

V-TO-NEG RAISING AND NEGATIVE CONCORD IN THREE SIGN LANGUAGES

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1. Introduction¹

The realization of negation has been described for quite a number of sign languages (SLs).² With very few exceptions (e.g. Liddell 1980, de Quadros 1999, and Neidle et al. 2000), however, none of the available studies tries to give a syntactic account for the data under investigation.

Across sign languages, striking similarities are found with respect to the realization of negation: in all the SLs studied so far, a manual Neg element (a Neg sign) is combined with a non-manual marking (a head movement), and in most of them, the manual Neg sign is optional, i.e. the non-manual alone is sufficient to negate a proposition. In all these SLs, the non-manual element is a side-to-side headshake. Moreover, in Greek SL and Turkish SL, a backwards head tilt is also observed in negative contexts. It is important to note that the headshake that finds use in SL negation is not just an affective expression, but rather an integral part of the grammar of SLs. Its use and distribution can be clearly distinguished from that of affective/communicative head movements (see Reilly & Anderson 2002).

In this paper, we will concentrate on the syntactic properties of negation in three SLs: American Sign Language (ASL), Catalan Sign Language (*Llengua de Signes Catalana*: LSC), and German Sign Language (*Deutsche Gebärdensprache*: DGS).

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² For instance, American SL (Liddell 1980, Veinberg & Wilbur 1990), Argentine SL (Veinberg 1993), Austrian SL (Skant et al. 2002), Brazilian SL (de Quadros 1999), British SL (Sutton-Spence & Woll 1999), Chinese SL (Yang & Fischer 2003), Greek SL (Antzakas 2002), International Sign (Supalla & Webb 1995), Indopakistani SL (Zeshan 2000), SL of the Netherlands (Coerts 1992), Swedish SL (Bergman 1995), and Turkish SL (Zeshan 2003).

First, we are going to show that the observed similarities are only superficial ones. In fact, we find subtle but consistent differences in the workings of manual and non-manual markings of negation in the three SLs. We will provide an account for the differences based on the assumption that the Neg elements involved have different morphosyntactic properties and occupy different positions within NegP in the three SLs. Secondly, we will examine the variation observed in Negative Concord structures. Finally, we will add some extra evidence for the analysis proposed by incorporating into the picture the syntactic behavior of negative modals.

2. Combination of manual and non-manual negation markers

Let us start by pointing out that the phonological form of the manual Neg sign for sentential negations differs in the three SLs, as is illustrated in (1).

(1)			
	↔ 2-3x		
	ASL 'NOT'	LSC 'NO'	DGS 'NICHT'

More importantly, there are also syntactic differences: while the underlying word order in ASL is SVO with the manual Neg sign preceding the verb (Aarons et al. 1992, Neidle et al. 2000), LSC and DGS are underlyingly SOV (Quer 2002, Pfau & Glück 2000) and the manual Neg sign follows the verb.

The examples in (2) illustrate that in all three SLs, it is not possible to negate a sentence by a manual Neg sign only; that is, a side-to-side headshake (hs) is compulsory in negative contexts. (ASL data are from Neidle et al. (2000: 44f).³

- (2) a. *JOHN NOT BUY HOUSE (ASL)
'John is not buying a house.'
- b. *SANTI CARN MENJAR NO (LSC)
 Santi meat eat not
'Santi doesn't eat meat.'

³ Sign language examples are given in capital letters. The line above the glosses indicates which sign or which sequence of signs a nonmanual marker – here: a headshake – is associated with.

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c.	*MUTTER	BLUME	KAUF	NICHT	(DGS)
	mother	flower	buy	not	
‘Mother is not buying a flower.’					

The exact distribution of the negative headshake, however, differs from SL to SL in a number of respects. When a manual Neg sign is present, it is possible in ASL and LSC for the headshake to be associated with the Neg sign only (3ab); the same distribution, though, is ungrammatical in DGS (3c).

