

Blind passengers. On extraction, transfer, and L2 English

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MINDS!

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Two approaches

- The COMPETENCE account:
 - The ACROSS type is ungrammatical due to a grammatical constraint:
 - *The WH-island Constraint*: A WH-element cannot be extracted from a +WH clause (Ross 1967)
 - *Minimal Link Condition* (Chomsky 1995), *Relativized Minimality* (Rizzi 1990), *Subjacency Condition* (Chomsky 1973)
- The PROCESSING account:
 - Parsing is affected by various non-syntactic factors
 - Degraded acceptability reflects increased processing cost / working memory (WM) load (Hofmeister & Sag 2010)
- In fact, independently of theoretical approach, it is standardly assumed that WM and processing play a role in acceptability.

Chomsky, Noam. 1995. *The Minimalist Program*. Current Studies in Linguistics 28. Cambridge, MA: MIT Press.

Chomsky, Noam. 1973. "Conditions on Transformation." In , edited by Stephen R. Anderson and Paul Kiparsky, 232–86. New York: Holt, Rinehart and Winston.

Rizzi, Luigi. 1990. *Relativized Minimality*. Linguistic Inquiry Monographs 16. Cambridge, Mass: MIT Press.

Ross, John Robert. 1967. "Constraints on Variables in Syntax." Massachusetts Institute of Technology.

Hofmeister, Philip, and Ivan A. Sag. 2010. "Cognitive Constraints and Island Effects." *Language* 86 (2): 366–415. <https://doi.org/10.1353/lan.0.0223>.

Syntactic islands

- Complex NP: Complement clause

(1) a. She got the [NP idea [CP that he needed a hair cut]].

b. *What did she get the [NP idea [CP that he needed ___]]?

- Complex NP: Relative clause

(2) a. She wanted to meet the [NP man [CP who recorded the conversation]].

b. *What did she want to meet the [NP man [CP who recorded ___]]?



Syntactic islands

- Embedded Question: *Wh*-island

(3) a. He knew [_{CP} where she left the car ____].

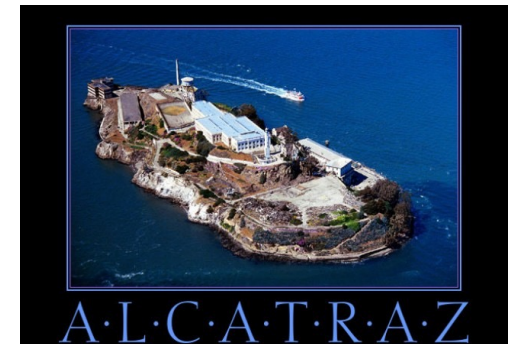
b. He knew [_{CP} what she left ____ in a ditch].

(4) a. *What did he know [_{CP} where she left ____ ____]?

b. **Where did he know [_{CP} what she left ____ ____]?

- Classic asymmetry: (4a) > (4b)

