

The syntax of concessive clauses: evidence from exempt anaphora

Gunnar Lund & Isabelle Charnavel
Harvard University

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Overview

- Concessive clauses (e.g. *even though*, *although*) are understudied constructions, semantically and especially syntactically
- Charnavel (2018) offers a new tool for diagnosing the syntax of adjunct clauses: the distribution of exempt anaphora
- In this talk we provide a higher resolution syntax for English concessive clauses, with a focus on *even though*.

Where we're going

1. Background: Charnavel (2018) - *Perspective in causal clauses*
2. We confirm the results experimentally.
3. We extend this line of inquiry to concessive clauses, finding that *even though*-clauses are lower than *although*-clauses.
4. Other syntactic tests, including lack of pronominal binding, show that *even though*-clauses are still rather high.
5. We propose that (1) *even though*-clauses attach at Epis(temic)P and (2) different types of DPs have different heights.

1. Background

Binding Condition A

“An anaphor must be bound in its binding domain.”

(1) The moon spins on itself.

(2) *The moon influences people that are sensitive to itself.

(adapted from Charnavel & Sportiche 2016:37)

Exempt Anaphora

Reflexive anaphors like *herself* can be exempt from Condition A in certain contexts. (Ross 1970, Jackendoff 1972, Kuno 1972, Cantrall 1974, Sells 1987, Pollard & Sag 1992, Reinhart & Reuland 1993, i.a.)

In particular, they are exempt when they are in a context representing the perspective of their antecedent, i.e., a logophoric context.

Exempt Anaphora

(1) The picture of **herself** on the front page of the Times made **Mary's** claims seem somewhat ridiculous.

(Pollard & Sag 1992:264)

(2) **Albert** was never hostile to laymen who couldn't understand what physicists like **himself** were trying to prove.

(Ross 1970:230)

Causal adjunct clauses

Causal clauses can allow for exempt anaphors:

(1) **Liz** left the party because there was an embarrassing picture of **herself** going around.

(Charnavel 2018:5)

Causal judge

- Causal clauses are perspectival contexts, in that the causal relation is established w.r.t. some reasoning individual.

(1) Liz left the party because there was an embarrassing picture of her going around.

(2) Liz left the party because there was an embarrassing picture of herself going around.

- $[[A \text{ because } (j) B]]^w = \forall w' \text{ compatible with } j\text{'s mental state in } w, B \text{ is the cause of } A \text{ in } w'$ (Charnavel 2018:13, c.f. Stephenson 2007)

Causal judge

- Charnavel (2018) argues that this judge is syntactically represented as an argument of the causal subordinator.
- The causal judge j must be bound by a speaker S (or higher attitude holder), represented syntactically (Speas & Tenny 2003, Haegeman & Hill 2013, i.a.), and also can be bound by a relevant c-commanding event participant.

Causal judge

(1) S [Liz_i left the party] [j_S because there was an embarrassing picture of her_i going around.]

(2) S [Liz_i left the party] [j_{S+P} because there was an embarrassing picture of herself_i going around.]

Logophoric operator

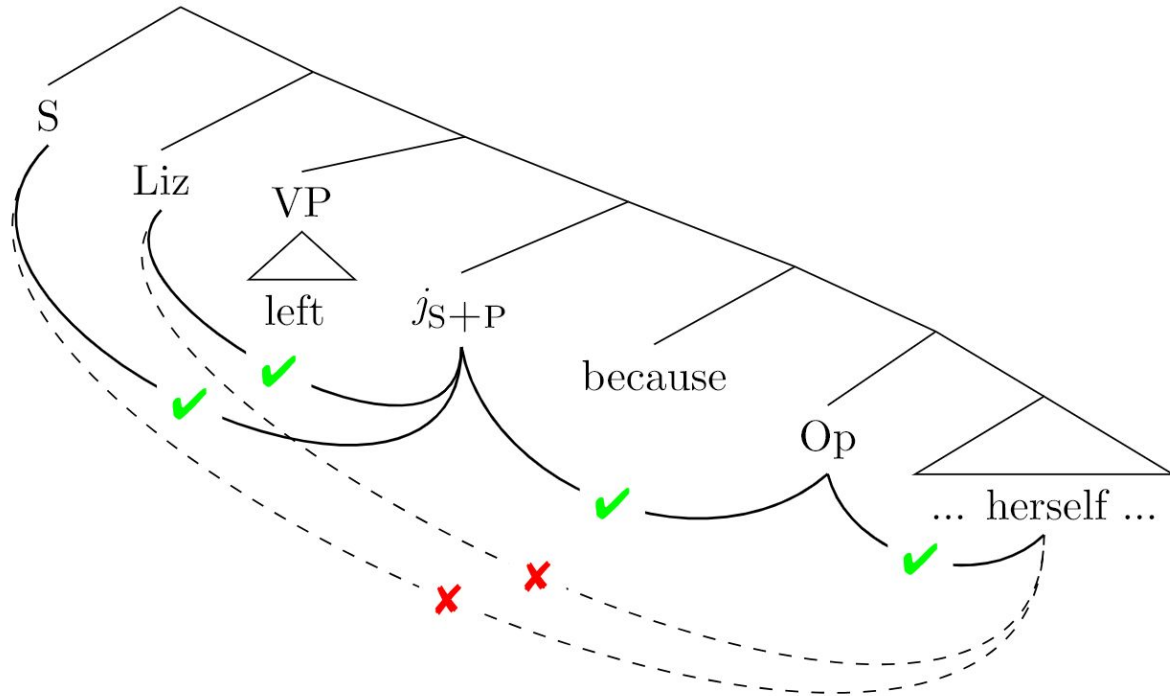
- The causal judge and the perspective center of the subordinate clause itself are not necessarily the same.

(1) **Liz** left the party because there was an embarrassing picture of **herself** going around. (But I don't think it was embarrassing at all/#But I think she left because she was tired)

- OP, a logophoric operator in the periphery, syntactically represents the perspective center and binds logophoric elements in the clause.