- (3) a. JOHN hs NOT BUY HOUSE (ASL)
- b. SANTI CARN MENJAR NO hs (LSC)
- c. *MUTTER BLUME KAUF NICHT hs (DGS)

As mentioned above, the manual Neg sign is optional in most SLs, i.e. it is possible to negate a proposition by means of non-manual marking only. Once again, we observe striking differences among the three SLs under study: while in LSC and DGS it is possible to have headshake on the verb sign only (4bc), the same pattern is ungrammatical in ASL (4a).

- (4) a. *JOHN BUY HOUSE hs (ASL)
- b. SANTI CARN hs MENJAR (LSC)
- c. MUTTER BLUME KAUF hs (DGS)

When no manual Neg sign is present, the headshake **must** spread onto the object DP in ASL (5a). In contrast to that, spreading of the non-manual is optional in LSC and DGS (5bc). Spreading of the headshake is clearly restricted by the phrase structure in that it must spread over entire constituents (Pfau 2002, 2003). However, such spreading can have interpretive consequences, such as metalinguistic negation readings (Quer 2002).

- (5)
- a. JOHN BUY HOUSE hs (ASL)
- b. SANTI CARN hs MENJAR (LSC)
- b. MUTTER BLUME KAUF hs (DGS)

Note that it may very well be the case that the non-manual marker acts as an intonational contour whose distribution is determined by intonational phrases, as has been defended for other non-manual grammatical markers (Sandler 1999, Lillo-Martin 2001); for the purposes of this paper we will not dwell on this issue.

Another well-attested crosslinguistic fact is that headshake must be coarticulated with manual material, that is, it must be prosodically licensed (*pace* Liddell 1980 on negative headshake as a negative answer).⁴

Summarizing the basic facts so far, we can state that the similarities found among the three SLs, i.e. the combination of a manual and a non-manual Neg element, are only superficial ones. In fact, headshake on the manual Neg sign only is grammatical in ASL and LSC but ungrammatical in DGS, while headshake on the verb sign only is grammatical in LSC and DGS but ungrammatical in ASL.

3. Analysis

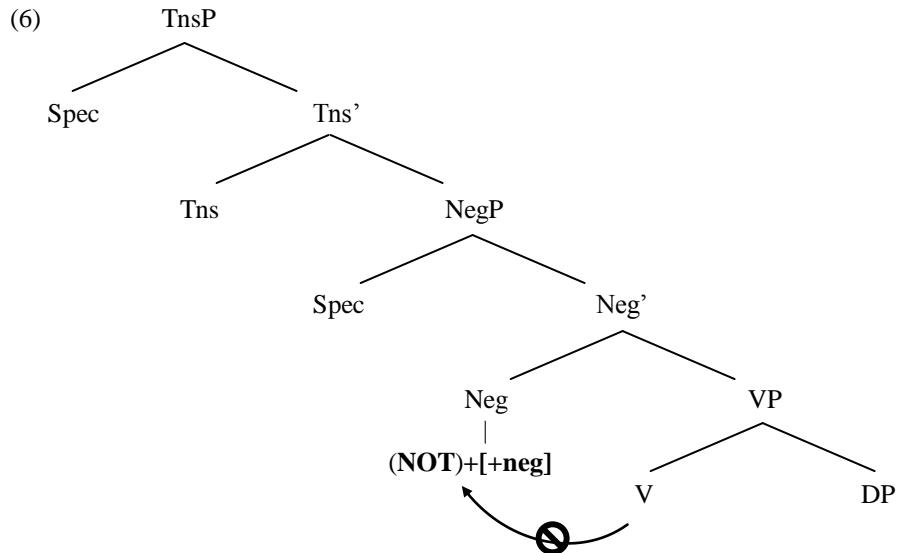
In this section, we are going to show how the differing grammaticality patterns presented above can be accounted for by assuming that the manual and non-manual Neg elements have different morphosyntactic properties and occupy different positions within NegP in the three languages.

The clause structure for ASL as proposed by Neidle et al. (2000) is represented in (6). These authors assume that the manual sign NOT as well as a syntactic [+neg]-feature realized by the headshake occupy the head of NegP.