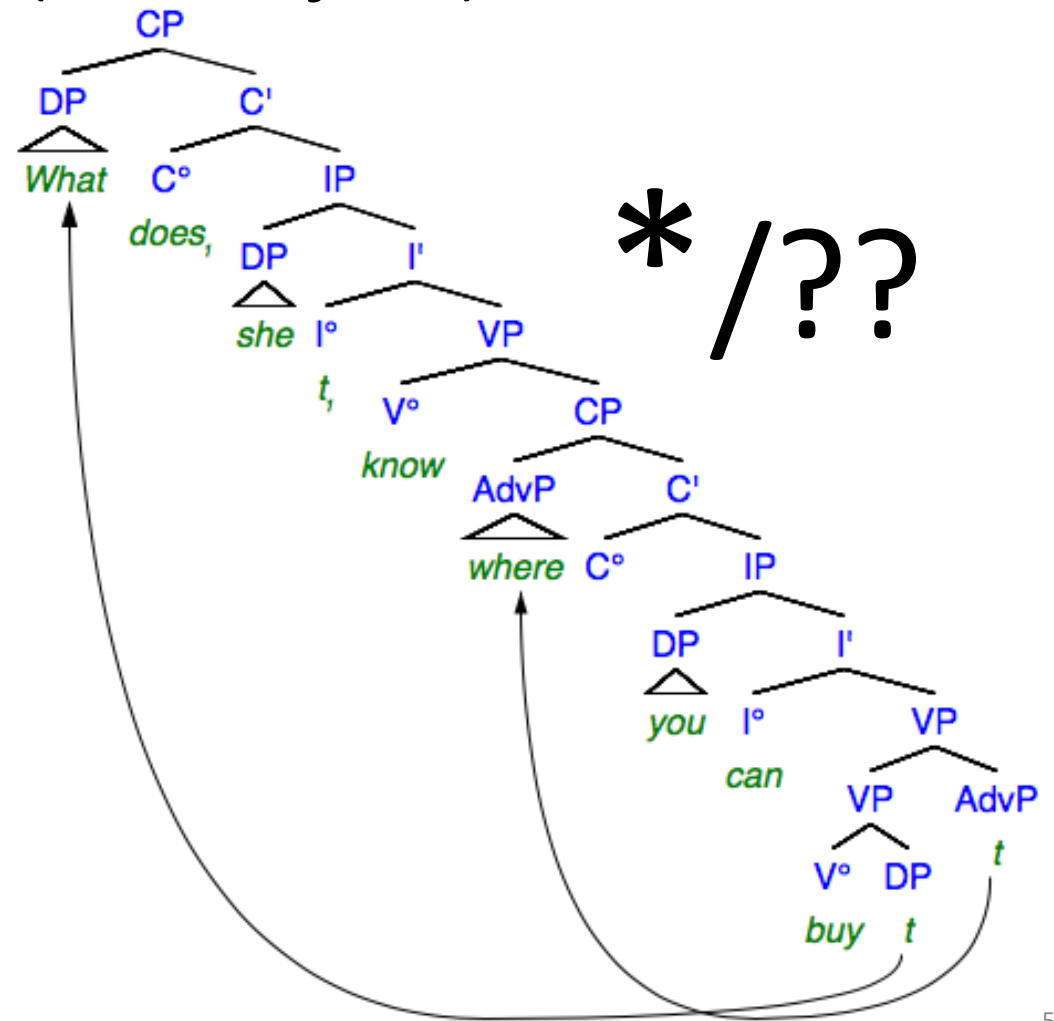
?>??. ??>*, *>**



Christensen, Ken Ramshøj, og Anne Mette Nyvad. 2014. "On the Nature of Escapable Relative Islands". *Nordic Journal of Linguistics* 37 (01): 29–45.
<https://doi.org/10.1017/S0332586514000055>.