This is local binding!

Exempt anaphors look like plain anaphors because they are in fact locally bound! (Charnavel 2014, to appear)



Attachment sites

- An argument for this proposal: when causal clauses attach higher than event-participants in the matrix clause, exempt anaphora is unavailable.
- Evidential and speech act modifying causal clauses show exactly this!

Attachment sites

[Mood_{speech act} [Mood_{evaluative} [Mood_{evidential} ... [VP ...]...]]]

(Cinque 1999, Speas & Tenny 2003, Rutherford 1970, Sæbø 1991)

(1) It must be raining, since/because John's rain boots are wet. (EvidP)

(2) It's raining, since/?because you need to go out later. (SAP)

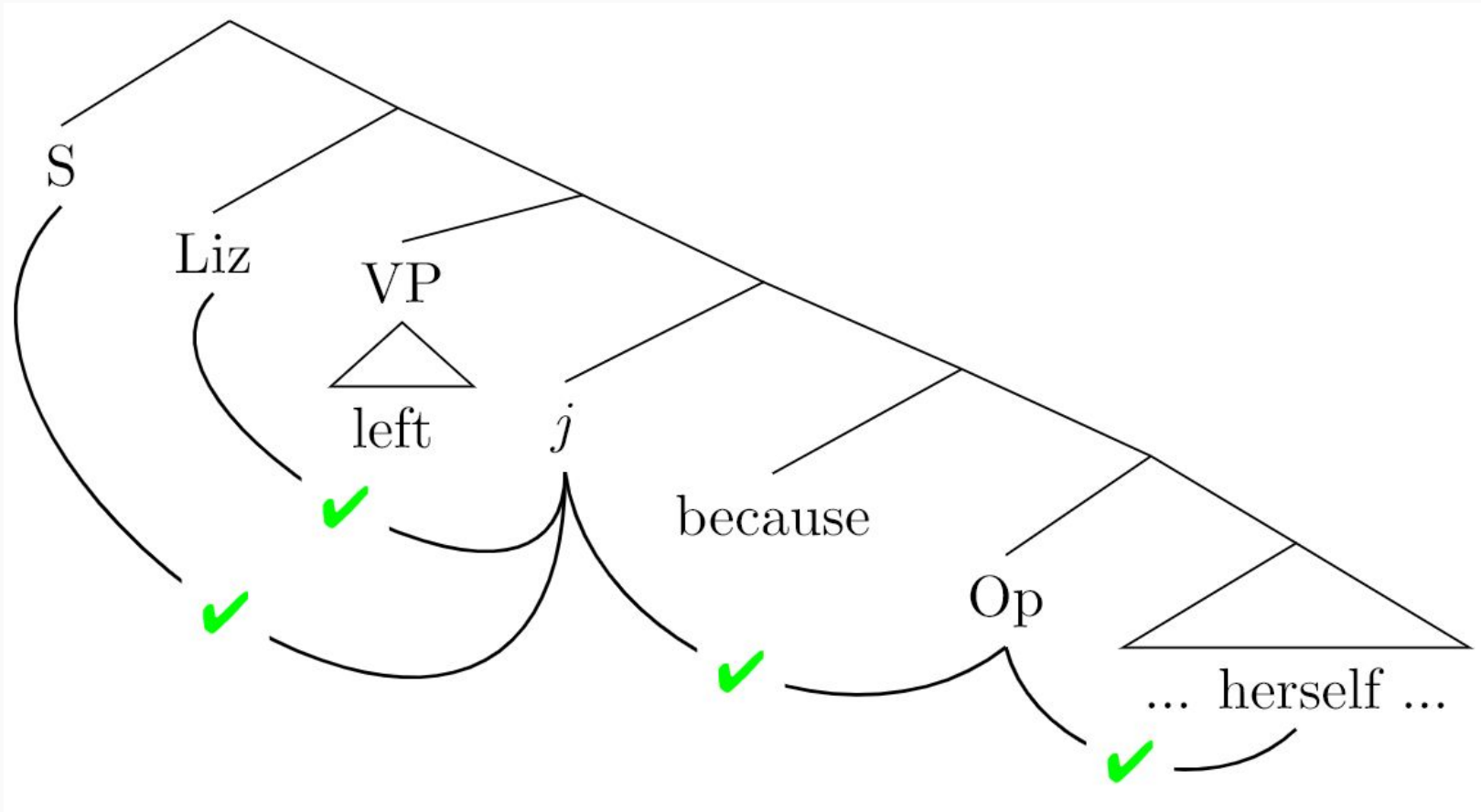
Since-clauses

(1) Liz left the party because there was an embarrassing picture of herself going around