⁴ Consequently, the examples from LSC (i) and DGS (ii) are ungrammatical.

(i) *SANTI CARN MENJAR
 hs
(ii) *MUTTER BLUME KAUF
 hs

For a different view with respect to ASL see Veinberg & Wilbur (1990) and Dively (2001). For Chinese SL (Yang & Fischer 2003) and British SL (Sutton-Spence & Woll 1999), too, it has been reported that similar structures are grammatical.

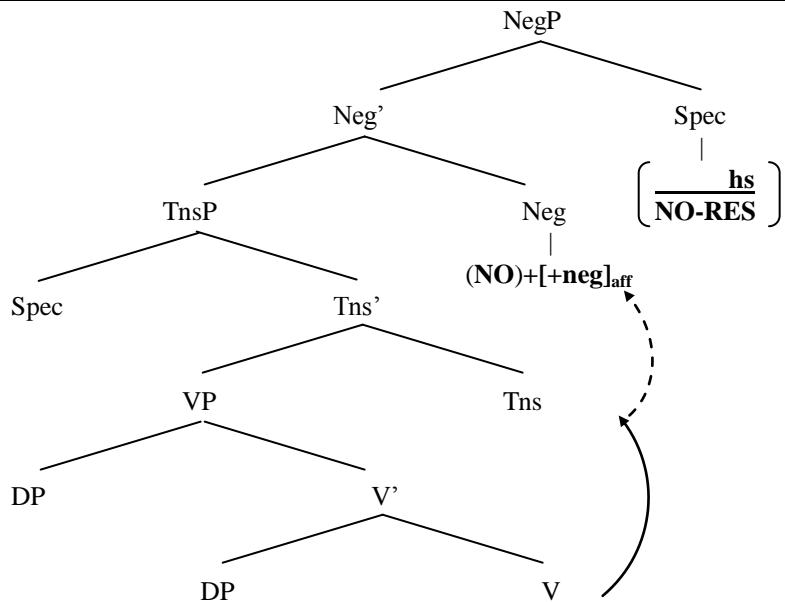


In ASL, the verb never raises to Neg°. When NOT is present, the headshake (which is the realization of [+neg]) can associate with NOT and therefore headshake on NOT only is grammatical (7a). When NOT is not present, [+neg] has no manual material to be articulated with and is therefore forced to spread over its entire c-command domain, as the contrast between (7b) and (7c) makes clear.

In compliance with the NEG-criterion (Haegeman & Zanuttini 1991, Haegeman 1995), the head Neg° hosting $[+\text{neg}]$ must be in a Spec-head configuration with a negative operator. Consequently, we assume the presence of an empty negative Op in SpecNegP in structures such as (7a) or (7c).

The situation is quite similar in LSC: as in ASL, Neg^o hosts the negative sign NO as well as the feature [+neg]. The LSC clause structure is given in (8) (Quer 2002). Note that Tns selects NegP as its complement in ASL while Neg selects TnsP in LSC and DGS. These are actually two of the possibilities allowed by the fine-grained functional structure, as assumed in Zanuttini (1997) and Cinque (1999).

(8)



A crucial difference between LSC and ASL, however, concerns the status of [+neg]. In LSC, but not in ASL, [+neg] is a featural affix (Akinlabi 1996). When NO is present, [+neg] will be affixed to NO (9a). Whenever NO is not present, V-to-Neg raising is triggered due to the Stray Affix Filter. The featural affix attaches to the verb and therefore, headshake on the verb sign only is grammatical in LSC (9b).

