Verbal Bracketing Paradoxes

What heavy drinkers can tell us about movement

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The plan

1. Traditional bracketing paradoxes
2. A second type of bracketing paradox
3. Rebracketing verbal bracketing paradoxes
4. What is Information Preservation?

What is a bracketing paradox?

- Mismatch between morphophonology and semantics[5]
- Meaning is still compositional, just not in expected way (cf. *old friend*[2,3])
- Traditional examples include *nuclear physicist, mediaeval historian*

Traditional bracketing paradoxes

LF bracketing:		PF bracketing:
• [[hydroelectric]ity]	⟺	[hydro[electricity]]
• [[ungrammatical]ity]	⟺	[un[grammaticality]]
• [[unhappi]er]	⟺	[un[happier]]
• [[nuclear physic]ist]	⟺	[nuclear [physicist]]
• [[transformational grammar]ian]	⟺	[transformational [grammarian]]
• [[Gödel number]ing]	⟺	[Gödel [numbering]]

Bracketing paradoxes in Dutch

- In Dutch, prenominal modifiers must appear with a schwa in certain contexts, including in a definite noun phrase:

de beroemd*(-e) gitarist	de productief*(-e) generativist
the famous guitarist	*the productive generativist*[1]

- However, this schwa does not appear with bracketing paradoxes:

de klassiek(*-e) gitarist	de transformationeel(*-e) generativist
the classical guitarist	*the transformational generativist*[1]

Analysing bracketing paradoxes

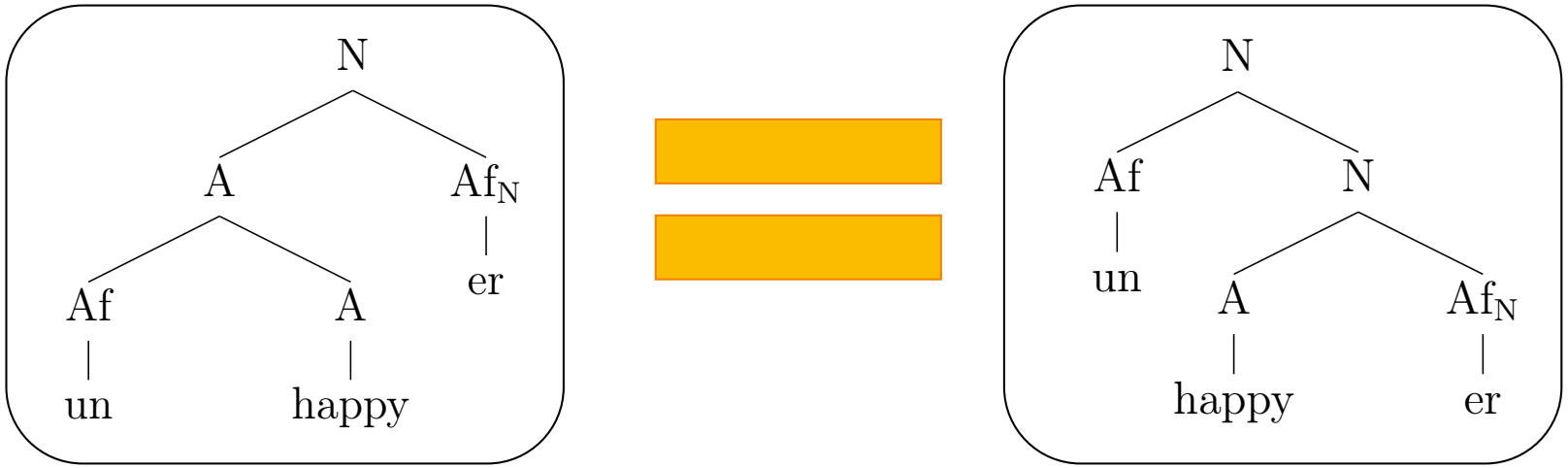
- Traditionally, the syntax was understood to manipulate the same building blocks as the phonology

→ PF structure determined by syntax

- Sproat proposed separating the two – phonological structure could differ from syntactic[4]

Analysing bracketing paradoxes

- Sproat introduced a Mapping Principle, to ensure the two levels of structure were constrained in the way they could differ
- This meant the syntactic structure could be mapped on to the phonological structure



A second type of bracketing paradox

- One phonological form, but two meanings, so mismatch between phonological structure and at least one semantic structure
- Evidence for both bracketings, as in traditional cases
- Derived from verbs: *heavy drinker, hard worker*
  - Similar underived forms are not paradoxes: **beautiful ballerina, *high chorister*

