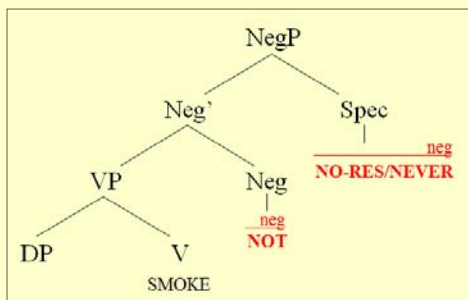
→ specifier is available for additional negative element 49

German Sign Language

- Hs may not co-occur with NOT only (b)
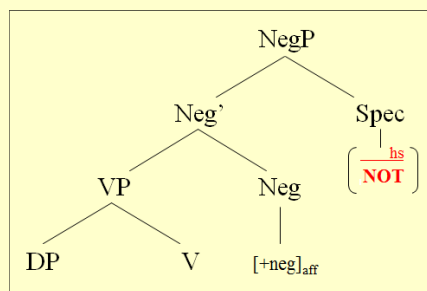- Headshake may co-occur with verb only (c)
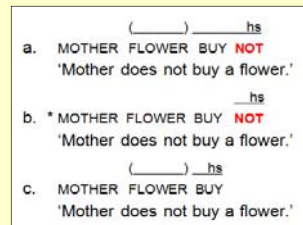
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Structure for DGS

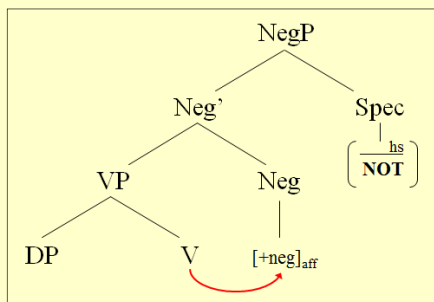(Pfau 2002; Pfau & Quer 2002)
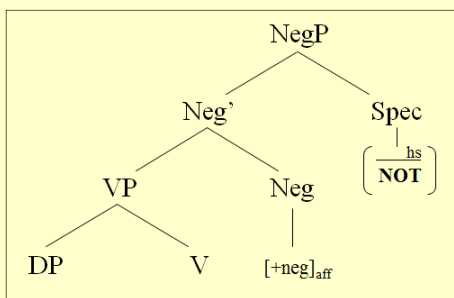
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Structure for DGS

→ manual negator occupies SpecNegP;
lexically specified for headshake 52

Headshake on Verb only

→ therefore, verb **must** move to Neg to pick up the affix 53

Distribution of Elements …

- … explains why verb **must** be accompanied by headshake in DGS
- … explains why Negative Concord (involving two manual elements) is not attested in DGS → Spec is already occupied

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Antisymmetric Structure

- V-to-Neg move-ment; headshake attaches
- V must move further up, as it precedes NOT
- Object must move up
- Spreading facts are difficult to account for
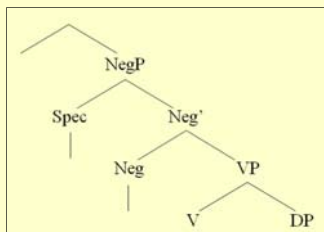
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Part 3-2:
Manual dominant sign languages: LIS & TİD

Position of Headshake in Italian SL

- In Italian SL (LIS), negation cannot be expressed by headshake only (a); headshake only accompanies manual negator (b)

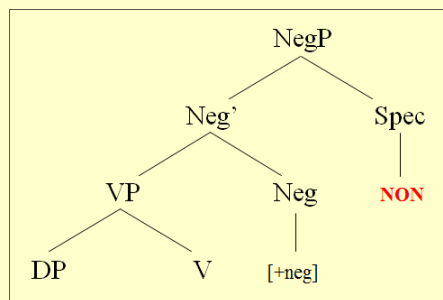a. * PAOLO CONTRACT SIGN (neg)
b. PAOLO CONTRACT SIGN **NON** ‾neg
   'Paolo didn't sign the contract.'
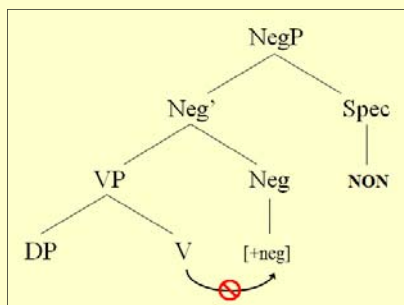
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Structure for LIS
(Geraci 2005)

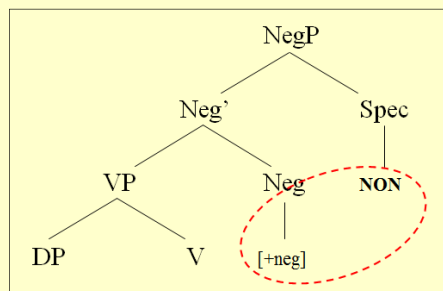→ manual Neg sign occupies SpecNegP (as in DGS) 58