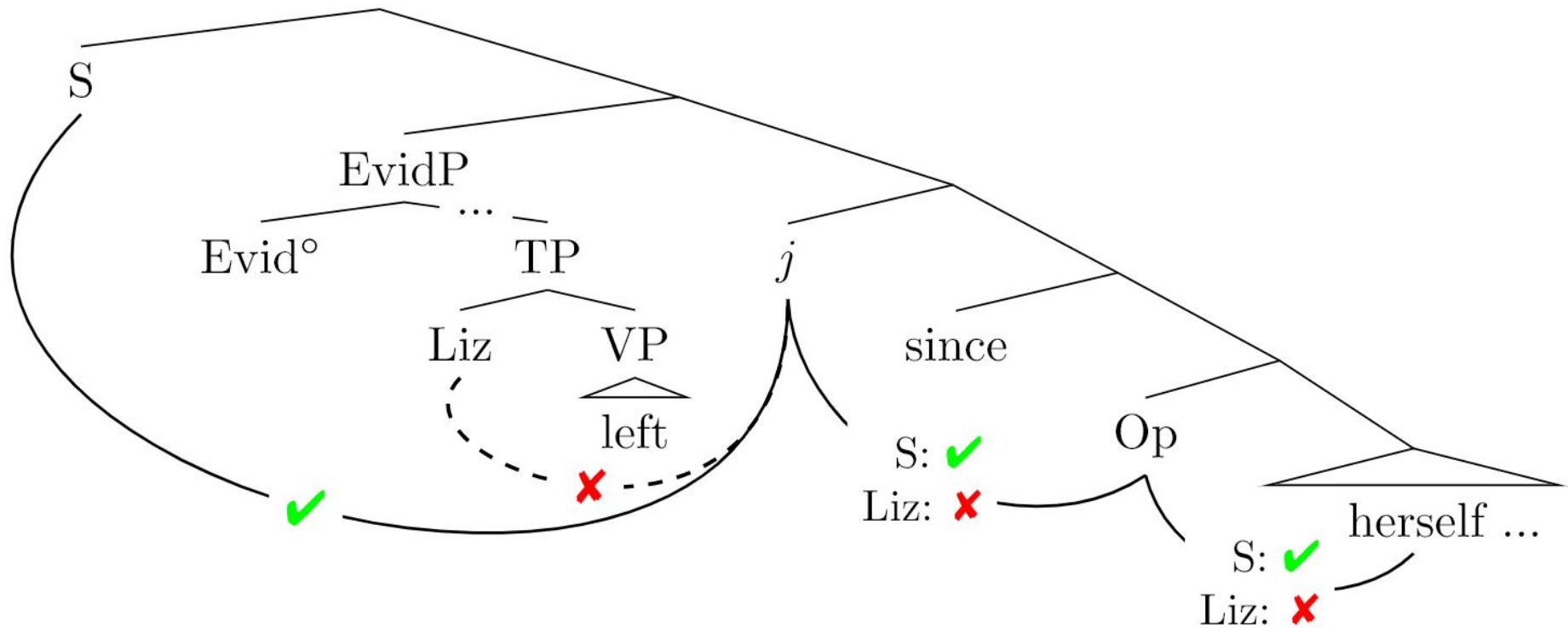
(2) ??Liz must have left, since there is an embarrassing picture of herself going around.

(Charnavel 2018:11,22)

Because v. since



Because v. since



2. Experimental confirmation

Experiment (1)

We asked participants (n=30) to judge sentences with exempt anaphors in causal clauses on a six-point Likert scale.

Each participant saw three sentences of eventive-*because* and evidential-*since*.

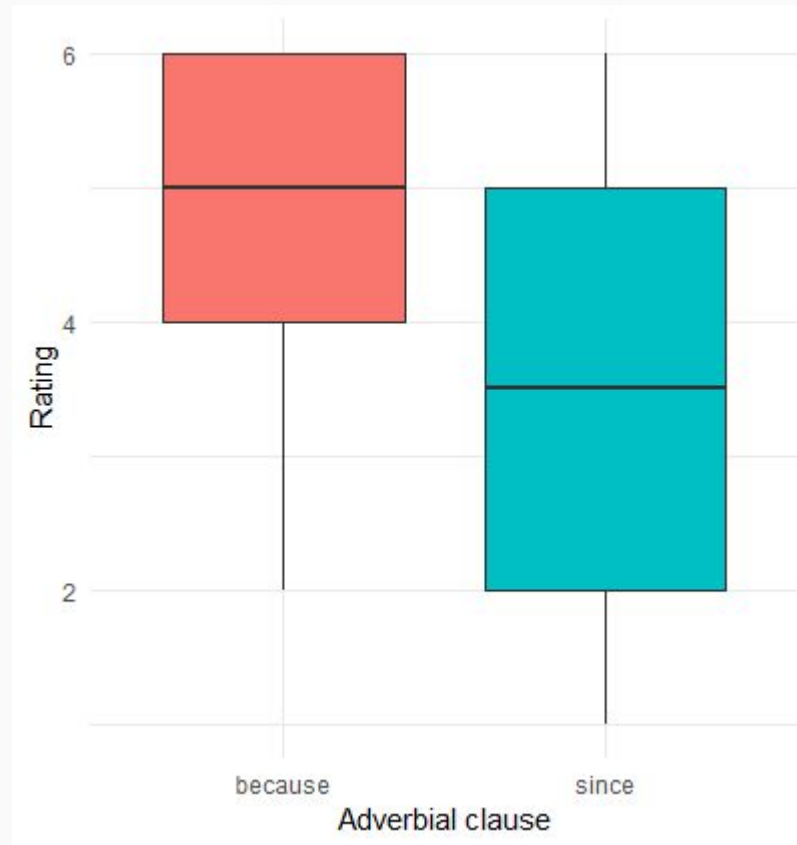
Experiment (1)

Sentences were composed according to the following formula:
EP VP *because/since* inanimate-subj. VP (*like* | NP *of*) *anaphor*.

(1) **Alice** sued the newspaper because it published an embarrassing photo of **herself**.

(2) **Tom** went on vacation since there was a picture of **himself** at a beach on Facebook.

Experiment (1)