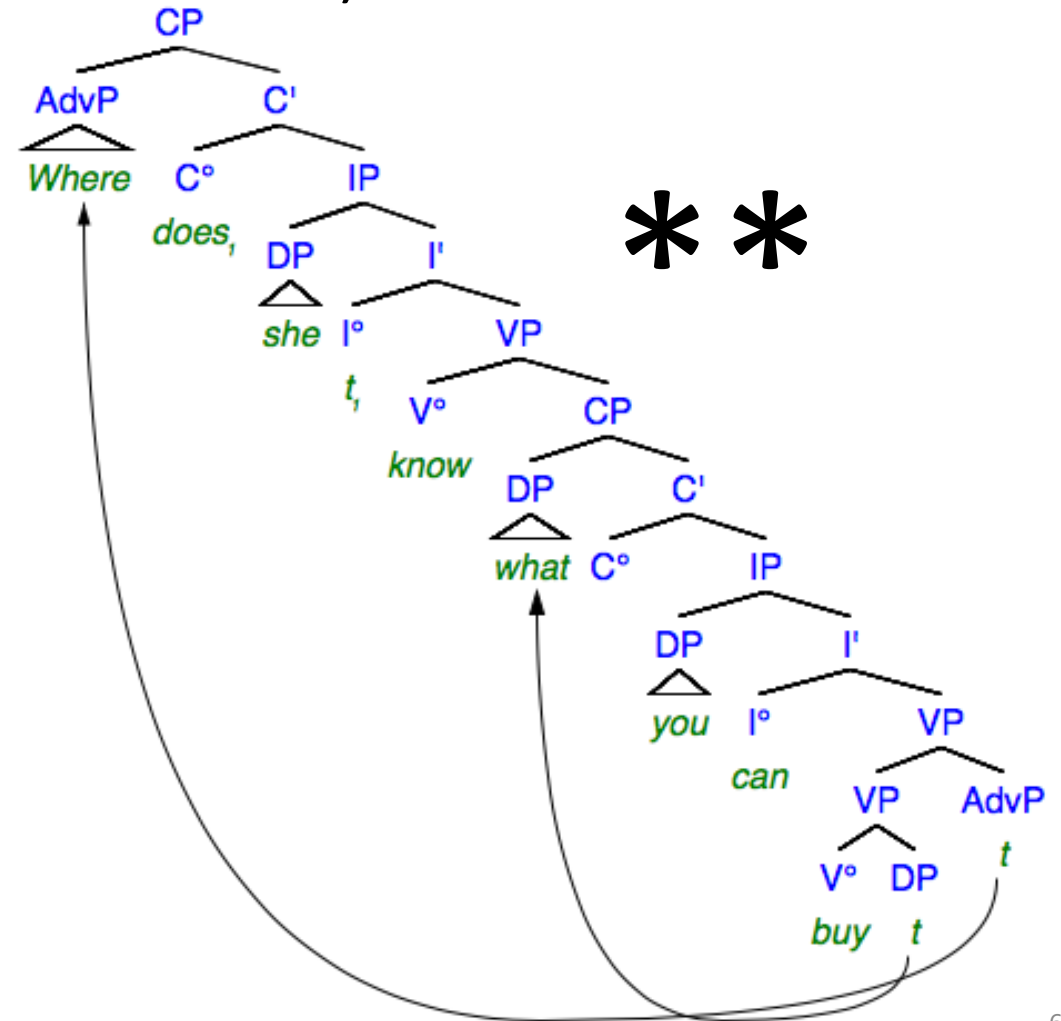
Extracting an argument (the object) across an adjunct (adverbial)

- Degraded/Ungrammatical:
- A violation of Locality (*what* crosses *where*)



Extracting an adjunct (adverbial) across an argument (the object)

- Severely degraded / Ungrammatical:
- Two violations:
 - Locality (*where* crosses *what*)
 - Recoverability (the trace of *where* is not properly 'governed')



Islands

- Island constraints are standardly assumed to be universal
Part of Universal Grammar
 - Rules that block extraction from syntactic islands
- Part of the human genetic makeup
 - Constrains the space in which language can vary



Also true for Danish?

Wh-islands in Danish

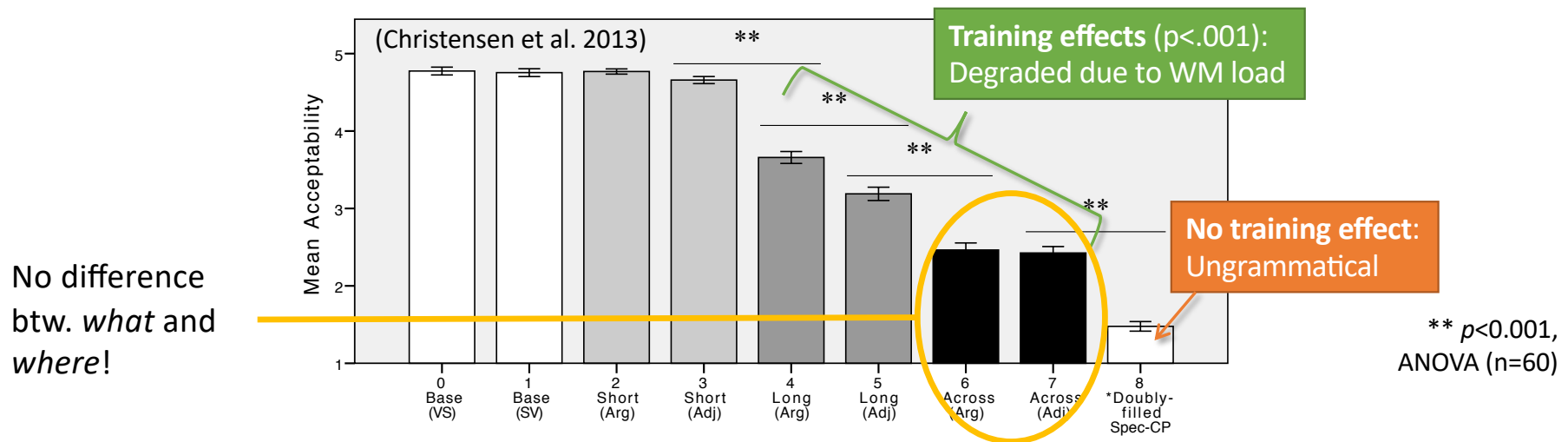
Christensen, Kizach & Nyvad (2013) examined the following sentence structures:

- | | | |
|------|---|---------------|
| (5a) | Ved hun [man kan købe bøger dér]?
<i>Knows she you can buy books there</i> | BASE |
| (5b) | Ved hun [<u>hvad</u> man kan købe ___ der]? | SHORT (ARG) |
| (5c) | <u>Hvad</u> ved hun [___ man kan købe ___ der]? | LONG (ARG) |
| (5d) | <u>Hvad</u> ved hun [<u>hvor</u> man kan købe ___ ___]? | ACROSS (ARG) |
| (5e) | * Ved hun [<u>hvor</u> <u>hvad</u> man kan købe ___ ___]? | UNGRAMMATICAL |

(+ parallel sentences with *hvor* at the left edge of the clause)

Parsing & WH-islands: Syntax vs. WM (Christensen et al. 2013)

- Priming effects (on acceptability) can only be found with degraded but grammatical sentences (Sprouse 2007, 123-124). **Hence, structural priming/training is suggestive of grammaticality.**



Christensen, Ken Ramshøj, Johannes Kizach, og Anne Mette Nyvad. 2013. "Escape from the Island: Grammaticality and (Reduced) Acceptability of Wh-Island Violations in Danish".

Journal of Psycholinguistic Research 42 (1): 51–70. <https://doi.org/10.1007/s10936-012-9210-x>.

Sprouse, Jon. 2007. Continuous acceptability, categorical grammaticality, and experimental syntax. *Biolinguistics* 1. 123–134.

WH-clauses are not islands in Danish?

- Cf. also grammatical extraction from embedded y/n-questions (Christensen, Kizach & Nyvad 2013, 248) :

(6a) Ved hun ikke [_{CP} om Lars har fundet kablet]?
Knows she not if John has found the.cable

(6b) *Ved hun ikke [_{CP} hvad om Lars har fundet ___]?
Knows she not what if John has found

(6c) Hvad ved hun ikke [_{CP} ___ om Lars har fundet ___]?
What knows she not if John has found

- Priming / “satiation” effects have also been reported for *whether*-islands in English (Snyder 2000)

Christensen, Ken Ramshøj, Johannes Kizach, and Anne Mette Nyvad. 2013. “The Processing of Syntactic Islands – An fMRI Study.” *Journal of Neurolinguistics* 26 (2): 239–51. <https://doi.org/10.1016/j.jneuroling.2012.08.002>.

Snyder, William. 2000. “An experimental investigation of syntactic satiation effects”. *Linguistic Inquiry* 31 (3): 575–582. <https://doi.org/10.1162/002438900554479>.

But wait, are they even islands in English, then?