Structure for LIS
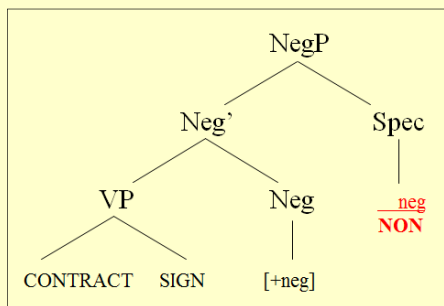
→ verb movement to Neg is impossible (just as in ASL) 59

Realization of Headshake

→ SpecNegP is always filled and hs can combine with Neg sign

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Headshake on NON only

NegP

Neg'   Spec

VP   Neg   neg
NON

CONTRACT   SIGN   [+neg]

→ just as in DGS, NC is impossible as Spec is unavailable   61

LIS sentences with N-signs

- N-signs in sentence-final (a) and base position (bd): different scope of non-manual marker (NMM)
- N-signs in (bd) move to SpecNegP at LF; feature checking established by means of NMM-spreading

$$\overline{\text{neg}}$$
a.   CONTRACT SIGN **NOBODY**

$$\overline{\text{neg}}$$
b.   **NOBODY** CONTRACT SIGN

$$\overline{\text{neg}}$$
c. * **NOBODY** CONTRACT SIGN

$$\overline{\text{neg}}$$
d.   GIANNI **NOTHING** SIGN   62

Turkish Sign Language

- Remember that, according to Zeshan (2006), TİD is a manual dominant SL
- There are two non-manual markers – headshake and backward head tilt (bht) – which are synchronized with the manual negator

$$\overline{\text{hs}}$$
a.   CHILD++ BEAT INDEX₁ **NO-NO**
   'I don't beat (my) children.'

$$\overline{\text{bht}}$$
b.   INDEX₁ SPEAK   KNOW^**NOT**
   'I cannot speak.'   63

TİD: INDEX₁ SPEAK KNOW^NOT   ‾‾‾‾bht

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Turkish Sign Language

- In contrast, Gökgöz (2011) claims that TİD is not strictly manual dominant
- Hs and bht are lexical markers associated with negative signs; they do not spread
- The relevant syntactic non-manual marker is a 'non-neutral brow position' ('nbp'), which commonly spreads over the entire clause
- Still, TİD is manual dominant in that all clauses contain a manual negator

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Turkish Sign Language

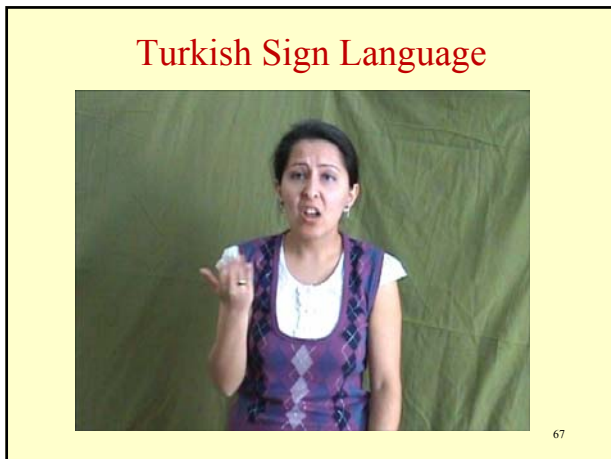(21) Non-neutral brow position spreading over the entire sentence

‾‾‾‾bht
‾‾‾‾nbp
IX₁   MUZ   (ÖNE) ATMAK   DEĞİL
I   banana   (front) throw   not
'I did not throw the banana to the front.'

(23) a.

‾‾‾‾nbp
IX₁   İŞARET   BİLMEK   DEĞİL   HİÇ
I   sign   know   not   at all
'I didn't know (how to) sign at all.'

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Turkish Sign Language

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Turkish Sign Language

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Turkish Sign Language

- Negative marker is lexically specified for non-manual and sits in Neg°
- 'nbp' also occupies Neg°; it accompanies either only the manual NEG or spreads over entire sentence
- In addition, 'nbp' spreads onto neg. XP in SpecNegP

(Gökgöz 2011)

Summary: Typological Picture

		DGS	LSC	ASL	LIS	TİD	NGT
(i)	word order	SOV	SOV	SVO	SOV	SOV	SOV
(ii)	manual dominant?	–	–	–	+	+	–
(iii)	NOT clause-final?	+	+	+/–	+	+	+/–
(iv)	hs only on NOT?	–	+	+	+	+[a]	?
(v)	hs only on predicate (in the absence of NOT)?	+	+	–	–	–	+
(vi)	hs spread onto object?	+	+	+	–	–	+
(vii)	hs spread onto subject?	–	–	+/–	–	–	–
(viii)	Negative Concord?	–	+	+	–	+	+

→ NGT: corpus study (Oomen & Pfau, submitted)

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Part 4:
Conclusion

Thanks for your Attention!

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