$p < 0.0005$

3. Concessive clauses

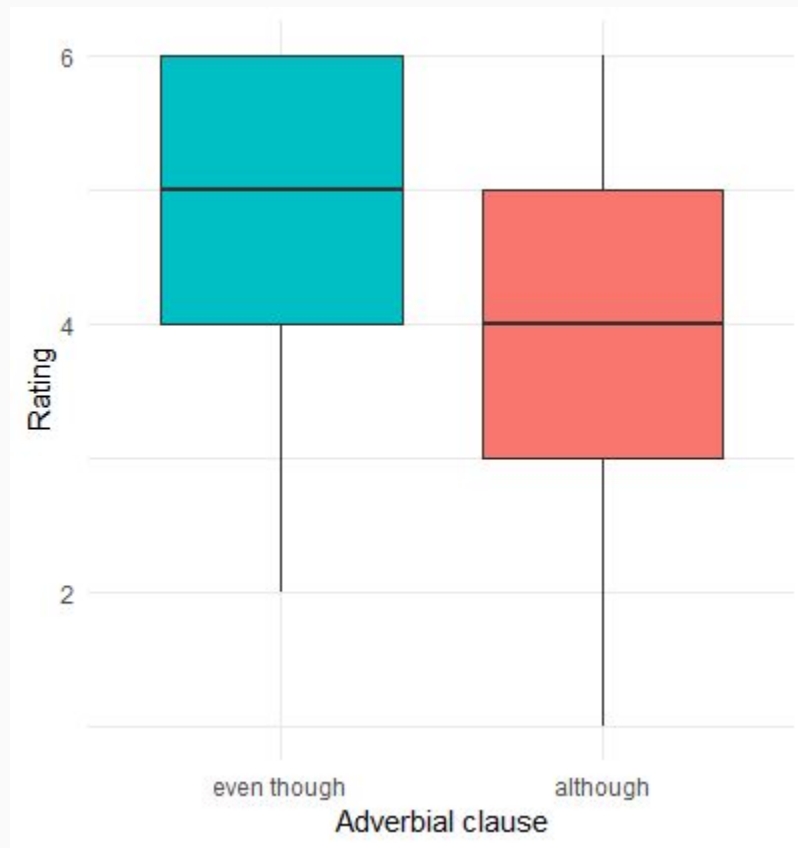
Concessive clauses

- Concessive clauses headed by *although* and *even though* have not been extensively studied syntactically.
- Rutherford (1970) argues *although* is syntactically higher than *even though*, on the basis that only *although* may have speech act uses.
- Concessives are argued to be semantically (anti-)causative (König & Siemund 2000). (However, see Iten (2005), Lund (2017) against this view.)

Concessive clauses

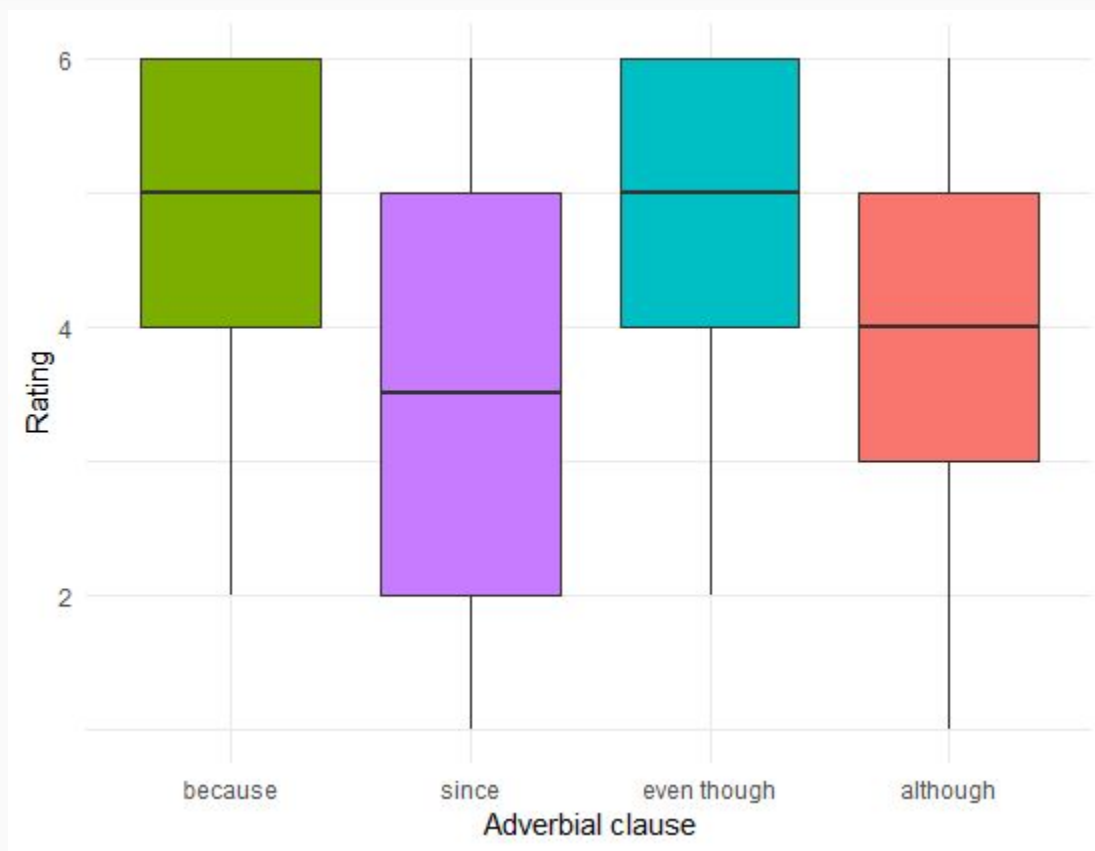
- (1) **The judge** was allowed to stay on the case even though there was a recording of **himself** insulting the defendant.
- (2) **Mary** spent the week at her lake house although there was going to be a statue of **herself** revealed outside city hall.

Concessives



$p < 0.0005$

Results overall



This suggests
even though-clauses
parallel
because-clauses

But not quite!

4. *Even though*-clauses are higher than *because*-clauses.

How they're different

1. Negation scopes above eventive-*because*, but below *even though*.
2. Questions scope above eventive-*because*, but below *even though*.
3. Quantifier DPs may bind pronouns in *because*-clauses, but not in *even though*-clauses.
4. And we test binding experimentally.

Negation

(1) Liz didn't leave **because** she was tired. (But because she had work the next day.) $(\neg > \textit{because})$

\Rightarrow She was tired. (cf. Lakoff 1965; Rutherford 1970; Iatridou 1991; Johnston 1994, i.a.)

(2) #Liz didn't leave **even though** she wasn't tired. $(*\neg > \textit{even though})$

$(\Rightarrow$ She wasn't tired.)