Verbal bracketing paradoxes

LF bracketing		PF bracketing
• [[hard work]er]	⟺	[hard [worker]]
• [[beautiful danc]er]	⟺	[beautiful [dancer]]
• [[heavy drink]er]	⟺	[heavy [drinker]]
• [[close talk]er]	⟺	[close [talker]]
• [[high sing]er]	⟺	[high [singer]]

Verbal bracketing paradoxes in Dutch

- While traditional bracketing paradoxes disallow the schwa where it would otherwise be expected, verbal bracketing paradoxes require it:

de mooi*(-e) danser	de hard*(-e) werker
the beautiful dancer	*the hard worker*

- What's going on?

Dutch schwas

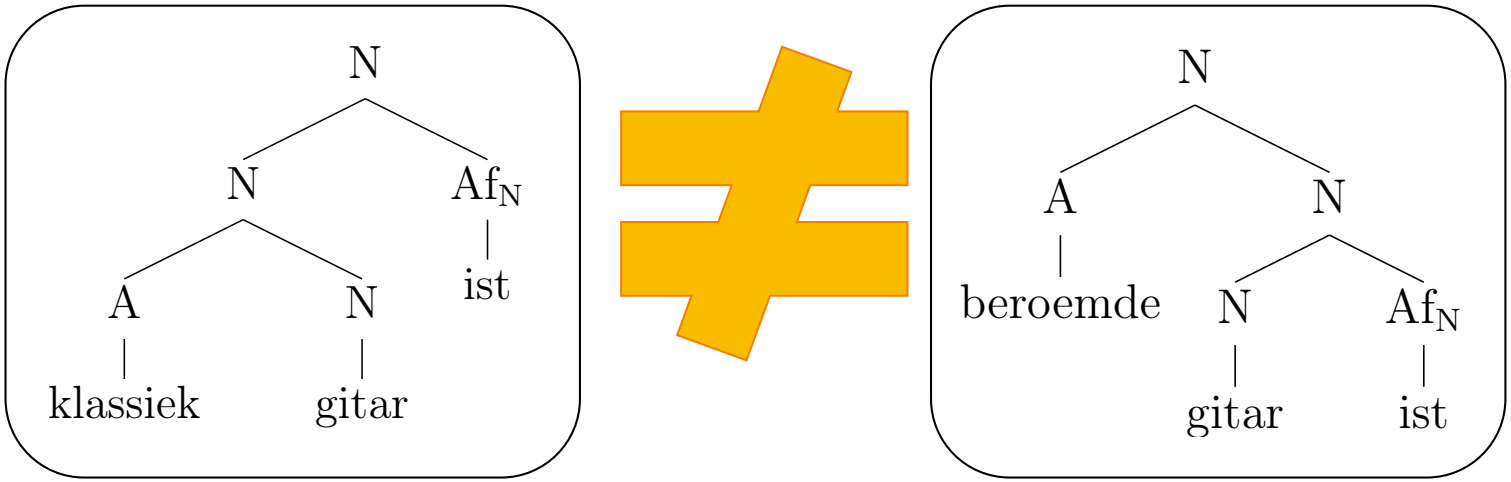
- The two types of paradox have opposing behaviour with regard to the schwa
  - This suggests they aren't the same phenomenon and shouldn't receive the same analysis

- Verbal bracketing paradoxes behave like normal adjective+noun phrases; traditional bracketing paradoxes look different

- Our analysis should reflect this!

Analysing bracketing paradoxes II

- Sproat's analysis looks pretty good for traditional bracketing paradoxes: it predicts that they shouldn't behave like N+A constituents because they don't look like them syntactically



Analysing bracketing paradoxes II

- But that doesn't help us with verbal bracketing paradoxes. The same analysis can't apply to these because it would require reordering the adjective and noun (compare *hard worker* to *works hard*)
  - But reordering doesn't seem to be an option: when affixing *-er* to a non-head-final structure like a verb followed by a particle, you get all kinds of affixation *except* reordering:
    - passer by, come outer, cleaner upper…
    - *bypasser, *outcomer, *upcleaner…

What now?