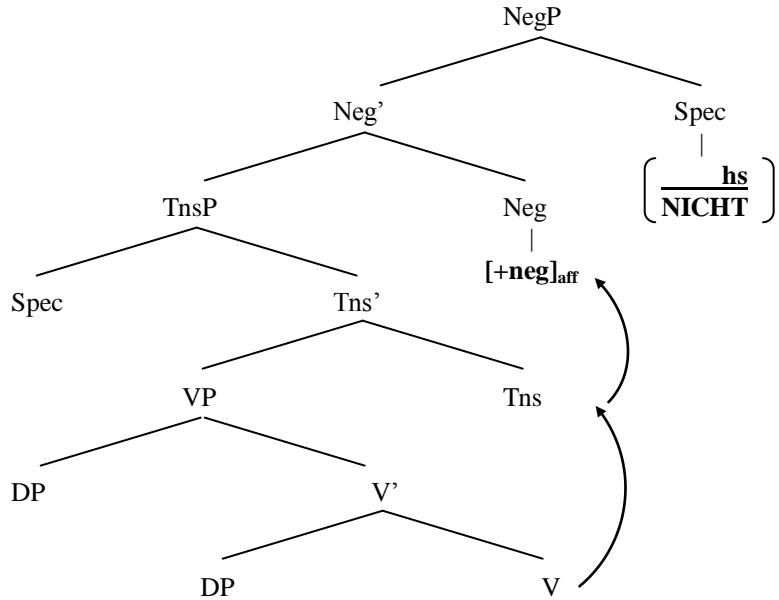
- (9) a. SANTI [NegP [VP CARN MENJAR] [Neg [NO]] hs
 b. SANTI [NegP [VP CARN t_V] [Neg [v MENJAR]]] hs

Consequently, ASL and LSC are similar to each other with respect to the positioning of the negative elements within NegP, but they differ from each other with respect to the character of the [+neg]-feature, which is syntactic in ASL but morphological in LSC.

DGS, on the other hand, differs from both ASL and LSC with respect to the positioning of the negative elements within NegP, but it patterns with LSC as far as the affixal nature of [+neg] is concerned. This is reflected in the structure under (10) (Pfau 2002, 2003).

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(10)



In contrast to ASL and LSC, the manual Neg sign NICHT occupies SpecNegP in DGS. This sign is lexically specified for a headshake. Just as in LSC, [+neg] is affixal in nature, but since the manual sign occupies SpecNegP in DGS, the verb must always raise to Neg in order to pick up the Neg-affix. Consequently, unlike in ASL and LSC, a sentence such as (11a), where verb raising has not applied, is ungrammatical. By contrast, in (11bc) V-movement to Neg has applied and [+neg] has been affixed to the verb. Note that when NICHT is present, as in (11b), the headshake on the verb and the Neg sign is continuous.

- hs
- (11) a. *MUTTER [NegP [VP BLUME KAUF] [Neg +neg] [SpecNegP NICHT]] hs hs
- b. MUTTER [NegP [VP BLUME tv] [Neg [v KAUF]] [SpecNegP NICHT]] hs
- c. MUTTER [NegP [VP BLUME tv] [Neg [v KAUF]] [SpecNegP Ø]]

The above examples and structures make clear that LSC and DGS show negative concord in the sense that two Neg elements – a particle and an affix – may be combined without changing the polarity of the sentence back to affirmative (see 4.1 below). DGS, however, is the only one of the three SLs that shows split negation,

that is, the only one where the two Neg elements involved occupy different positions within NegP.

4. On negative concord and negative modals

In this section we will first focus on the properties of Negative Concord structures. These structures can be roughly characterized as utterances containing two or more elements that may also express negation independently; still, the combination of negative elements yields a single sentential negation. We will also discuss the distribution of negative modals, which we take to shed further light on the morphosyntactic differences between the SLs under study.

4.1. Negative concord (*NC*)

If we take [+neg] as the main negator, two types of NC must be distinguished on the basis of the three SLs discussed above (Quer 2002):

- NC between the nonmanual component and the negative manual sign, as attested in all three SLs;
 - NC between a manual negation sign (NOT, NO, NICHT) and other manual negative XPs; this type of NC is only attested for LSC.

In LSC, SpecNegP can either be empty (hosting a covert negative Op) or occupied by an overt negative operator such as NO-RES ‘NEG’, MAI ‘never’, EN-ABSOLUT ‘at all’, etc., as is shown in (12).