Questions

(1) Did the cowboy ride to town **because** he wanted to buy a new hat?
(Q > *because*)

⇒ The cowboy wanted to buy a new hat. (c.f. Rutherford 1970)

(2) Did the cowboy ride to town **even though** he didn't want to buy a new hat?
(*Q > *even though*)

⇒ The cowboy didn't want to buy a new hat.

Pronominal binding

(1) [Context: There are ten guests at the party. Four left, and of them, three left due to exhaustion.]

Most guests left the party **because they** were tired. (*most > because*)

(2) [Context: There are ten guests at the party. Four left, and three of the four were having a good time but needed to get to bed early.]

Most guests left the party **even though they** weren't tired.

(**most > even though*)

Testing binding experimentally

Experiment (2)

We asked participants (n=47) to give truth value judgements for sentences with bound pronouns in adjunct clauses, given a particular scenario.

Subjects saw four sentences with unembedded adjunct clauses and four with embedded adjunct clauses (see appendix).

Matrix subjects consisted of QDPs with *no* with pronominal singular subjects in the subordinate clause as the intended target of binding.

Experiment (2)

[Situation: Congressmen Smith, Jones, and Johnson hate their jobs. However, they feel a sense of duty to their citizens and go to work every day for that reason.]

No congressman goes to work because he loves his job.
(No congressman goes to work)

[TRUE]

[FALSE]

Experiment (2)

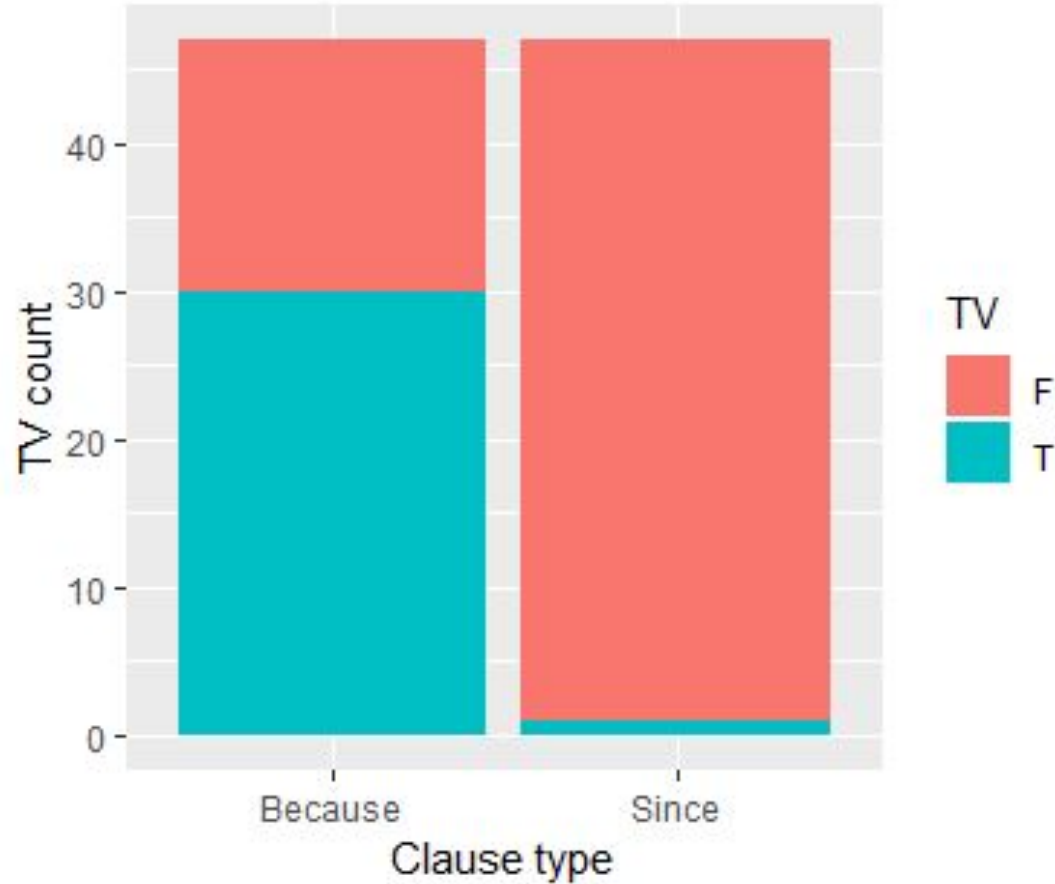
[Situation: Will tried out for the baseball team and his mom approved. Harry also tried out for the team with his mom's approval. Johnny tried out for the team too with his mom's approval.]

No boy tried out for the baseball team even though **his** mom protested.

[Situation: Lisa makes sure that her three sons take good care of their teeth and makes the children brush their teeth twice per day. While the boys don't mind brushing their teeth, they hate going to the dentist.]

