

## What's the point? Examining indices in American Sign Language nominals

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**Abstract.** In American Sign Language, nominal phrases contain various pointing signs, referred to as ‘indices’, which establish specific referential loci in the signing space. These indices can occur pre- and/or post-nominally or can function as an independent pronoun. Traditionally, these indices have been treated as separate lexical items, but I argue that they are instead realizations of the same functional category, namely *idx*. Here, I extend part of an analysis of Washo nominal phrases (Hanink 2021) to nominals in ASL.

**Keywords.** ASL; syntax; index/indices; nominals

**1. Introduction.** The structure of the nominal phrase in American Sign Language (ASL) was an important topic in establishing the roles of non-manual markers and referentiality within the language. While early theorists might have claimed that ASL did not contain any determiners, further research found that there are determiners, and importantly the definite determiner is realized with a pre-nominal point. This pointing sign is homophonous others that exist within the domain of the nominal phrase, each of which are referred to as an ‘index’. This sign is made by extending the index finger out from a closed fist, as though pointing at something.

MacLaughlin (1997) categorized indices into three types:  $IX_{DET}$ ,  $IX_{ADV}$  and  $IX_{PRO}$ .  $IX_{DET}$  is the pre-nominal index found in an expression like (1).  $IX_{DET}$  occurs pre-nominally, establishes a referential locus, expresses definiteness (MacLaughlin, 1997) and can be inflected for number (MacLaughlin 1997, MacLaughlin et al. 2000), see (1a-b).  $IX_{ADV}$  occurs post-nominally, establishes a referential locus and can be modified with adverbial information, see (2a-b) (MacLaughlin, 1997).  $IX_{PRO}$  occurs by itself in a nominal phrase acting as a pronoun and references a previously established locus, see (3) (MacLaughlin 1997).

- (1) a. JOHN LOVE [ $IX_i$  WOMAN] $_{DP}$   
       ‘John loves the/that woman.’ (MacLaughlin 1997:121)  
       b. [ $IX_{pl-arc-i}$  MAN  $IX_{\text{”over there”-i}}$ ] $_{DP}$  KNOW PRESIDENT  
       ‘Those men over there know the president.’ (MacLaughlin 1997:122)
- (2) a. [ $MAN$   $IX_i$ ] $_{DP}$  ARRIVE  
       ‘A/the man [there] is arriving.’  
       b. [ $IX_i$  WOMAN  $IX_{\text{variable pathlength-i}}$ ] $_{DP}$  BORROW VIDEOTAPE  
       ‘That/the woman (more or less far away) there borrowed the videotape.’  
       (MacLaughlin 1997:124)
- (3)  $IX_i$  LEAVE EARLY  
       ‘He (referring to the *man* from (2a)) left early.’

One consequence of this analysis is that each index must be treated as a separate lexical item, despite their phonological similarities. I would like to propose an account wherein  $IX_{DET}$ ,  $IX_{ADV}$  and  $IX_{PRO}$  are treated as representations of the same functional head, namely the head of an index phrase, *idx*.

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**2. Nominals in Washo.** Washo is an indigenous North American language isolate spoken around Lake Tahoe. Like ASL, Washo nominals consisting of a bare noun can be interpreted as either definite or indefinite (Hanink, 2021). Unlike ASL, there are no apparent determiners in Washo nominals. However, as seen in (4a) and (b), there are demonstratives, which change depending on the proximity of the referent. *Hádi-* is used for referents nearby, whereas *wídi-* is used for distant referents. Both the proximal and distal demonstratives contain the morpheme *-gi*, which Hanink (2021) analyzes as being the head of a functional index phrase (idxP). The morpheme in question also appears in two other environments: as a definite third person pronoun (5) or on the periphery of a relative clause as in (6).

- (4) a. [hádi-gi pélew]<sub>DP</sub> Mú:biʔ-i  
DIST-GI jackrabbit 3.come.running-IND  
‘That jackrabbit came running.’ (Hanink 2021:9)
- b. [wídi-gi pélew]<sub>DP</sub> Mú:biʔ-i  
PROX-GI jackrabbit 3.come.running-IND  
‘This jackrabbit came running.’ (Hanink 2021:9)
- (5) [gí:]<sub>DP</sub> pélew ʔ-íʔiw-i  
GI jackrabbit 3/3-eat-IND  
‘He’s eating the jackrabbit.’ (Hanink 2021:9)
- (6) [[t’é:liwhu šáwlamhu ʔlót ʔ-í:gi-yi-š]<sub>CP-gi</sub>]<sub>DP</sub> ʔwáʔ ʔ-éʔ-i  
man girl yesterday 3-see-IND-DS-GI here 3-be-IND  
‘The girl that the man saw yesterday is here.’ (Hanink 2021:3)