- Traditional bracketing paradoxes are seen as a mismatch between syntax and PF

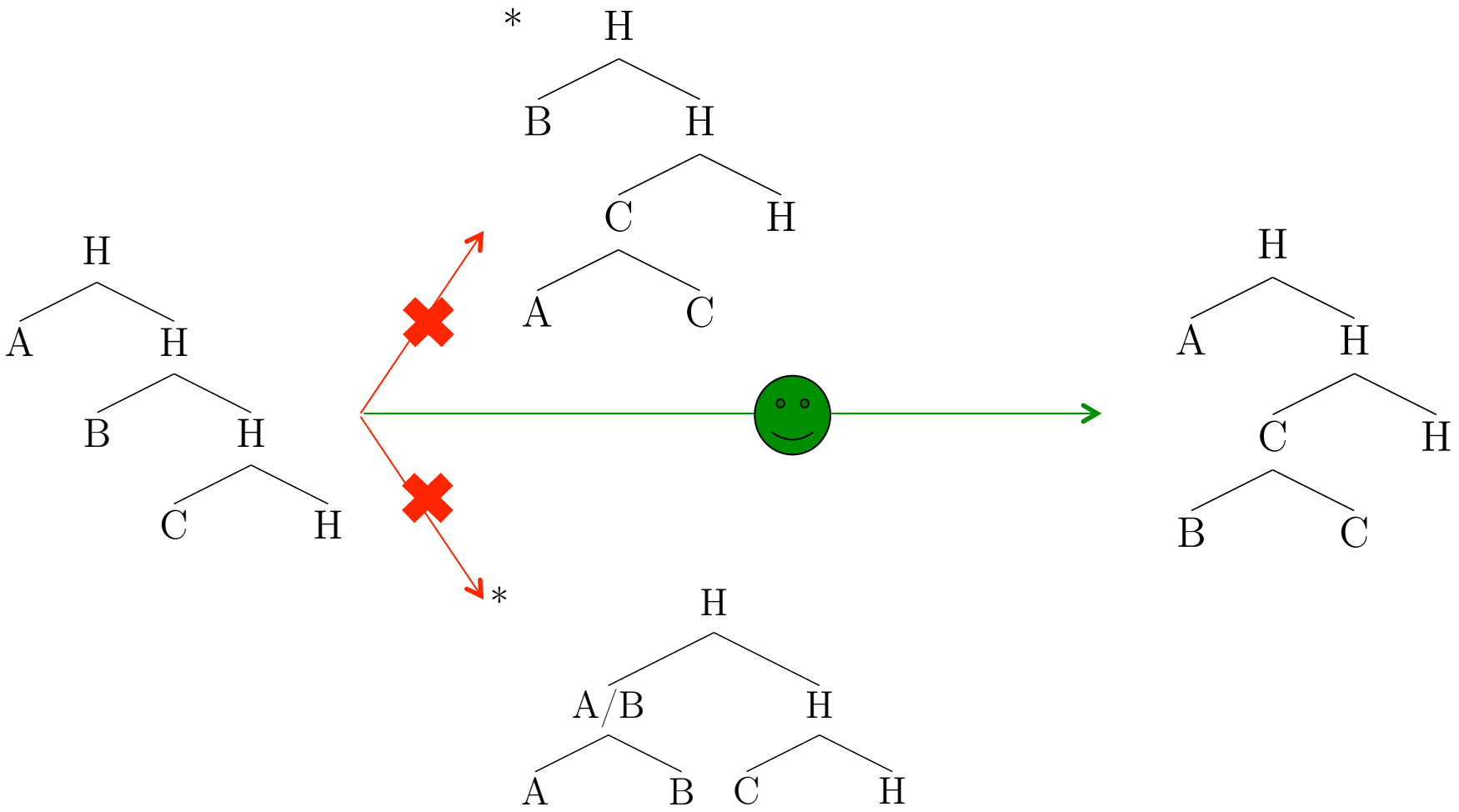
- What if verbal bracketing paradoxes are a mismatch between syntax and LF?

Rebracketing verbal bracketing paradoxes

- I suggest that verbal bracketing paradoxes result from an adjustment of the syntactic structure at LF

- This rebracketing is constrained by Information Preservation:
  - PRESERVATION OF HEADEDNESS: Don't destroy headedness relations
  - PRESERVATION OF HIERARCHY: Don't destroy c-command relations between non-heads

Information Preservation in action



Information Preservation in action

IP has the following effects:

- Only structurally adjacent non-heads can become sisters
  - More particularly, only bottom-most two non-heads can become sisters
- In other words, rebracketing can only occur where a non-head moves down precisely one level to form a constituent with the lowest non-head