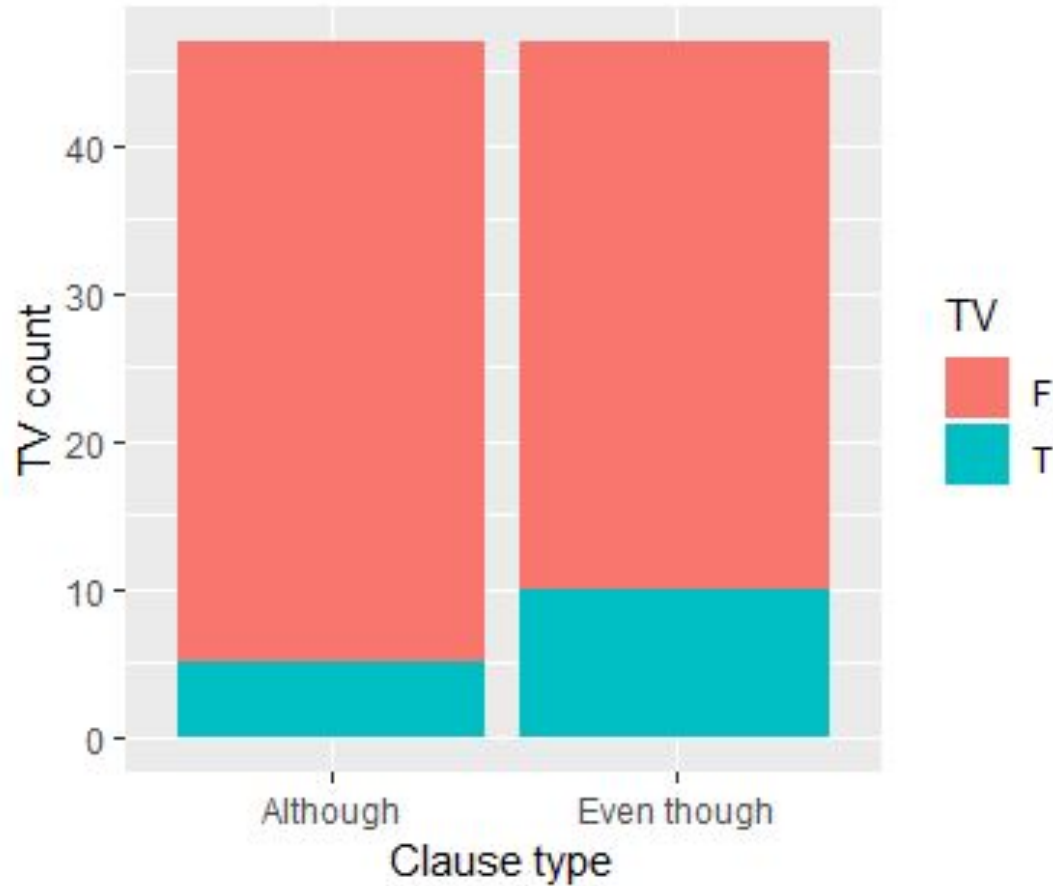
No son hates going to the dentist although **his** teeth need cleaning.

Experiment (2) - *because* v. *since*



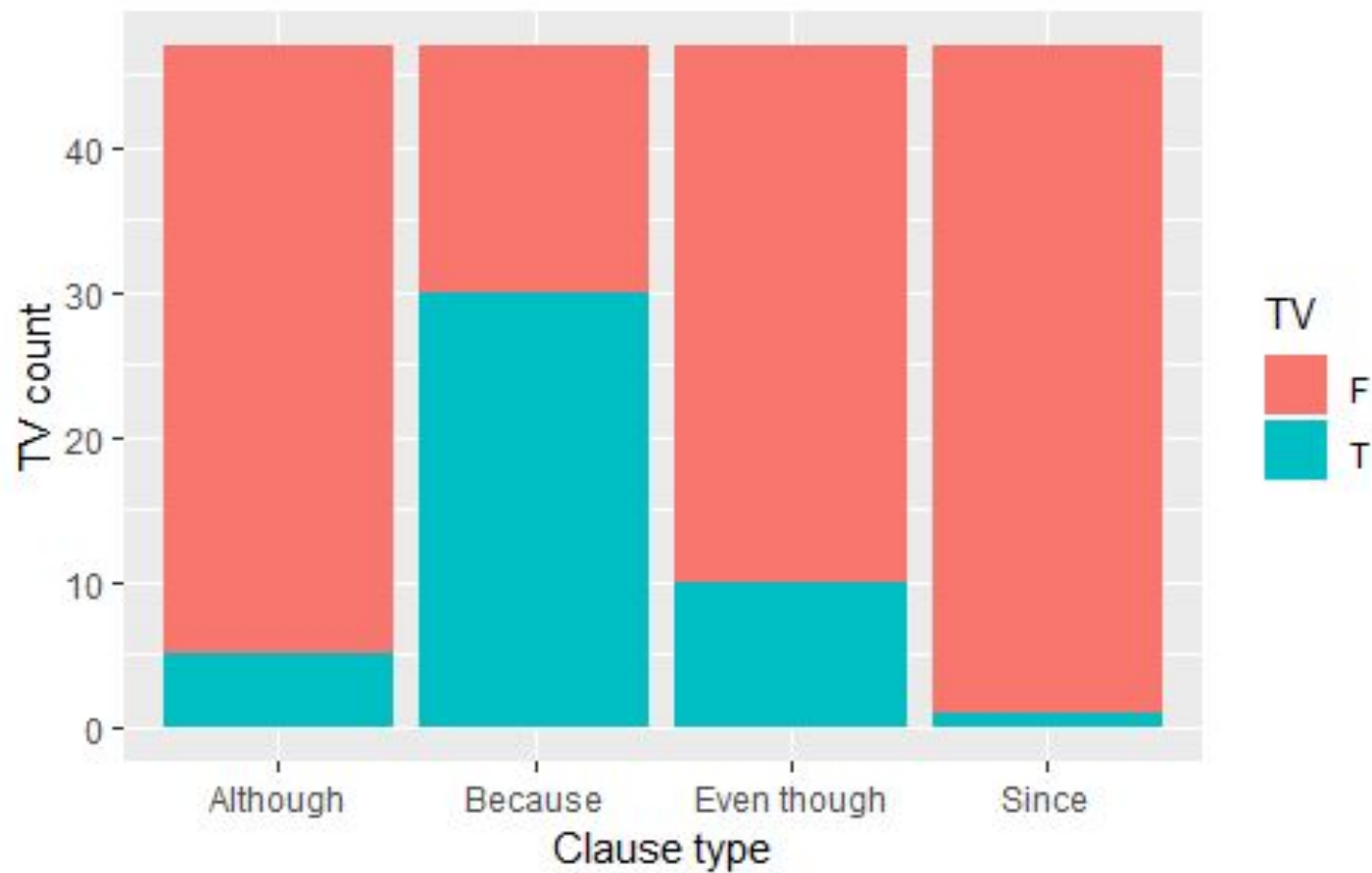
$p < 0.0005$

Experiment (2) - *even though* v. *although*



$p > 0.2$

Experiment (2)



Availability of exempt
anaphors suggests
even though-clauses
are in the scope of
matrix subjects

But the
unavailability of
pronominal
binding suggests
otherwise!