**3. Semantics of idx.** Given the environments in which the *-gi/-ge* is found, Hanink (2021) assigns the morpheme variable semantics. As such, *-gi/-ge* works as either a variable as in the case of demonstratives or pronouns or as a variable binder as in relative clauses. As such, the head idx can be assigned either of the following semantic definitions:

- (7) a. [[IDX<sub>var:n</sub>]]<sup>g</sup>:  $g(n)$  (IDENT  $\lambda x_e[x = g(n)]$ )  
b. [[IDX<sub>bind:n</sub>]]<sup>g</sup>:  $\lambda \Phi \lambda x_e[\Phi^{g[x/n]}]$  (Hanink 2021:26)

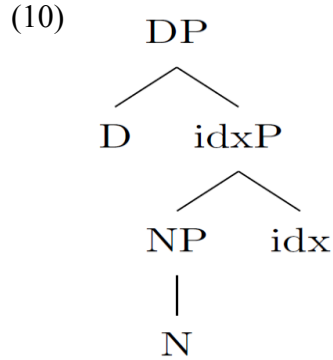
Thus, the derivation of the DP in (4a) would result in the meaning in (8), in which idx takes on the role of introducing a variable, (7a).

- (8) [[hádi-gi pélew]]<sup>g</sup>:  $\lambda x_e[\text{jackrabbit}(x) \ \& \ x = g(i)]$

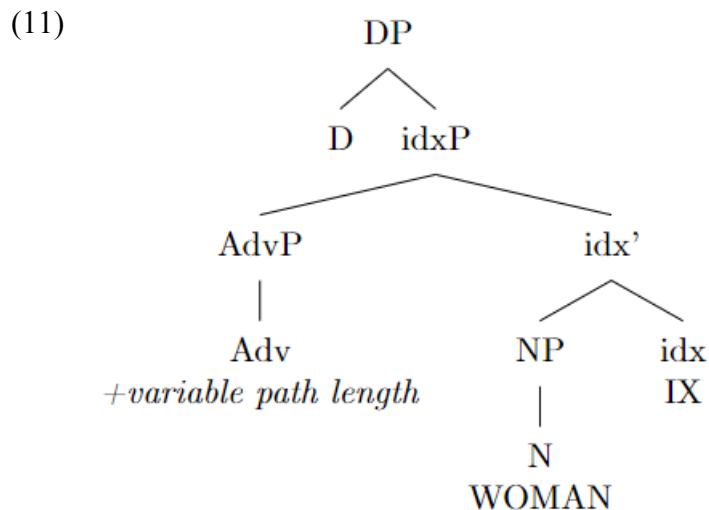
I suggest that ASL indices can be assigned the same variable meaning, in that they can act as variables in some environments and as variable binders in others. Below, I suggest that the pointing signs IX<sub>DET</sub>, IX<sub>ADV</sub> and IX<sub>PRO</sub> are realizations of the meaning presented in (7a). A future research goal will be to incorporate ASL relative clauses into this account, as there are clear similarities between relative clauses in Washo and ASL.

**4. idx in ASL.** Looking at example (2a), the noun *man* can be interpreted as either definite or indefinite, but there is no question as to what locus in the signing space is associated with the *man*. The pointing sign in (2a) assigns a point in space to a referent, a *man*. Thus, the meaning of the DP in (2a) could be stated as in (9) assuming a simple view of indefinites. Additionally, in (2b) we can see that the post-nominal index can take on a modified meaning. This modification is made using non-manual markers (i.e., the signer’s head will tilt up to indicate a faraway location). Given these facts, I propose the structure in (10) for the basic structure of the DP in ASL.