- (12) a. INDEX₁ [NegP [Neg FUMAR] [SpecNegP
I *smoke.NEG* NO-RES]]
 '‘I haven’t smoked (at all).’'

b. BERTA VERDURA [NegP [Neg MENJAR] [SpecNegP
Berta *vegetables* *eat.NEG* MAJ]]
 '‘Berta never eats vegetables.’'

Negative XPs, which are typically non-argumental in LSC, are base-generated in SpecNegP or else adjoined to NegP. Note that they are certainly not adjoined to CP, as they appear to the left of a sentence-final Wh-phrase. The LSC negative operator NO-RES is properly characterized as an unselective binder (Quer 2002).

The LSC examples in (13) serve to illustrate that negative XPs, such as NO-RES and MAI, must follow the verb (13a) and, if present, the Neg sign NO (13b). Moreover, if two XPs are combined, MAI must follow NO-RES (13c). Once again, the headshake associated with adjacent manual signs is realized continuously.

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In DGS, doubling of manual Neg elements as in (14) is not possible, irrespective of their order. This should either derive from a ban on adjunction to NegP or from the properties of the alleged negative XP (see discussion in 4.2 on ASL NEVER).

According to Wood (1999: 19ff) and Aarons et al. (1995: 232f), leftwards shift of the entire VP is possible in ASL, giving rise to a structure with the manual Neg element NOT in sentence-final position. While Wood (1999) assumes that the VP moves to SpecNegP (15a), Aarons et al. (1995) claim that VP-shift targets an (as yet unidentified) clause-internal position above TnsP, as is evidenced by the fact that modals intervene between the displaced VP and NOT (15b) (information about the nonmanual signal is unavailable for Wood's example in (15a)).

- (15) a. MARY [_{NegP} [_{SpecNegP} BREAK FAN] [_{Neg} NOT] t_{VP}] hs
 b. JOHN [_{XP} [_{SpecXP} BUY CAR] [_{Tns} SHOULD] [_{NegP} NOT] t_{VP}]

As is shown in (16), the possibility of rightwards VP-shift to SpecNegP or to another position above TnsP is clearly excluded in DGS. The same is true for LSC.

- | | | | | | | | | |
|--------|---------------|---------|--------------|-----------|----------------|-------------------|-------|---------------|
| (16) * | MUTTER | $t_V P$ | $[NegP [Neg$ | <u>hs</u> | KAUF | $[Spec NegP / XP$ | BLUME | $t_V]$ |
| | <i>mother</i> | | | | <i>buy.NEG</i> | | | <i>flower</i> |

Once again, the above examples make clear that fine-grained distinctions in the morphosyntactic structure of the sign languages examined can account for striking surface differences among them.

4.2. On the position of negative modals

It is a well-known crosslinguistic fact that negation closely interacts with modal predicates, giving rise to systematic lexicalization patterns (see van der Auwera 2001, for instance). SLs lexicalize the merger of a modal with negative elements either as a result of negative incorporation or by means of a separate lexical item.

Following the common assumption that modals are base-generated in T, negative modals in DGS and LSC will be argued to undergo T-to-Neg movement in order to support the unbound negative morpheme [+neg].

