# Parasitic gapping: Determiner sharing is Gapping + lee

Marie-Luise Schwarzer University of Leipzig

Sluicing+@50 University of Chicago 12 – 13 April 2019

UNIVERSITÄT LEIPZIG

## 1 Determiner sharing constructions (DS)

- The omission of a determiner or quantifier **at the left edge** in a coordinate structure is **parasitic on verbal gapping**, (1).

(1) **How many** linguists love Chomsky and ~~how many~~ physicists (*love) Bohr?

**How can the dependency of one process on another be captured?**

⇒ An earlier ellipsis operation *feeds* a later one.

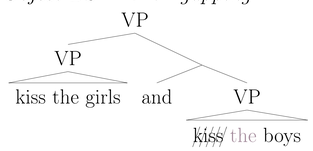
**Main claims**

- DS comes about by a **conspiracy of two distinct ellipsis operations**: syntactic ellipsis (gapping) + phonological radical deaccenting (Left Edge Ellipsis).
- Gapping gives rise to a certain coordinate structure. The second conjunct contains a **prosodically prominent edge** that can be targeted by LEE.
- Evidence for this view of DS comes from the availability of the construction in and Wolof (Niger-Congo) and the sensitivity to PF constraints.

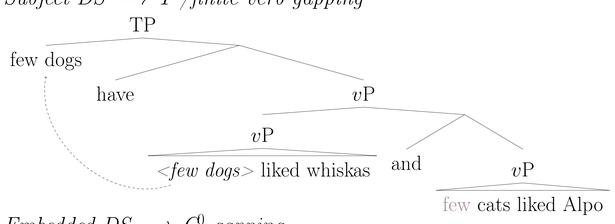
- Correlation between the locus of DS and the complexity of the verbal gap: object-DS ⟶ $V^0$-gapping, subject-DS ⟶ $T^0$-gapping (Lin 2002, Ackema & Szendrői 2002)

⇒ implemented by sufficiently low coordinations (Johnson 2000, Toosarvandani 2013, see also Potter et al. 2017):

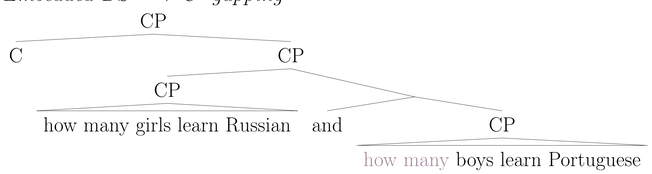
(2) *Object DS ⟶ $V^0$ gapping*




(3) *Subject DS ⟶ $T^0$/finite verb gapping*




(4) *Embedded DS ⟶ $C^0$ gapping*




## 2 Left Edge Ellipsis (LEE)

- LEE deletes prosodically 'weak' elements at the left edge (in a prosodically strong position) under recoverability (Weir 2012,2016, Napoli 1974, Zwicky & Pullum 1983)

(5) ~~Have you~~ seen the new Star Wars movie yet? (Weir 2012)

- LEE is **more widely available**, cross-linguistically and cross-constructionally:

⟶ related to the *Empty Left Edge Condition* (Sigurðsson & Maling 2008); LEE could derive apparent V-first sentences in German (Önnerfors 1997), and in alternative question formation (Han & Romero 2004).

## 3 DS is sensitive to linear order

1. The deleted material in DS doesn't have to form a syntactic constituent, (6).

(6) **Any old hairless** dog will enjoy a nice warm bath, and ~~any old hairless~~ cat, a comfortable bed.

2. If the left edge of an intonational phrase is occupied by a prosodically heavy constituent, DS becomes impossible, (7).

(7) *[Die Pizza haben **wenige** Jungs bestellt], und [die Pasta, the pizza.ACC have few boys.NOM ordered and the pasta.ACC ~~wenige~~ Mädchen]. few girls.NOM
intended: *"Few boys have ordered pizza and few girls have ordered pasta."*

3. Wolof (Niger-Congo) orders some quantifiers to the right of the noun, others to the left. DS is only possible with the *wh*-phrase that precedes the noun, (8).

(8) a. %[**ñaata** nit ñoy lekk ceebujen] ak [(**ñaata**) xale, mafe.]
how.many girl 3PL.C.IMPF eat ceebujen and how.many boy mafe
*"How many girls eat ceebujen (a dish of rice and fish) and how many boys eat Mafe (a dish of lamb and peanut sauce)?"*

b. [Nag-i **barinan** lekk-nan njax] ak [xaj-i (lekk-nan) yapp].
cow-PL many eat-C grass and dog-PL eat-C meat
*"Many cows eat grass and dogs in general eat meat."* *#many dogs*

## 4 Theoretical background

**Harmonic Serialism**

- Derivational variant of OT (McCarthy 2010, Heck & Müller 2013)
- Output candidates may differ from input in max. 1 change
- Winning candidate serves as input for new optimization cycle

⇒ Reference to intermediate represenations

**Syntax-to-phonology mapping**

(9) MATCH(syn,phon) (based on Selkirk 2011)
Map the left and right edges of a lexical syntactic constituent onto the left and right edges of a prosodic constituent.

(10) a. $[_{DP}\ [_{D}$ many$]\ [_{NP}\ [_{A}$ funny$]\ [_{N}$ girls$]]]$
b. $[_{\sigma}$ many$]\ [_{\phi}\ [_{\omega}$ funny $]\ [_{\omega}$ girls$]]$

(11) MATCH($\omega$, LEX) (Selkirk 1995 a.o.)
Every phonological word must contain an instance of a lexical word.

(12) MATCH(conj,$\iota$) (based on Wiklund 2007)
A conjunct is mapped onto an intonational phrase ($\iota$).

