Stripping with(out) additives

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1 Intro

- **Stripping** (aka bare argument ellipsis): a type of clausal ellipsis that leaves a non-*wh*-remnant, as in (1).
- The remnant is sometimes accompanied by an additive particle (ADD), such as *too*.
- (1) Abby speaks passable Dutch, and Ben, too. (Merchant, 2003)
 - **Observation**: there is a **subject-object asymmetry** in the distribution of the additive particle in stripping:
 - ➤ ADD is obligatory with subject remnants (e.g., Merchant 2003; Konietzko 2016; Johnson 2018), (2-a)
 - ➤ ADD is optional with object remnants (e.g., Munn 1993; Wilder 2018), (2-b)
- (2) a. Mary bought a book, and Anna ^{??}(too). (Konietzko, 2016) b. John bought a book yesterday, and a newspaper. (Munn, 1993)
- Stripping with subject remnants patterns with VP-ellipsis, in terms of additive particles:
- (3) John had a fish, and Mo did *(too). (Kaplan, 1984)
 - **Puzzle**: The obligatoriness of the additive particle is neither syntactically nor semantically expected.
 - From a syntactic point of view, ADD should never be obligatory since it is an adjunct.
 - Semantically, ADD marks a constituent as given in the context, and is

in principle uninformative, making its obligatoriness unexpected.

- We know that ADD is sometimes also obligatory outside of conjunctions:
 - (4) A: Who danced?
 - B: Anna danced. Mary danced #(too).
- The obligatoriness of additives has received some attention in the pragmatic literature (Bade, 2016; Aravind and Hackl, 2017; Paillé, 2022), specifically in relation to the presence of an EXH(AUSTIVITY) operator (Fox, 2007; Chierchia et al., 2012).
- In a nutshell, the additive is inserted to avoid an unwanted contradiction between *Anna danced* and *Mary danced* since each sentence comes with an EXH operator that strenghtens its meaning (≈ [EXH_{Alt}[Anna danced]] = Only Anna danced).
- Since the pragmatic literature mostly focuses on data like (4), the aim of this talk is to take the insights from the EXH literature and transfer them to the conjunction data in (1)-(3).

Questions for this talk

- If the obligatory presence of ADD is linked to the presence of EXH, which conditions make EXH obligatory?
- Do these conditions also hold in conjunctions?
- What makes stripping constructions with object remnants not require ADD obligatorily?
- Does the subject-object asymmetry hold cross-linguistically?

2 Data

The majority of languages we investigated so far display a subject-object asymmetry. Here is a selection of them from the Indo-European language family:

(5) **Dutch**: 3 speakers¹

- a. Jan ging weg en Peter ^{??}(ook). Jan went away and Peter ADD 'Jan went away, and Peter, too.'
- b. Zij heeft Marie gezien en mij (ook). she has Mary seen and me ADD 'She saw Mary and me, too.'

(6) French: 4 speakers

- a. Anna a acheté un livre et Ben *(aussi). Anna has bought a book and Ben ADD 'Anna has bought a book and Ben, too.'
- b. Anna a acheté un livre hier et un magazine (aussi).
 Anna has bought a book yesterday and a magazine ADD
 'Anna bought a book yesterday and a magazine, too.'

(7) Bangla: 1 speaker

- a. Anna ekta boi kinecche aar ben*(-o). Anna a book bought and Ben-ADD 'Anna bought a book, and Ben, too.'
- b. Anna kalke ekta boi kinecche aar ekta magazine(-o). Anna yesterday a book bought and a magazine-ADD 'Anna bought a book yesterday, and a magazine, too.'

(8) B(osnian)C(roatian)S(erbian):

2 speakers

- a. Ana je kupila knjigu, i Ben *(također). Anna AUX.3SG bought.F.SG book and Ben ADD 'Anna bought a book, and Ben, too.'
- Ana je kupila knjigu jučer, i časopis Anna AUX.3SG bought.F.SG book yesterday and magazine (također).
 ADD

'Anna bought a book yesterday and a magazine, too.'

