Lexical Constraints Workshop *March 3rd, 2022*

Verbal Inflection and Phonological Blocking:

A Sign Language Perspective

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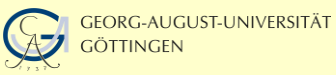

NGT interpreter: Lianne Nap

Blocking

- Commonly refers to "the non-occurrence of one form due to the simple existence of another" (Aronoff 1976: 43).
- E.g., *went* blocks *go-ed*; *worse* blocks *bad-er*.
- In this presentation, we discuss data from two sign languages (SLs) and show that phonological features may block the application of inflectional processes in some (but not all) contexts.

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Phonological Building Blocks

- **Phonological blocking** implies that some phonological property of a sign blocks the application of a morphological operation, resulting in a zero-marked or periphrastic form.
- Phonological building blocks of signs:
  - handshape & orientation
  - **location**
  - **movement**

  } have been argued to block certain inflectional processes

→ **Lexical constraints** on inflection

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Phonological Blocking

- We focus on verbs, but phonological blocking has also been observed for nouns & adjectives.
- Movement and location specification of **nouns** in German SL blocks plural reduplication (Pfau & Steinbach 2006; for NGT: van Boven 2021).
- Movement specification of gradable **adjectives** in Italian SL blocks the formation of the comparative (Aristodemo & Geraci 2018).

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Overview

1. Blocking in spatial agreement
   - 1.1 The nature of sign language agreement
   - 1.2 Plain verbs and agreement auxiliary
2. Blocking in aspectual reduplication?
   - 2.1 Aspectual marking in sign languages
   - 2.2 NGT: corpus and elicited data
3. Discussion
   - 3.1 Agreement vs. aspectual marking
   - 3.2 Phonological blocking in spoken languages
4. Conclusion

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– 1 –
Blocking in Spatial Agreement

Sign Language Agreement

- Agreement is one of the best studied topics in sign language linguistics: different theoretical perspectives, various SLs; selected works:
  - early work on ASL verb types: Padden 1983;
  - spatial modification as agreement with Source/Goal: Meir (2002) on Israeli SL; Bos 2017[1998] on NGT;
  - Generative (Minimalist) accounts: Pfau et al. (2018) on German SL; Lourenço (2018) on Brazilian SL;
  - Spatial modification as gestural (mental maps): Liddell (2003); Schembri et al. (2018);
  - Agreement in rural/village SLs: de Vos (2012) on Kata Kolok; de Vos & Pfau (2015).

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Spatial Agreement

- Most sign languages feature verbs that may agree with two arguments, the subject (source) and the object (goal) (e.g., Padden 1983; Meir 2002).
- Agreement is realized in the three-dimensional signing space by modifying the **movement** (and/or orientation) **features** of the verb.
- In DGS, as in most sign languages, only a small class of verbs, so-called **agreement verbs**, are able to overtly express agreement.

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Agreement Verbs

- Agreement verbs are verbs which express concrete (e.g., GIVE) or abstract (e.g., HELP) transfer.
- Agreement is typically expressed with arguments referring to animate entities.
- A corpus-based study reveals that agreement verbs in DGS are indeed consistently spatially modified (Oomen 2020).

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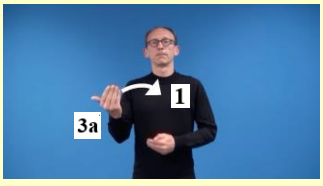
Referential Loci (R-loci)

- Path movement proceeds from the locus of the subject to the locus of the object.

(1) YESTERDAY $POSS_1$ MOTHER IX_{3a} **3a**VISIT**1**

- In (1), the R-loci of the subject (i.e. '3a') and the object (i.e. '1') spell out the agreement features of the verb:
  - subject: beginning point and
  - object: end point of path movement.



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(1) YESTERDAY POSS$_1$ MOTHER IX$_{3a}$ **3a**VISIT**1**

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Plain Verbs

- However, all sign languages also feature so-called **plain verbs**, which cannot be inflected for subject and object agreement.

(2) * IX$_1$ NEW TEACHER **1**LIKE**3a**

- Plain verbs such as LIKE in (2) are **body-anchored** and can thus not be spatially modified to express agreement.

→ **effect of a lexical constraint**.

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Person Agreement Marker

- Some SLs have developed an alternative means for expressing agreement with plain verbs
  → use of so-called **agreement auxiliaries**.
- In DGS, the person agreement marker PAM can be used to overtly realize agreement features.