(13) STRONGSTART-$\iota$ (Weir 2016)
Intonational phrases should not have at their left edge a constituent that is lower in the prosodic hierarchy than a prosodic word, i.e. phonologically weak. $*(_{\iota}\ (_{\sigma}\ \mathrm{x})\ \ldots)$

**Selected References**. **Ackema & Szendrői** (2002) Determiner sharing as an instance of dependent ellipsis, *The Journal of Comparative Germanic Linguistics*. **Johnson** (2000) Few dogs eat Whiskas or cats Alpo, *UMOP*. **Lin** (2002) Coordination and sharing at the interfaces, PhD thesis. **Napoli** (1982) Initial material deletion in English, *Glossa*. **Selkirk** (2011) The syntax-phonology interface, *The Handbook of Phonolgy*. **Weir** (2012) Left-edge deletion in English and subject omission in diaries, *English Language & Linguistics*. **Wiklund** (2007) The syntax of tenselessness. **Zwicky & Pullum** (1983) Deleting named morphemes, *Lingua*.
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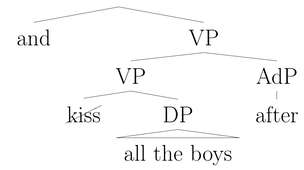
## 5 Analysis

**Gapping**: I remain agnostic about the exact analysis of verbal gapping. I assume it is a **syntactic process** that can involve **coordinations on different levels**.

(14) *Object determiner sharing*
a. John will always kiss all the girls first and ~~kiss all~~ the boys after.

b.




(15) *Step 1: deletion of quantifier*

| ... $[_{VP}$ kiss $[_{DP}$ all the $[_{NP}$ boys$]]]\ [_{AdvP}$ after] | STRONGSTART-$\iota$ | MATCH($\omega$,LEX) | MAX | MATCH(syn,phon) |
|---|---|---|---|---|
| a. $(_{\iota}(_{\phi}$ kiss $(_{\sigma}$ all$)\ (_{\sigma}$ the$)\ (_{\phi}(_{\omega}$ boys$)))\ (_{\phi}(_{\omega}$ after$)))$ | *! | | | |
| b. $(_{\iota}\ (_{\phi}$ kiss $(_{\omega}(_{\sigma}$ all$))\ (_{\sigma}$ the$)\ (_{\phi}(_{\omega}$ boys$)))\ (_{\phi}(_{\omega}$ after$)))$ | | *! | | |
| c. ☞ $(_{\iota}(_{\omega}(_{\phi}$ kiss $(_{\sigma}$the $)\ (_{\phi}(_{\omega}$ boys$)))\ (_{\phi}(_{\omega}$ after$)))$ | | | * | |

(16) *Step 2: deletion of the determiner next in line*

| $(_{\iota}(_{\omega}(_{\phi}$ kiss $(_{\sigma}$the $)\ (_{\phi}(_{\omega}$ boys$)))\ (_{\phi}(_{\omega}$ after$)))$ | STRONGSTART-$\iota$ | MATCH($\omega$,LEX) | MAX | MATCH(syn,phon) |
|---|---|---|---|---|
| a. $(_{\iota}(_{\omega}(_{\phi}$ kiss $(_{\sigma}$the $)\ (_{\phi}(_{\omega}$ boys$)))\ (_{\phi}(_{\omega}$ after$)))$ | *! | | | |
| b. $(_{\iota}\ (_{\phi}$ kiss $(_{\omega}(_{\sigma}$ the$))\ (_{\phi}(_{\omega}$ boys$)))\ (_{\phi}(_{\omega}$ after$)))$ | | *! | | |
| c. ☞ $(_{\iota}(_{\phi}$ kiss $(_{\phi}(_{\omega}$ boys$)))\ (_{\phi}(_{\omega}$ after$)))$ | | | * | |

(17) *Step 3: convergence*

| $(_{\iota}(_{\phi}$ kiss $(_{\phi}(_{\omega}$ boys$)))\ (_{\phi}(_{\omega}$ after$)))$ | STRONGSTART-$\iota$ | MATCH($\omega$,LEX) | MAX | MATCH(syn,phon) |
|---|---|---|---|---|
| a. ☞ $(_{\iota}(_{\phi}$ kiss $(_{\phi}(_{\omega}$ boys$)))\ (_{\phi}(_{\omega}$ after$)))$ | | | | |

⇒ Parallel OT would falsely predict candidate (15-c) to be the overall optimal output.

**Interim summary**

- There is a correlation between the obligatorily deleted verbal material and the locus of DS.
- This can be accounted for if Gapping can happen at different heights of coordination (e.g. Potter et al. 2017).
- The height of coordination determines what element occupies the prosodically prominent left edge.
- Weak material in that position is left unpronounced in order to obey STRONGSTART.
- Serial optimization cycles ensure that complex left edges can be deleted.

## 6 Consequences and conclusion

- DS is not a completely syntactic deletion process, as proposed by previous analyses, but is sensitive to the prosodic structure.
- This and its dependency on verbal gapping can be captured by an analysis that involves a conspiracy of two distinct ellipsis operations: gapping provides a certain kind of coordination structure, which has a prominent initial position; this position can be targeted by LEE.

✓ Prediction 1: material inside prosodic words resists DS

✗ Prediction 2: only distributed scope in English subject DS

? Prediction 3: OV languages should allow object DS with overt V

? Prediction 4: DS should be impossible with N − DET word order

? Prediction 5: DS should be possible outside of coordinations, wherever the prosodic structure is appropriate

Open question: DS in a large conjunct approach to gapping

Open question: Deletion of prosodic words after DET deletion