Extraction from English complement *wh*-clauses

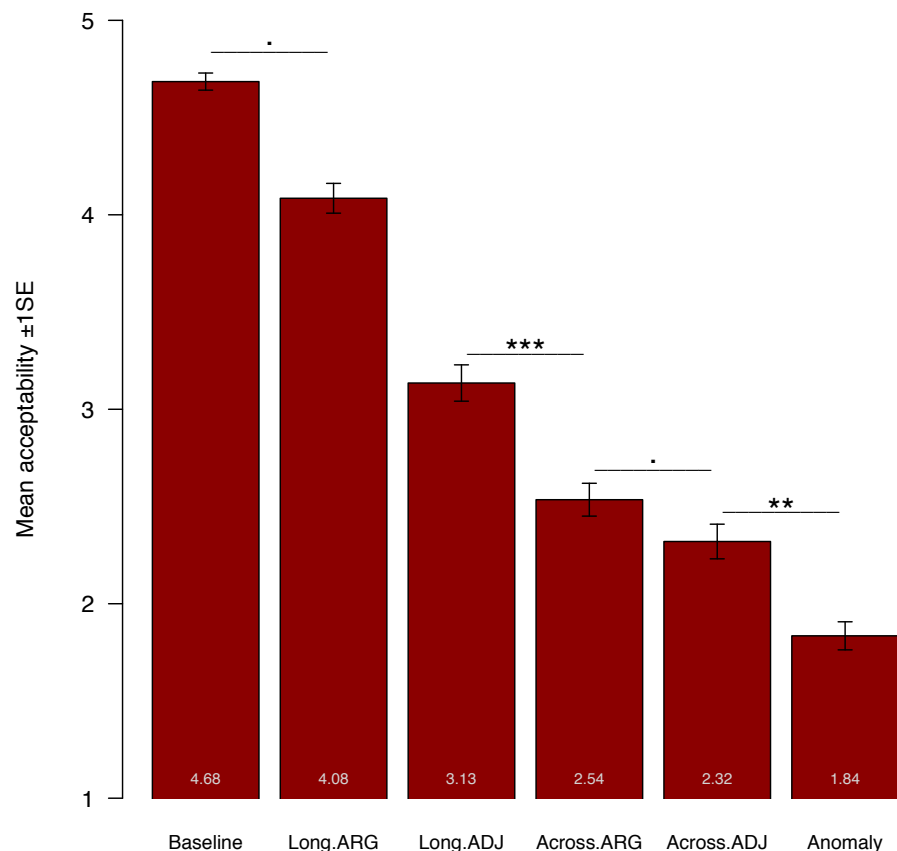
- The target stimuli consisted of 72 target sentences, 12 sets corresponding to:

(7a) The mother explained that they should treat the children very leniently.	(Baseline)
(7b) Which children did the mother explain that they should treat very leniently?	(Long ARG)
(7c) How leniently did the mother explain that they should treat the children?	(Long ADJ)
(7d) Which children did the mother explain how leniently they should treat?	(Across ARG)
(7e) How leniently did the mother explain which children they should treat?	(Across ADJ)
(7f) *The mother explained how leniently which children they should treat.	(Anomaly)

- Stimulus set from Christensen and Nyvad (2019)

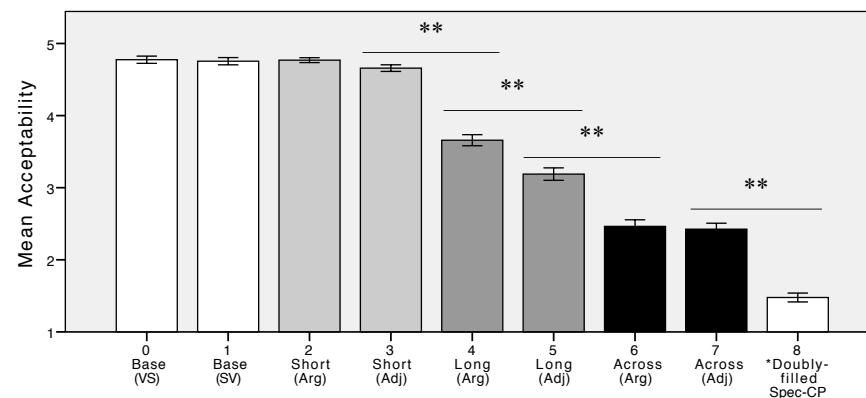
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Danish vs. English



- Almost identical overall acceptability patterns in Danish and English, but...

- English WH = weak island
 - No positive Trial effects
 - Negative effect on Long ADJ and Across ADJ (not ARG)
 - ARG/ADJ asymmetry in Across



Christensen, Ken Ramshøj, and Anne Mette Nyvad. submitted. "No Escape from the Island: On Extraction from Complement *Wh*-Clauses in English".

And relative clauses, are they really islands?