(9) **Greek**: 4 speakers

a. i ana eftase ce o Ben *(episis). the Anna arrived and the Ben ADD 'Anna arrived, and Ben, too.' b. ida ti Maria xtes ke ton Ben (episis). see.1SG.PST the.ACC Maria yesterday and the.ACC Ben ADD 'I saw Mary yesterday and (I saw) Ben, too.'

We also found the asymmetry outside of Indo-European, e.g., in Kwa languages like Akan. Interestingly, such languages display a nominal and a clausal coordinator, i.e., ne and $(\varepsilon)na$ in Akan.

(10) Akan: 2 speakers

- a. Anna tə-ə book na Ben ^{??}(nso). Anna buy-pst book and CP Ben ADD 'Anna bought a book and Ben too.'
- b. Anna tə-ə book nnora, ɛna pono (nso). Anna buy-pst book yesterday and .CP table ADD 'Anna bought a book yesterday and a table.'
- (11) a. Anna ne/ *ɛna Ben tə-ə book bi Anna and.DP and.CP Ben buy-PST book a 'Anna and Ben bought a book.'
 - b. Anna tə-ə book na/ *ne Ben nso tə-ə book Anna buy-PST book and CP and DP Ben also buy-PST book 'Anna bought a book and Ben also bought a book.'

Language	subject remnants + ADD	object remnants + ADD	
Dutch	??(✔)	(✓)	Germanic
German	^{??} (✓)	(✓)	Germanic
English	*(•/)	(✓)	Germanic
French	*(•/)	(✓)	Romance
Italian	*(•/)	%(✓)	Romance
Greek	*(•)	(✓)	Indo-European
BCS	*(•/)	(✓)	Slavic
Russian	?(✔)	(✓)	Slavic
Bangla	*(•/)	(✓)	Indo-Aryan
Akan	*(•/)	(✓)	Kwa
Ewe	*(•/)	(✓)	Kwa
Cantonese	*(✔)	*(✔)	Sino-Tibetan
Ngemba	*(•/)	*(🗸)	Grassfields Bantu
Korean	*(•/)	*(🗸)	Altaic

¹Dutch data also discussed in Koster (2000); Broekhuis (2018).

3 EXH and mandatory additives

- So how does the pragmatic literature of EXH explain obligatory additives in a sequence of sentences like below?
 - (12) A: Who danced?
 - B: Anna danced. Mary danced #(too).
- The idea is that there is an EXH operator present in each answer sentence which leads to a strengthened meaning.
- Strengthened meaning of a sentence φ is achieved by applying an EXH operator to φ which negates all excludable (non-entailed) alternatives ψ (Fox, 2007; Katzir, 2007; Magri, 2009; Chierchia et al., 2012). A simplified version is given below:

(13)
$$\text{EXH}(\varphi) = \varphi \bigwedge_{\psi \in \text{EXCL}(\varphi)} \neg \psi$$

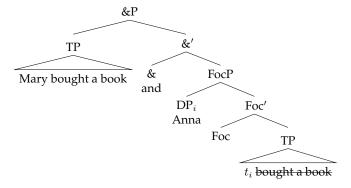
- Without ADD, the exhaustification of each sentence of B's answer in (12) leads to a contradiction. We illustrate this with (14), assuming that the domain is {Anna, Mary, Frida}:
 - (14) Anna danced. Mary danced #(too).
 - a. $[EXH[Anna_F danced]] = 1 \text{ iff } danced(anna) \land \neg danced(mary) \land \neg danced(frida)$
 - b. $[EXH[Mary_F danced]] = 1 \text{ iff } danced(mary) \land \neg danced(anna) \land \neg danced(frida)$
- Crucially, the presence of ADD avoids a contradiction. Hence, it is obligatorily inserted.
- This also means that the obligatory presence of ADD is tied to the obligatory presence of EXH.
- But when is EXH obligatory?
 - 1. One proposal comes from Magri (2009):

 The exhaustivity operator EXH is mandatory in matrix clauses.
 - 2. Another proposal was originally proposed in Bade (2016) and subsequently defended in Renans et al. (2017); Bade and Renans (2021):
 - The exhaustivity operator EXH is mandatory in the presence of obligatory focus marking which marks an implicit QUD (Question under discussion, see Beaver and Clark (2008); Roberts (2012)).
- For the rest of this talk, we will investigate how these two proposals can explain the subject-object asymmetry with stripping constructions.