(3) IX_1 NEW TEACHER LIKE **1PAM3a**

- Like regular agreement verbs, PAM expresses agreement by a modification of movement (and orientation) features.

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(3) IX_1 NEW TEACHER LIKE **1PAM3a**

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Analyses of Agreement

- Analyses of agreement in sign languages come in four different types:
  - gestural approaches (Liddell 2003; Schembri et al. 2018);
  - thematic approaches (Meir 2002; Bos 2017);
  - clitic approaches (Keller 1998; Nevins 2011);
  - **morphosyntactic agreement approaches** (Pfau, Salzmann & Steinbach 2018; Oomen 2021).

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Syntactic Implementation

- In DGS, v always moves to T.
  - **v** always has [*T*] → moves to T
- By contrast, the lexical V does so only in the case of agreement verbs.
  - **Agreement verb** has [*v*] → movement to v
  - **Plain verb** has no [*v*] → V stays put

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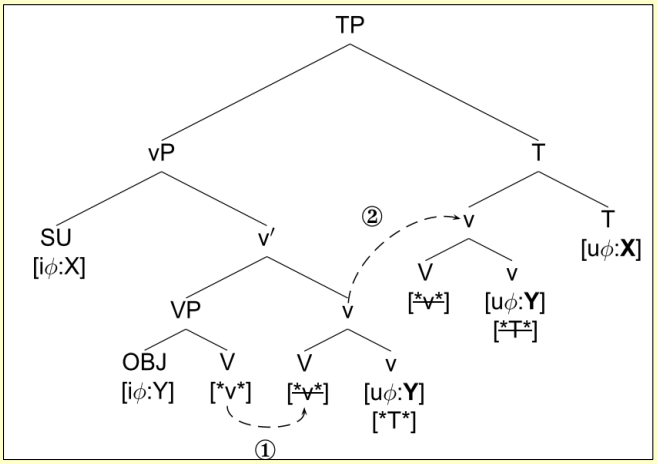
Derivation of Agreement Verbs

① V moves to v ② V+v-complex moves to T



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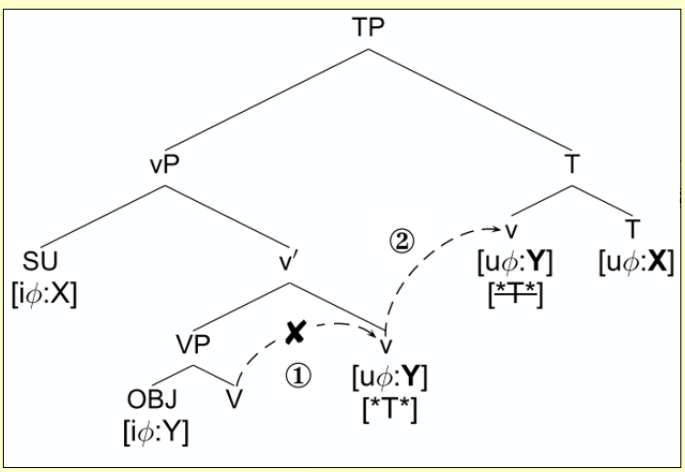
Derivation of Plain Verbs

① V does not move to v ② only v moves to T



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Syntactic Implementation

- These two different syntactic configurations have implications for the phonological realization at PF:
  - **Agreement verbs**: v is realized as ø, since V is part of the complex head: v ⇔ ø / _V
  - **Plain verbs**: v is realized as PAM, since V is not part of the complex head: v ⇔ PAM

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Phonological Blocking

- In other words: the different behavior results from different lexical specification: V can or cannot be lexically specified as [*v*]
- This difference in feature specification results in two different syntactic structures:
  - Agreement can be overtly realized on the verb → **agreement verb**
  - Agreement can only be overtly realized on PAM → **plain verb**

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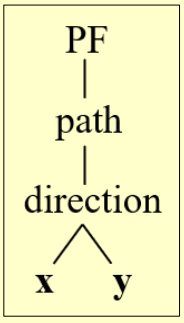
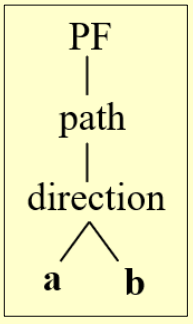
Phonological Blocking

- The specification for [*v*] results from phonological properties of the verb (Brentari 1998).



a. agreement verb



b. plain verb

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Blocking in Aspectual Reduplication?