Extraction from RCs in Danish and English (Christensen & Nyvad 2014, 2022)

- Christensen & Nyvad (2014, 2022) investigated the following types of structure in Danish and English:

(8a) Peter once kissed a girl who preferred that type of man. (Baseline)

(8b) What type of man did Peter once kiss a girl who preferred? (Wh)

(8c) That type of man Peter once kissed a girl who preferred. (Topic)

(8d) *What type of man did Peter once kiss a girl who preferred men? (Anomaly)

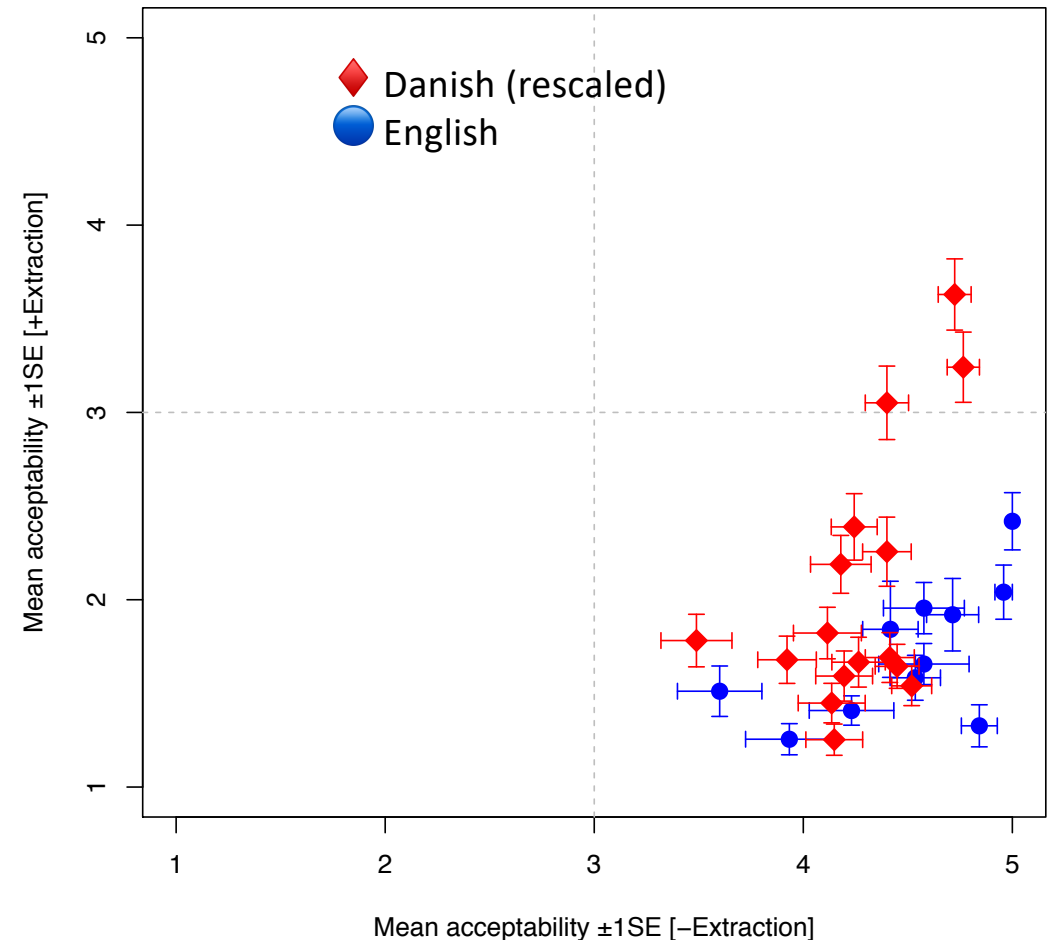
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Christensen, Ken Ramshøj & Anne Mette Nyvad. 2022. The Island is Still There. Experimental Evidence for the Inescapability of Relative Clauses in English. *Studia Linguistica*.

<https://doi.org/10.1111/stul.12192>

Danish vs. English

- English RC = strong island:
 - All extraction from RC < 3 in acceptability
 - No lexical or processing effects
- Danish RC = “weak/non-island”:
 - Extraction ‘smeared’ from 1-4
 - Lexical effect of Freq.
 - Positive effect of Trial



But what happens in L2 then?