Analysis

1. *Even though*-clauses attach at Epis(temic)P
2. Quantifiers and Referential DPs may take different scopes, à la Beghelli & Stowell (1997), Kiss (1996).

Ingredient 1

- *Even though*-clauses must attach at a position below EvidP but above the VP.
- EpisP provides exactly this. (Cinque 1999, Speas & Tenny 2003)

[Mood_{speech act} [Mood_{evaluative} [Mood_{evidential} [Mod_{epistemic} (EpisP) [Mood_{irrealis} ... [VP ...]...]]]]]

since

*even
though*

because

Why EpisP?

“In the epistemic domain concessive conjunction will mark the impediment of a belief or a conclusion. [A concessive clause] does not express any factual conflict, but a conflict between the conclusion and the potential counter argument expressed in the concessive clause”

- Crevels (2000:318)

Further arguments

1. *Even though*-clauses respect the Epistemic Containment Principle.
2. *Even though*-clauses take appropriate scope with respect to adjacent adverbial modifiers. (Cinque 1999)
3. *Even though*-clauses can only be embedded under representational attitude verbs, like epistemic modals. (Anand & Hacquard 2013)

Epistemic containment

Quantifiers may not take scope above epistemic modals.

(von Stechow & Iatridou 2003)

(1) ***Every student** must be awake if **his** light is on.

Adjacent modifiers

[Mood_{evidential} allegedly [EpisP [Mood_{irrealis} perhaps ...]]]

(1) **Perhaps/allegedly**, John went for a walk **because** it was a nice day.

⇒ It was a nice day. (Adv. > *because*)

(2) **Perhaps** John went for a walk **even though** it was raining.

⇒ It was raining. (**perhaps* > *even though*)

(3) **Allegedly**, John went for a walk **even though** it was raining.

⇒ It was raining. (*allegedly* > *even though*)

Representational attitudes

Epistemics can only be embedded under representational attitude verbs like *think*. (Anand & Hacquard 2013)

(1) John **thinks** that Paul went for a walk **even though** it's raining (but it's not actually raining)

(2) John **wishes** that Paul would go for a walk **even though** it's raining (*but it's not actually raining).

Ingredient 2

Referential DPs differ syntactically from quantificational DPs.

(1) **Liz** left the party even though there was a flattering picture of **herself** going around.

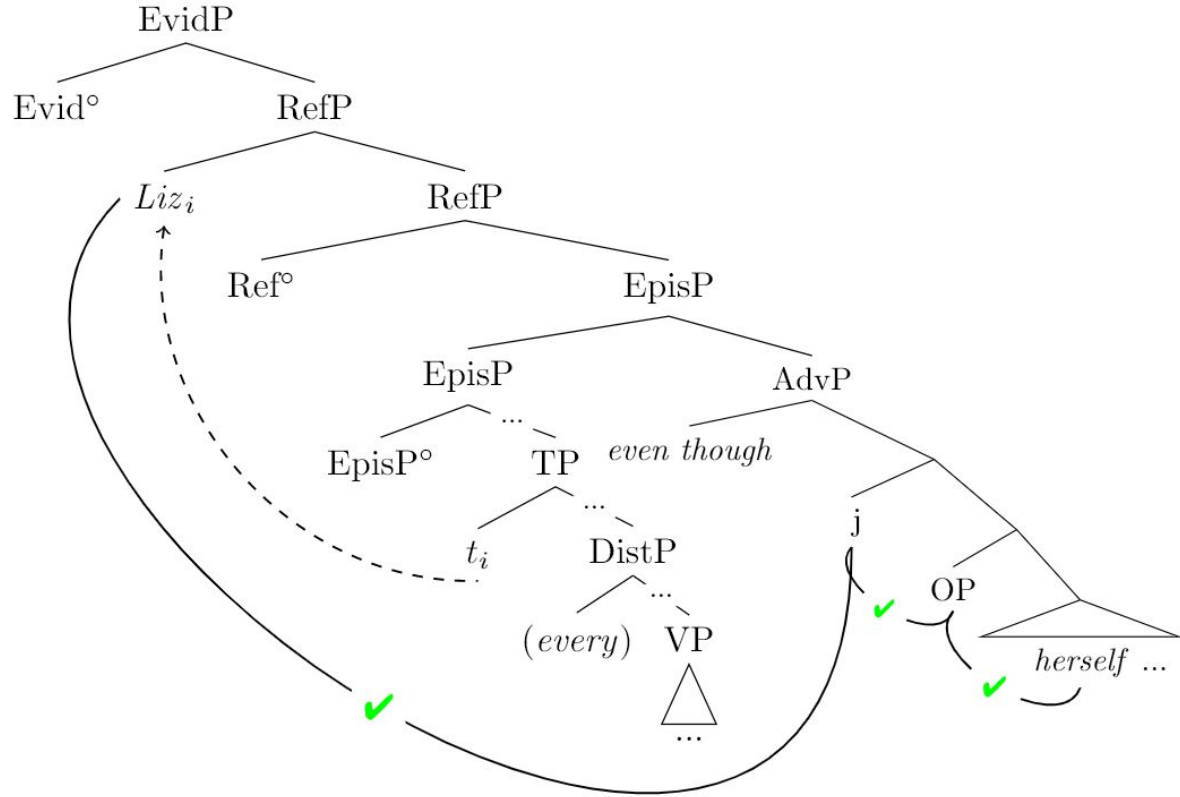
(2) **#Most guests** left the party even though **they** were having a good time.

Ingredient 2

- Namely, referential DPs may be higher in the structure than quantificational DPs. (Beghelli & Stowell 1997, Kiss 1996)
- This high position, called RefP, serves as a kind of topic position.