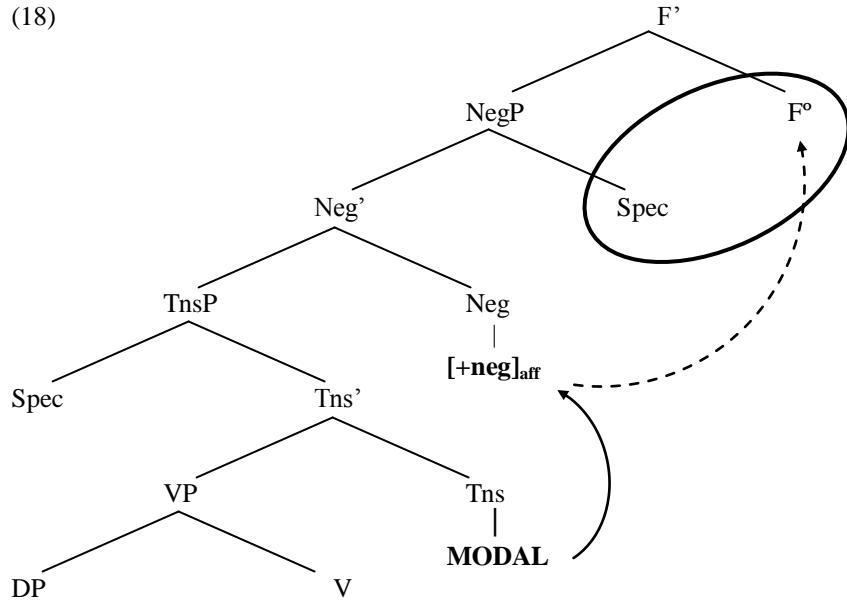
Surprisingly, however, a negative modal cannot cooccur with a negative XP before or after it (NO-RES in LSC or NICHT in DGS). As is shown in (17ab), in both SLs, the only possible realization is the one with negative modal (accompanied by a headshake) only.

- | | | |
|---------------------------------------|-------------------|---------------------|
| (17) a. AHIR INDEX ₁ VENIR | <hr/> hs | (*NO-RES) PODER-NEG |
| <i>yesterday I</i> | <hr/> NEG | <i>can.not.NEG</i> |
| <hr/> hs | | |
| (*NO-RES) | | |
| NEG | | |
| 'Yesterday I wasn't able to come.' | | |
| b. KIND EIS ESS (*NICHT) | <hr/> hs | DARF^NEG (*NICHT) |
| <i>child ice eat not</i> | <hr/> may.not.NEG | <i>not</i> |
| 'The child may not eat ice.' | | |

This unexpected parallelism cannot follow from the different phrasal status of NO (LSC) and NICHT (DGS). The data in (17) are problematic if we assume that in both languages the negative has moved to Neg^o, because SpecNegP should be available for the negative XP, which should make the sequence Negative Modal + Negative XP grammatical in both languages, contrary to fact.

A plausible explanation might be that modals raise further to a functional head above NegP (C^o or the head of a ModP) and that subsequently, SpecNegP cliticizes to the modal, as assumed by Cinque (1999) for combinations of *non* and V in Italian. The intended derivation is shown in (18). However, further research is needed in order to strengthen this analysis.

(18)



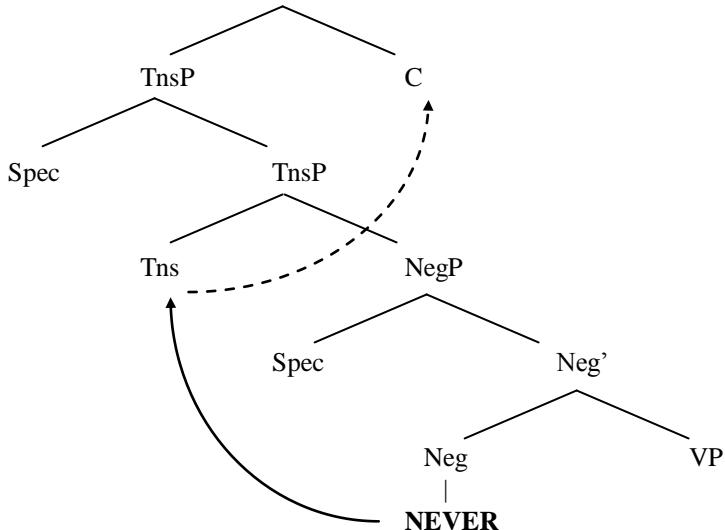
The syntax of negative modals has also received some attention in ASL. Wood (1999: 24ff) analyzes the ASL sign NEVER as a lexical negative modal due to the fact that it is in complementary distribution with both NOT and modal verbs. The examples in (19ab) show that NEVER can appear preverbally or sentence-finally, with slight differences in semantic interpretation, as reflected in the corresponding translations. In neither of those positions can NEVER be combined with NOT or with a modal verb; in examples (19cd) this is shown only for the preverbal position.