Aspectual Inflection

- Across SLs, various aspect types (continuative, iterative, habitual) are commonly marked by reduplication (Fischer 1973; Klima & Bellugi 1979; Rathmann 2005; Pfau, Steinbach & Woll 2012).
- In addition, SLs may employ free aspectual markers; e.g., for completive/perfective aspect (Fischer & Gough 1999[1972]; Meir 1999; Karabüklü & Wilbur 2021), but also for the continuative (van Boven 2018).

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Aspectual Inflection in NGT

- Continuative & habitual: different types of reduplication involving "elliptical modulation" (Hoiting & Slobin 2001).
- Hand-internal movement and body contact are claimed to **block** reduplication.
- However, a later study (Oomen 2016) finds:
  - verbs are reduplicated, but no elliptical modulation is observed; instead: body movement;
  - hand-internal movement and body contact do not block reduplication.

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Corpus & Elicited Data

(van Boven & Oomen 2021; van Boven, forthcoming)

- Examples extracted from Corpus NGT (search on translation tier) and elicitation from six native NGT signers (age 27–67).
- Annotation of aspect type, reduplication, use of adverb, and non-manual markers.

Aspect type	Corpus (N)	Elicited (N)
Habitual	106	63
Continuative	106	47
Iterative	28	62
Total	***240***	***172***

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Aspectual Reduplication

- As for **continuative** and **habitual** aspect, the two data sets are quite different, but not more than 50% of the predicates are reduplicated.
- For **iterative** aspect, approx. 70% of the predicates are reduplicated in both data sets.
- Question: Do the phonological features hand-internal movement (IM) and body-anchoredness (BA) systematically block reduplication?

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Phonological Blocking?

- Neither IM nor BA do block reduplication for **iterative** aspect (observed in 24 predicates).
- IM does block reduplication for **continuative** and **habitual** aspect.
- BA does not always block reduplication for **continuative** and **habitual** aspect (total of nine predicates).
- It seems that different types of IM and BA features have to be distinguished.

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Examples

IM predicate TALK:
reduplication blocked

BA predicate MELT:
reduplication not blocked

BA predicate CRY:
reduplication not blocked

Phonological Blocking?

- The corpus and elicited data paint a more complex picture of phonological blocking.
- Clearly, unlike agreement, phonological blocking is not categorical; rather, it appears to be specific to aspect types.
- Implication for lexical constraints: such constraints do not (necessarily) hold across-the-board, but may be specific to certain inflectional processes.

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Discussion

Agreement vs. Aspect

- Both inflection types display iconic properties:
  - spatial transfer realized by movement;
  - plurality of events realized by reduplication.
- Differences w.r.t. phonological blocking result from the difference in spatial semantics associated with inflectional processes.
- Only for agreement, **body-anchoredness** has to be neutralized to allow for the expression of spatial transfer.

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Agreement vs. Aspect

- **Hand-internal movement** (IM) never blocks agreement marking as IM easily combines with path movement.
- In the continuative/habitual, the combination of IM and [repeat] yields a phonologically complex structure.
- We thus observe an interplay of semantic and phonological factors in the realization of inflectional processes.

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Phonological Blocking in Spoken Languages

- We did not come across fully comparable cases of phonological blocking of inflectional processes in spoken languages.
- There appear to be no phonological features that would block **reduplication**.
- The role of **epenthesis** in contexts in which a process might be blocked; e.g. English
  walk → *she walk**s*** vs. *kiss* → *she kiss**es***

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Spoken Languages

- **German plurals**: zero marking observed with stems/words ending in *-er* (*-er* being one of the plural allomorphs):

Anker ('anchor')	→	*Anker* ('anchors')
Lager ('camp')	→	*Lager* ('camps')
Fahr-er ('driver')	→	*Fahr-er* ('drivers')

- However, such stems may combine with other allomorph:

Kiefer ('pine tree')	→	Kiefern ('pine trees')

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Conclusions

Conclusions

- In sign languages, certain inflectional processes may be blocked by phonological properties of the base sign → lexical constraints.
- In DGS, the lexical specification [body-anchored] blocks agreement inflection.
- In NGT, the lexical specification [body-anchored] does not block aspectual inflection.
- In NGT, the lexical specification [hand-internal movement] does block continuative/habitual aspect marking.

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