Putting it together

- *Even though*-clauses occupy EpisP, a position between EvidP and VP.
- Referential DP subjects move to RefP, above EpisP but below EvidP.
- Quantificational DPs can only QR so high; none as high as EpisP.



Conclusion

Theoretical Results

- Support for Charnavel's (2018) theory of exempt anaphora in adjuncts, as well as for Beghelli & Stowell's (1997) and Kiss's (1996) theory of DPs and scope.
- A new analysis of *even though* clauses attaching at EpisP

Methodological Results

- The distribution of exempt anaphora in combination with other scopal tests allows for higher resolution analyses of syntactic height.

Thank you!

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References

- Anand, P., Hacquard, V., 2013. Epistemics and attitudes. *Semantics and Pragmatics* 6, 1–59.
- Beghelli, F., Stowell, T., 1997. Distributivity and Negation: The Syntax of Each and Every, in: Szabolcsi, A. (Ed.), *Ways of Scope Taking*. Springer Netherlands, Dordrecht, pp. 71–107.
- Cantrall, W.R., 1974. *Viewpoint, Reflexives, and the Nature of Noun Phrases.*, *Janua Linguarum: Series Practica*. Mouton, The Hague.
- Charnavel, I., 2018. Perspectives in causal clauses. *Natural Language & Linguistic Theory*. 1-36.
- Charnavel, I., to appear. *Locality and Logophoricity: A Theory of Exempt Anaphora*, *Oxford Studies in Comparative Syntax*. Oxford University Press.
- Charnavel, I., Sportiche, D., 2016. Anaphor Binding: What French Inanimate Anaphors Show. *Linguistic Inquiry* 47, 35–87.
- Cinque, G., 1999. *Adverbs and functional heads: a cross-linguistic perspective*, *Oxford studies in comparative syntax*. Oxford University Press, New York.
- Crevels, M., 2000. Concessives on Different Semantic Levels: A Typological Perspective, in: *Cause, Condition, Concession, Contrast: Cognitive and Discourse Perspectives*. Mouton de Gruyter, Berlin, pp. 313–339.

References (Cont.)

- Haegeman, L., Hill, V., 2013. *The Syntacticization of Discourse*.
Iatridou, S., 1991. *Topics in conditionals* (PhD diss.). Massachusetts Institute of Technology.
- Iten, C., 2005. *Linguistic meaning, truth conditions and relevance: the case of concessives*,
Palgrave studies in pragmatics, language, and cognition. Palgrave Macmillan,
Basingstoke, Hampshire ; New York.
- Jackendoff, R., 1972. *Semantic Interpretation in Generative Grammar*. Cambridge: MIT Press.
- Johnston, M.J.R., 1994. *The syntax and semantics of adverbial adjuncts* (PhD dissertation).
University of California Santa Cruz, Santa Cruz, CA.
- Kiss, K.É., 1996. Two subject positions in English. *The Linguistic Review* 13, 119–142.
- König, E., Siemund, P., 2000. *Causal and Concessive Clauses: Formal and Semantic Relations*,
in: *Cause, Condition, Concession, Contrast: Cognitive and Discourse Perspectives*.
Mouton de Gruyter, Berlin, Germany.
- Lakoff, G., 1972. *Linguistics and Natural Logic*, in: *Semantics of Natural Language*. D. Reidel,
pp. 545–655.
- Lund, G., 2017. *Deriving Even Though from Even*, in: *Proceedings of the ESSLLI 2017 Student
Session*. Presented at the 29th European Summer School in Logic, Language &
Information, Toulouse, France, p. 12.

References (Cont.)

- Pollard, C., Sag, I.A., 1992. Anaphors in English and the Scope of Binding Theory. *Linguistic Inquiry* 23, 261–303.
- Reinhart, T., Reuland, E., 1993. Reflexivity. *Linguistic Inquiry* 24, 657–720.
- Ross, J.R., 1970. On Declarative Sentences, in: *Readings in English Transformational Grammar*. pp. 222–272.
- Rutherford, W.E., 1970. Some Observations concerning Subordinate Clauses in English. *Language* 46, 97.
- Sæbø, K.J., 1991. Causal and purposive clauses, in: von Stechow, A., Wunderlich, D. (Eds.), *Semantik – Semantics. Ein Internationales Handbuch Zeitgenössischer Forschung – An International Handbook of Contemporary Research*, HSK. de Gruyter, Berlin, pp. 623–631.
- Sells, P., 1987. Aspects of Logophoricity. *Linguistic Inquiry* 18, 445–479.
- Stephenson, T., 2007. Judge Dependence, Epistemic Modals, and Predicates of Personal Taste. *Linguistics and Philosophy: An International Journal* 30, 487–525.
- von Fintel, K., Iatridou, S., 2003. Epistemic Containment. *Linguistic Inquiry* 34, 173–198.

Appendix: Embeddings

[Situation: Three mothers are talking about their diets. As it turns out, they eat beets with nearly every meal. They agreed that the health benefits outweigh the mediocre taste.]

No mother claims that she eats beets **because** she finds them tasty.

[Situation: Three paperboys carry around so many papers, they never know how many they sell in a day. Today, however, they had good news for their boss and told him that their wallets were completely full.]

No paperboy asserted that he sold a lot of papers **since** his bag was empty.

Appendix: Embeddings

[Situation: A group of witches told a fellow traveler that they would come to town with him. The traveler feared that they wouldn't be welcome there. The witches assured them that they go to town without issue all the time.]

No **witch** said that **she** will enter the village **even though** **she** will be harassed by townsfolk.

[Situation: Three struggling actresses are applying to embarrassing movie roles that established actresses would never take. They told their agents that they'll take any role they can get.]

No **actress** said that **she** will take any role **although** **she** doesn't need the money. 61

Appendix: Results

Even though and *since* are significantly better than their unembedded counterparts (both $p < 0.05$).

They are still significantly worse than *because*, however (both $p < 0.05$).

Although saw improvement, but not significantly so.

Appendix: Embeddings