- (19) a. JOHN NEVER EAT FISH
 ‘John has never eaten fish.’
 b. JOHN EAT FISH NEVER
 ‘John won’t eat fish.’
 c. *JOHN NEVER NOT EAT FISH
 d. *JOHN NEVER CAN/WILL/SHOULD EAT FISH
 e. ?JOHN CAN/WILL/SHOULD NEVER EAT FISH

Wood proposes that NEVER is base-generated in Neg° and subsequently undergoes Neg-to-T movement (see (20)), thus explaining the complementary distribution with modal verbs (in T) and NOT (in Neg°). Under certain circumstances, NEVER may move further to C.

(20)

C'



On the other hand, Aarons et al. (1995) and Neidle et al. (2000) propose a different analysis for comparable data. They assume that (19b), just like (15b), involves VP-shift and that NEVER remains in-situ. Consequently, they claim that sentence (19e), which according to Wood (1999) has an “Englishy” flavour to it, is grammatical in ASL.

From this cursory discussion it becomes clear that analyzing a certain phenomenon such as negation and negative modals requires embedding the account into a wider analysis of the syntax of the languages discussed. Only further in-depth research into this kind of questions, both language-internally and crosslinguistically, will allow for progress in our knowledge of linguistic structures.

5. Conclusions

The feature shared by all three SLs investigated in this study is that sentential negation is expressed by the combination of an optional manual Neg sign with an obligatory non-manual marker, viz. a headshake.

We have shown that the position of the manual sign as well as the distribution of the headshake differ from SL to SL: only in ASL and LSC can the headshake be associated with the Neg sign alone, while only in LSC and DGS can it be associated with the verb sign alone.

We have argued that the observed differences can be accounted for by assuming: (a) that the position of NegP vis-à-vis TnsP differs from SL to SL; (b) that the Neg elements occupy different positions within NegP, and (c) that the feature [+neg]

realized by the headshake has different morphosyntactic characteristics in the three SLs.

For the three SLs discussed in this paper, the basic facts can be summarized as follows: In **ASL** Tns selects NegP and Neg⁰ hosts non-affixal [+neg] and NOT; in **LSC** Neg selects TnsP and Neg⁰ hosts affixal [+neg] and NO; in **DGS** Neg selects TnsP, Neg⁰ hosts affixal [+neg] while NICHT occupies the specifier of NegP.

The possibility or impossibility of Negative Concord and the distribution of negative modals in the three SLs further support the proposed structures and derivations.

References

- Aarons, D., B. Bahan, J. Kegl & C. Neidle (1992) ‘Clausal structure and a tier for grammatical marking in American Sign Language’. *Nordic Journal of Linguistics* 15: 103-142.
- Aarons, D., B.J. Bahan, J. Kegl & C. Neidle (1995) ‘Lexical tense markers in American Sign Language’. In: K. Emmorey & J. Reilly (eds.), *Language, gesture, and space*, Hillsdale: Erlbaum: 225-253.
- Akinlabi, A. (1996) ‘Featural affixation’. *Journal of Linguistics* 32: 239-289.
- Antzakas, K. (2002) *The use of negative head movements in Greek Sign Language*. Ms., City College, London.
- Auwera, J. van der (2001) ‘On the typology of negative modals’. In: J. Hoeksema et al. (eds.), *Perspectives on negation and polarity items*, Amsterdam: Benjamins: 23-48.
- Bergman, B. (1995) ‘Manual and nonmanual expression of negation in Swedish Sign Language’. In: H. Bos & T. Schermer (eds.), *Sign Language research 1994*, Hamburg: Signum: 85-103.
- Cinque, G. (1999) *Adverbs and functional heads*. Oxford: Oxford University Press.
- Coerts, J. (1992) *Nonmanual grammatical markers: An analysis of interrogatives, negations and topicalisations in Sign Language of the Netherlands*. PhD thesis, Universiteit van Amsterdam.
- Dively, V. (2001) ‘Signs without hands: Nonhanded signs in ASL’. In: V. Dively et al. (eds.), *Signed languages: Discoveries from international research*, Washington: Gallaudet University Press: 62-73.
- Haegeman, L. (1995) *The syntax of negation*. Cambridge: Cambridge University Press.
- Haegeman, L. & R. Zanuttini (1991) ,‘Negative heads and the Neg-criterion’. *The Linguistic Review* 8: 233-251.
- Liddell, S.K. (1980) *American Sign Language syntax*. The Hague: Mouton.
- Lillo-Martin, D. (2001) ‘One syntax or two? Sign language and syntactic theory’. *Glot International* 5: 297-310.
- Neidle, C., J. Kegl, D. MacLaughlin, B. Bahan & R.G. Lee (2000) *The syntax of American Sign Language. Functional categories and hierarchical structure*. Cambridge, MA: MIT Press.