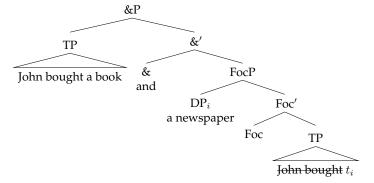
4 Analysis

Let us first entertain Hypothesis I: EXH is mandatory **in matrix clauses** (Magri, 2009).

- Hyp I implies that the subject-object asymmetry is derived from the size of the conjuncts.
- The additive is obligatorily inserted with subject remnants in (2-a) since they can only be derived via sentential conjunction, leading to exhaustification of both conjuncts and therefore a contradiction, see (15).
 - (15) Large conjunct analysis (Merchant, 2003; Wurmbrand, 2017) *Mary bought a book, and Anna, too.*

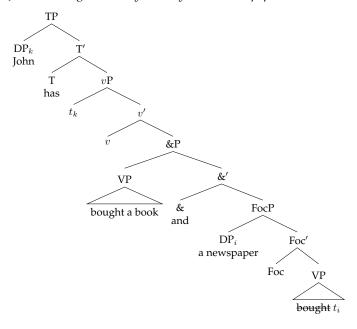


- Object remnants (2-b), however, are ambiguous as to whether they are derived with sentential conjunction (16), or a low VP-conjunction (17).
 - (16) Large conjunct analysis (Johnson, 2018) *John bought a book yesterday, and a newspaper, too.*



(17) Small conjunct analysis (Johnson, 2018)

John has bought a book yesterday, and a newspaper.



- Since in English TPs are matrix clauses, the small conjunct analysis does not predict the mandatory occurrence of ADD. EXH will be inserted at the top of TP scoping above the conjunction.
- Hence, stripping with object remnants permits two parses: one with a large conjuncts requiring ADD and one with small conjuncts which do not require ADD.

What about Hypothesis II?

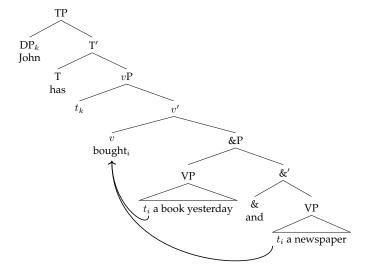
EXH is mandatory in the presence of focus marking (Bade, 2016). Generally, utterances are interpreted as exhaustive answers to the Question under Discussion (QUD). Focus marks the QUD.

- Clausal ellipsis such as stripping has been argued to be licensed under QUD-identity (e.g., Reich 2007; Weir 2014; Barros and Kotek 2018).
- \Rightarrow The possibility of ellipsis and the presence of ADD are both tied to QUD.
- Note that under Hyp I large and small conjuncts both display FocPs. This is necessary in order to move the remnants out of the ellipsis sites.
- Thus, with the proposal in (15)-(17) we would not predict a subject-object asymmetry under Hyp II.

- There is, however, an alternative feasible account of the asymmetry under Hyp II.
- For subject remnants and object remnants with ADD, we maintain the analyses in (15) and (16).
- For object remnants without ADD, however, there could be a low-conjunction construal without ellipsis, (18).

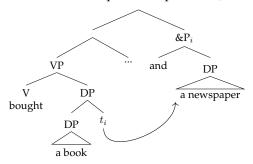
(18) ATB-movement analysis (cf. Johnson, 2009)

John has bought a book yesterday, and a newspaper.



Side note: Is there a possible analysis of stripping structures with DP-conjunction? What are the predictions for mandatory ADD?

(19) DP-coordination plus extraposition (Hudson, 1976; Munn, 1993)



- The analysis in (19) presupposes another base structure of conjunction, one in which the second conjunct adjoins to the first conjunct together with the coordinator (Munn, 1993; Hartmann, 2000). Such an analysis allows for stripping surface structures via extraposition.
- With nothing else being said such an analysis would fail to predict a subject-object asymmetry, contrary to our data.
- There are certain languages, however, where this alternative parse might be an option, e.g., in Kwa languages with the dedicated DP-coordinator. We illustrate this with the Ewe nominal coordinator *kple* vs. the clausal coordinator *eye*. As expected, ADD is not obligatory with *kple*, see (20-c).