TRANSFER

- Assumption
 - TRANSFER: Properties of L1 grammar is 'transferred' to (affects) L2 grammar
- The Full Transfer Full Access Hypothesis
 - Full Transfer: initial L2 grammar = L1 grammar
 - Full Access: There is full access to UG (interlanguage grammars are constrained by UG) (see White 2003, 61)

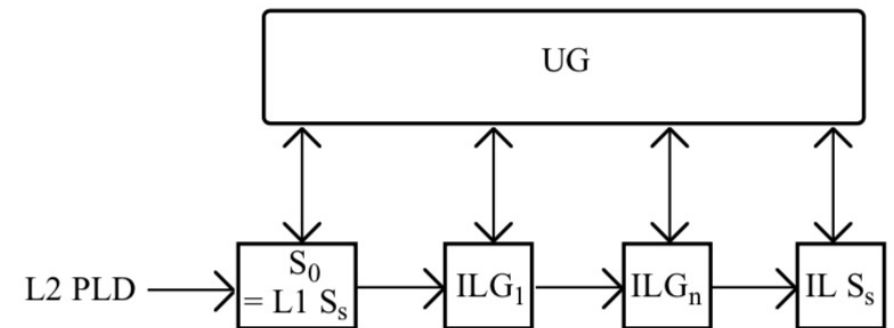


Figure 3.2 *Full Transfer Full Access*

Islands in Danish

- Previous work by our research group:
 - Embedded questions (Christensen & Nyvad 2019) and relative clauses (Christensen & Nyvad 2022) are weak/strong islands in English, but **not** in Danish (Christensen, Kizach & Nyvad 2013, Christensen & Nyvad 2014)
- Based on these results, and White's (2003) *Full Transfer Full Access Hypothesis*, we made the following predictions for the performance of native speakers of Danish in L2 English wrt islands:

L2 study on island constraints

- **Prediction 1:** Movement per se increases processing load, which decreases acceptability.
- **Prediction 2:** Extraction from English *wh*-clauses leads to the level of acceptability found for the corresponding structures in Danish: ACROSS < LONG < SHORT, and no ARG>ADJ asymmetry
- **Prediction 3:** Acceptability of extraction from an RC is positively correlated with the frequency of the matrix verb.
- **Prediction 4:** Extractions of topics and of *wh*-elements are both degraded (due to processing load) but acceptable.

Two tasks

- Standard Cloze test: measure of L2 proficiency
- Acceptability judgment test (*wh*-extractions and RC extractions; same as English L1 tests, Christensen and Nyvad 2019, 2022)

What kind of letter did the assistant open very slowly? *

	1	2	3	4	5	
Completely Unacceptable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Completely Acceptable

- Participants: Speakers of L1 Danish with English as their L2

Cloze test

(adapted from O'Neil et al. 1983)