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- Pfau, R. (2002) ‘Applying morphosyntactic and phonological readjustment rules in natural language negation’. In: R.P. Meier, K.A. Cormier & D.G. Quinto-Pozos (eds.), *Modality and structure in signed and spoken languages*, Cambridge: Cambridge University Press.: 263-295.
- Pfau, R. (2003) ‘De grammatica van het hoofdschudden: zinsontkenning in de Duitse Gebarentaal’ [The grammar of headshake: sentential negation in German Sign Language]. To appear in: *GrammaTTT*.
- Pfau, R. & S. Glück (2000) ‘The pseudo-simultaneous nature of complex verb forms in German Sign Language’. In: N. Antrim et al. (eds.), *Proceedings of the 28th WECOL*. Fresno, CA: CSU: 428-442.
- Quadros, R. de (1999) *Phrase structure in Brazilian Sign Language*. PhD. dissertation, Pontifícia Universidade Católica do Rio Grande do Sul, Porto Alegre.
- Quer, J. (2002) ‘Negative operators in Catalan Sign Language’. Ms., ICREA & Universitat de Barcelona.
- Reilly, J. & D. Anderson (2002) ‘FACES: The acquisition of non-manual morphology in ASL’. In: G. Morgan & B. Woll (eds.), *Directions in sign language acquisition*. Amsterdam: Benjamins: 159-181.
- Sandler, W. (1999) ‘The medium and the message: Prosodic interpretation of linguistic content in Israeli Sign Language’. *Sign Language & Linguistics* 2 (2): 187-215.
- Skant, A. et al. (2002) ‘Negationsformen in der Österreichischen Gebärdensprache’. In: R. Schulmeister & H. Reinitzer (eds.), *Progress in sign language research: In honor of Siegmund Prillwitz*. Hamburg: Signum: 163-185.
- Supalla, T. & R. Webb (1995) ‘The grammar of International Sign: A new look at pidgin languages’. In: K. Emmorey & J. Reilly (eds.), *Language, gesture, and space*. Hillsdale, NJ: Lawrence Erlbaum: 333-352.
- Sutton-Spence, R. & B. Woll (1999) *The linguistics of British Sign Language. An introduction*. Cambridge: Cambridge University Press.
- Veinberg, S.C. (1993) ‘Nonmanual negation & assertion in Argentine Sign Language’. *Sign Language Studies* 79: 95-112.
- Veinberg, S.C. & R.B. Wilbur (1990) ‘A linguistic analysis of the negative headshake in American Sign Language’. *Sign Language Studies* 68: 217-244.
- Wood, S. (1999) Semantic and syntactic aspects of negation in ASL. MA thesis, Purdue University.
- Yang, J.H. & S. Fischer (2003) Expressing negation in Chinese Sign Language. To appear in: *Sign Language & Linguistics* 5 (2).
- Zanuttini, R. (1997) *Negation and clausal structure*. Oxford: Oxford University Press.
- Zeshan, U. (2000) *Sign Language in Indo-Pakistan*. Amsterdam: Benjamins.
- Zeshan, U. (2003) *Aspects of Türk İşaret Dili (Turkish Sign Language)*. To appear in: *Sign Language & Linguistics* 6 (1).