(20) **Ewe**

- a. Anna kple/*eye Ben flè agbale ade.
 Anna and Ben buy-PST book a 'Anna and Ben bought a certain book.'
- b. Anna flè agbale eye Ben *(ha). Anna bought book and Ben ADD 'Anna bought a book and Ben also.'
- c. Anna flè agbale kple Ben. Anna bought book and Ben 'Anna bought a book and/with Ben.'
- Interestingly, in both Ewe and Akan the nominal coordinators also function as the preposition 'with', which makes them comitative coordinators (and an adjunction analysis more likely).

5 Case study: German and English

5.1 Evidence of syntactic ambiguity with objects

Under both hypotheses, there should be two ways to arrive at an object-remnant construction:

(1) clausal coordination + stripping

OBJ + ADD

(2) lower coordination

bare OBJ

Test 1: wh-movement

- In the low-coordination parse, the object remnant should not be able to be a *wh*-element, since there is no space for a *wh*-phrase to move (Ott and de Vries 2016; Driemel 2024).
- In the CP-coordination parse, i.e., with an additive particle, the remnant

should be able to be a *wh*-phrase. This seems to be borne out, (21).

- (21) Context: A asks B what B thinks A did on A's holiday.
 - a. *Ich denke mal, [EXH du hast [&P ein Schloss besucht und was]]? I think PCL you have a castle visited and what
 - b. Ich denke mal, [&P [EXH du hast ein Schloss besucht] und [EXH I think PCL you have a castle visited and was {noch/ auch}]]? what else too 'I think you probably visited a castle and what *(else)?'

Test 2: Binding

- In the low-coordination parse, the object remnant should be able to be bound by the subject, while this binding should not be possible in the CP-coordination parse. This seems to be borne out, (22).
- (22) a. [EXH Jedes_i Stadtfest hat sich zu sehr [&P auf ein großes every town.festival has REFL too much on a big

 Budget verlassen und auf seine_i Befürworter]].

 budget relied and on its proponents

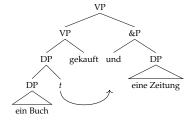
 'Every_i town festival relied too much on a big budget and its_i proponents.'
 - b. #[&P] [EXH Jedes $_i$ Stadtfest hat sich zu sehr auf ein großes every town.festival has REFL too much on a big Budget verlassen] und [EXH auf seine $_i$ Befürworter auch]]. budget relied and on its proponents too
 - ⇒ There is evidence for a low conjunction parse with object remnants.

5.2 Low coordination construal

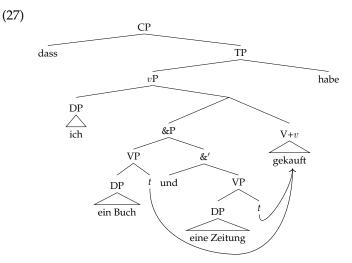
- To differentiate between Hypothesis I and Hypothesis II, we have to investigate which process derives the pattern in the low coordination construal.
 - Hyp I predicts that the absence of ADD is tied to the category of the conjuncts.
 - Hyp II predicts that the absence of ADD is tied to the absence of ellipsis (via focus).²

²For the relevance of the QUD and the discourse context to VP-ellipsis see e.g., Hardt and Romero (2004); Elliott et al. (2014).

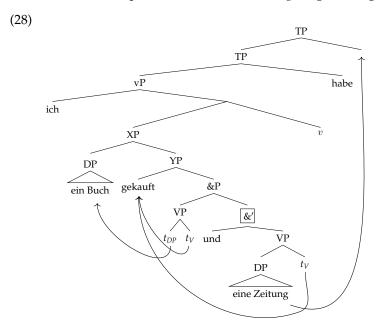
- Possibility 1: DP-coordination plus extraposition, (23)
- (23) DP-coordination plus extraposition