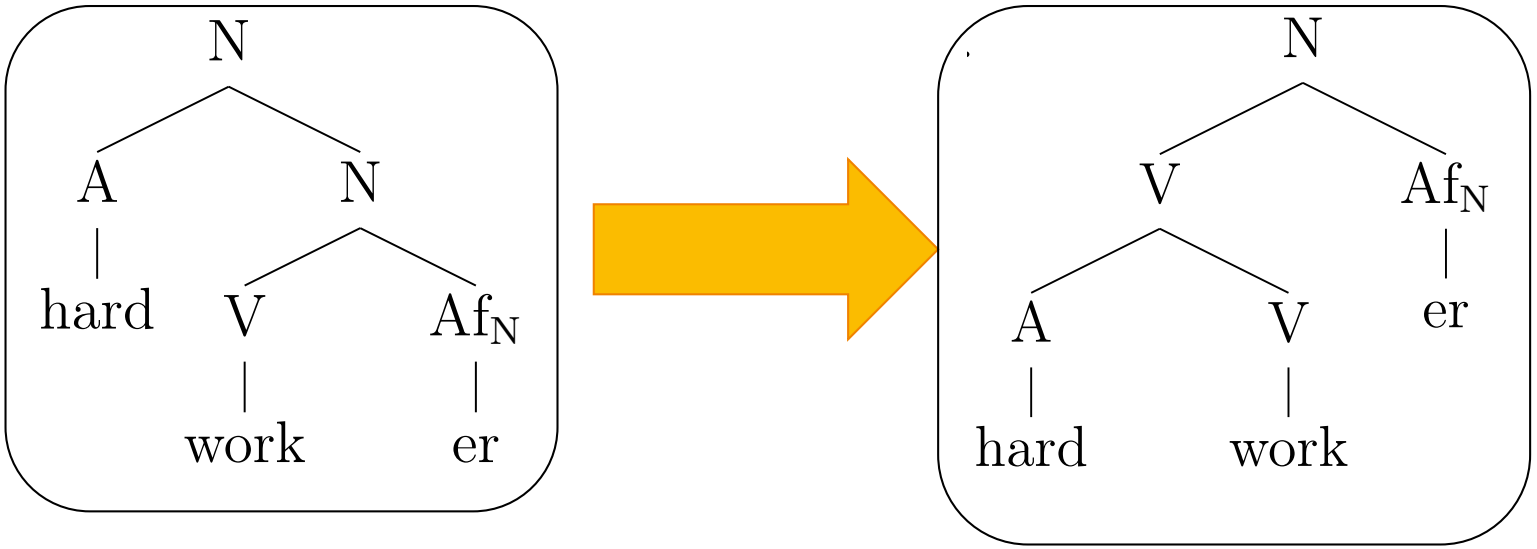
Information Preservation in action

- This means that a non-constituent can't be interpreted as a constituent, and the rebracketing must be both shallow and local

- In other words, it maintains a restrictive theory of movement

Rebracketing verbal bracketing paradoxes

- The result is that only a very few kinds of rebracketing are allowed, among them:



But what is Information Preservation?

- Information Preservation is a restriction on all movement
- The movement operation can be separated from chain formation
- Where movement can occur without violating IP, no trace is necessary; otherwise, a trace may be used subject to chain formation
  - The trace can be used to ensure no destruction of c-command relations between non-heads

I’m not convinced…

- Information Preservation is not really a new idea
- Most of it is already built into restrictions on chain formation
- Don’t be scared by movement without a trace – it’s constrained enough to still be interpretable, and only allows a tiny number of new movement configurations

Rebracketing verbal bracketing paradoxes

- This approach predicts that verbal bracketing paradoxes should behave syntactically like A+N combinations (because they look the same in syntax)

- It predicts that traditional and verbal bracketing paradoxes should behave differently

- In other words, it predicts exactly the patterns found in Dutch – result!

Conclusion

- Bracketing paradoxes occur when there are mismatches between syntactic structure and the structure required by other modules

- Extant analyses for traditional bracketing paradoxes can't account for verbal bracketing paradoxes

- My proposal predicts exactly the patterns found in Dutch, while maintaining a restrictive theory of movement

References

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Comparing IP and chain formation

(A_1,…, A_n) is a chain iff, for $1 \leq i \leq n$

1. $A_i = A_{i+1}$
2. A_i c-commands A_{i+1}
3. A_{i+1} is in a Minimal Configuration with A_i

Y is in a Minimal Configuration with X iff there is no Z such that

a. Z is of the same structural type as X, and
b. Z intervenes between X and Y