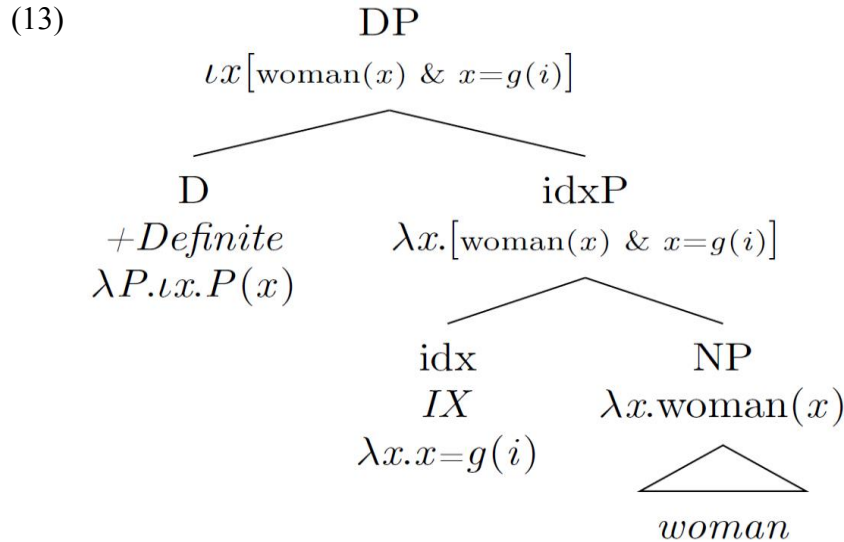
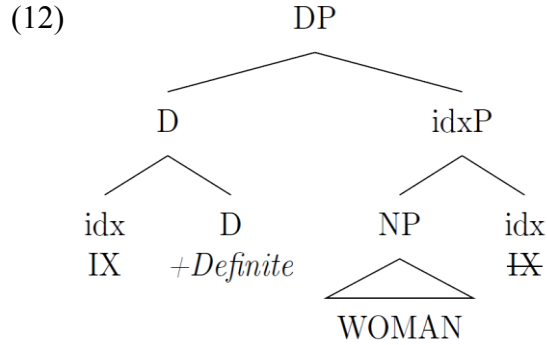
(9)  $[[\text{MAN IX}_{\text{ADV}}]]^g: \exists x_e. [\text{man}(x) \ \& \ x = g(i)]$



The tree in (10) provides a structure that can account for the plain post-nominal index in (2a). It also provides an explanation for why the post-nominal index can be modified adverbially as in (2b). In this structure, adverbial information relevant to the index would merge into the structure in specifier position to idxP. However, given that the adverbial information is a bundle of non-manual markers, these features percolate down to the closest head: idx. This structure is expressed in (11).



**5. idx in ASL definites.** Given that the three pointing signs are homophonous, I propose that  $\text{IX}_{\text{DET}}$  is a copy of the lower idx head. This account would assume that features related to definiteness are located in the D head and that to express definiteness explicitly, a copy of the idx head must merge with the D head. Thus, the object DP in (1a) would look something like (12). Assuming a traditional translation of the definite determiner, we arrive at the meaning in (13).  $\text{IX}_{\text{PRO}}$  would behave similarly to  $\text{IX}_{\text{DET}}$ , as it serves as a definite pronoun. The major difference between the two would be the lack of an overt noun in the case of the pronoun. There are also those cases, such as (1b) and (2b) where there is both a pre-nominal and a post-nominal index. The account I propose will have to treat the post-nominal index as a pronunciation of a deleted copy. Though on its face, this construction appears similar to “doubling” constructions in ASL *wh*-questions in which two copies of a *wh*- sign are for emphasis or focus.



**6. Questions moving forward.** Future research should consider several key facts and issues. The most prominent seem to concern syntactic asymmetry, relative clauses and a differing account of the pre-nominal index (IX<sub>DET</sub>). Firstly, the basic structure proposed in (10) posits idxP as a head-final projection, where ASL in general shows head-initial syntax. The structure is proposed this way to account for the data concerning IX<sub>ADV</sub>, but why would this particular functional projection exhibit such a split from the norm? If the structure in (10) holds up to further analysis, it will be important to find out what allows this asymmetrical syntax to occur.

The analysis presented in Hanink (2021) examines data from Washo relative clauses. On their face, these relative clauses are similar to those found in ASL. ASL relative clauses are also internally headed and can contain an overt index. As such, the scope of further projects should be expanded to include information relative to ASL relative clauses.

Finally, this account should be considered in light of a recent proposal made by Irani (2019) wherein ASL nominal phrases consisting of a pre-nominal index and a noun can be interpreted as either definite or indefinite and the nominal index may be specified or underspecified for a locus feature. Irani (2019) follows Schlenker (2016) in analyzing loci as “featural variables”, that can exhibit the behavior of both individual features and of variables. The account I propose follows MacLaughlin (1997) in assuming the pre-nominal index is the definite determiner. This account would need to be changed somewhat in order to fit the parameters described in Irani (2019). Primarily, if a pre-nominal index can be definite or indefinite, what prompts the M-merge of the lower idx head into spec,D position? Irani (2019) does not discuss the post-nominal index, either

in its base form or its modified form, so there is no comparison to be made between the accounts in that regard.

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