- If the objects are underlyingly coordinated as DPs, they should trigger PL agreement as in (24).
- (24) Ich habe [&P Mikosch und Alex] {ihrer/ *seiner}
 I have Mikosch and Alex POSS.M.3PL.DAT POSS.M.3SG.DAT
 Gastgeberin vorgestellt.
 host introduced
 'I introduced Mikosch and Alex to their host.'
 - They don't, (25).
- (25) Ich habe Mikosch {*ihrer/ seiner} Gastgeberin I have Mikosch POSS.M.3PL.DAT POSS.M.3SG.DAT host vorgestellt und Alex. introduced and Alex 'I introduced Mikosch to his host and Alex to his host.'
 - Possibility 2: VP-coordination plus ATB-movement, (18)
 - In head-final languages, an ATB-movement account of predicate ellipsis is not as straightforward as in VO-languages, since normal head movement leads to the wrong word order. In a derivation like (27), we get the word order (26-b) instead of (26-a).
- (26) a. Ich sagte, dass ich ein Buch gekauft habe und eine Zeitung.
 I said that I a book bought have and a magazine
 b. ...dass ich ein Buch und eine Zeitung gekauft habe that I a book and a magazine bought have



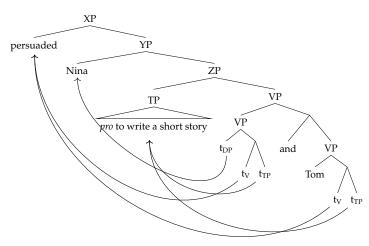
• We'd have to assume 2 distinct adjunctions (of *ein Buch* and *gekauft*) *and* an additional extraposition (of *und eine Zeitung*) to get the right order, (28).



• A similar problem also arises for the VO-language English (Toosarvandani 2013). With an embedded clause as in (29-a), ATB-movement can't get the right word order.

(29) a. I have persuaded Nina to write a short story and Tom.

b.



- Fronting a TP into the middle field is independently impossible, (30).
- (30) *I will [$_{TP}$ to write a novel] promise t. (Toosarvandani 2013)
- ⇒ An ATB-movement analysis (18) is problematic for head-final and head-initial languages and needs a lot of additional assumptions.
- This leaves us with the alternative analysis in the low conjunction construal (17): VP-coordination and ellipsis.
- This alternative is also not completely unmarked: it needs VP-internal ellipsis that is not otherwise attested in German, (31).
- (31) *Nina hat ein Buch geschrieben und Tom hat auch ein Buch geschrieben.

 Nina has a book written and Tom has too
 - However, it can account for English straightforwardly and should therefore be preferred.
 - We conclude that the way to get an object remnant without an additive particle in English (and German) also involves ellipsis.
 - Hypothesis II makes the wrong predictions here: if there is ellipsis, an additive should occur, contrary to our observations.
- ⇒ This proves Hypothesis I right: The low parse lacks an additive because EXH is not inserted in VP-coordinations.

6 Conclusion and implications

Summary

- We observe a previously unnoticed subject-object asymmetry in the distribution of additive particles with stripping: while ADD are obligatory with subjects, they are optional with objects.
- This pattern is quite robust in our cross-linguistic sample.
- We account for the asymmetry on the basis of syntactic ambiguity: the surface string with an object conjunct has 2 underlying structures, one of which requires ADD, one if which doesn't.
- We argue that the pattern with stripping can differentiate between different theories of exhaustivity: the pattern can be accounted for in analyses that insert an EXH operator obligatorily in every matrix clause (e.g., Magri 2009), rather than analyses that link it to focus.

Relevance for theories of coordination

- If our analysis is on the right track, it poses a problem for conjunction reduction analyses of "and".
- A coordinator like "and" is unusually semantically flexible in being able to link objects of different types (from entities to propositions).
- Some semantic analyses restrict this flexibility, and assume that all coordinations are underlyingly clausal coordinations, that can optionally involve ellipsis to derive surface DP-coordination, as in (32) (see e.g., Hirsch 2017).
 - (32) [Mary hugged the dog] and [Mary petted the dog].
- If this were the correct analysis for seemingly low coordination, we would not expect a subject/object asymmetry in the distribution of ADD. ADD should be obligatory with objects, too.

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