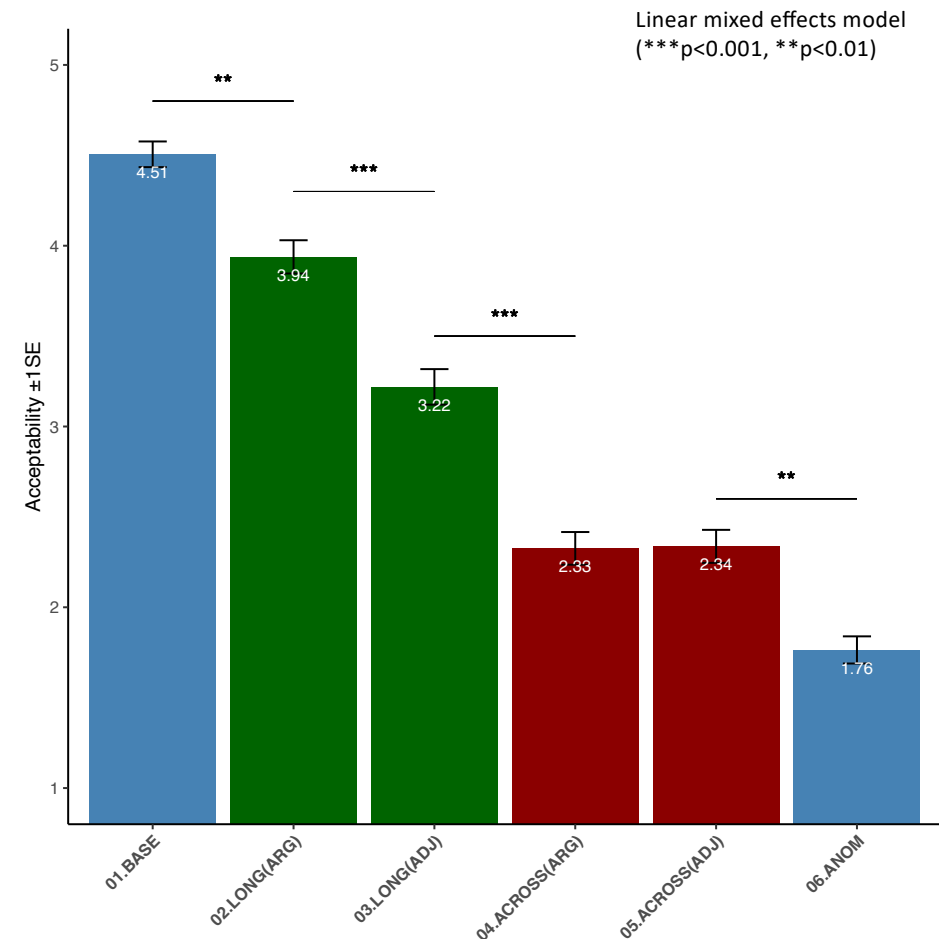
For each underlining in the following passage, please circle one of three options given. Please choose the option appropriate for the context. Please choose one option only for each.

Joe came home from work on Friday. It was payday, but he wasn't **(1) even / more / ever** excited about it. He knew that **(2) then / when / while** he sat down and paid his **(3) checks / bills / salary** and set aside money for groceries, **(4) driving / pay / gas** for the car and a small **(5) deposit / withdrawal / money** in his savings account, there wouldn't be **(6) quite / not / too** much left over for a good **(7) pleasure / leisure / life**. He thought about going out for **(8) eat / dinner / eating** at his favorite restaurant, but he **(9) just / only / very** wasn't in the mood. He wandered **(10) around / at / in** his apartment and ate a sandwich. **(11) In / For / After** a while, he couldn't stop himself **(12) for / from / about** worrying about the money situation. Finally, **(13) he / she / it** got into his car and started **(14) drive / driven / driving**. He didn't have a destination in **(15) head / mind / fact**, but he knew that he wanted **(16) be / to be / being** far away from the city **(17) which / there / where** he lived. He turned onto a quiet country **(18) road / house / air**. The country sights made him feel **(19) as good / better / best**. His mind wandered as he drove **(20) past / in / to** small farms and he began to **(21) try / think / imagine** living on his own piece of **(22) house / land / farm** and becoming self-sufficient. It had always **(23) being / been / be** a dream of his, but he **(24) having / have / had** never done anything to make it **(25) a / one / some** reality. Even as he was thinking, **(26) their / his / her** logical side was scoffing at his **(27) favorite / practical / impractical** imaginings. He debated the advantages and **(28) cons / disadvantages / problems** of living in the country and **(29) growing / breeding / building** his own food. He imagined his **(30) farmhouse / truck / tractor** equipped with a solar energy panel **(31) at / out / on the roof** to heat the house **(32) in / for / over** winter and power a water heater. **(33) She / He / They** envisioned fields of vegetables for canning **(34) either / and / but** preserving to last through the winter. **(35) Whether / Even / If** the crops had a good yield, **(36) maybe / possible / may** he could sell the surplus and **(37) store / save / buy** some farming equipment with the extra **(38) economy / cost / money**. Suddenly, Joe stopped thinking and laughed **(39) at / out / so** loud, "I'm really going to go **(40) through / away / in** with this?"

O'Neill, Robert, Edwin T. Cornelius, and Guy N. Washburn. 1983. *American Kernel Lessons: Advanced Student Book*. Harlow: Longman.

English L2, Danish speakers, WH

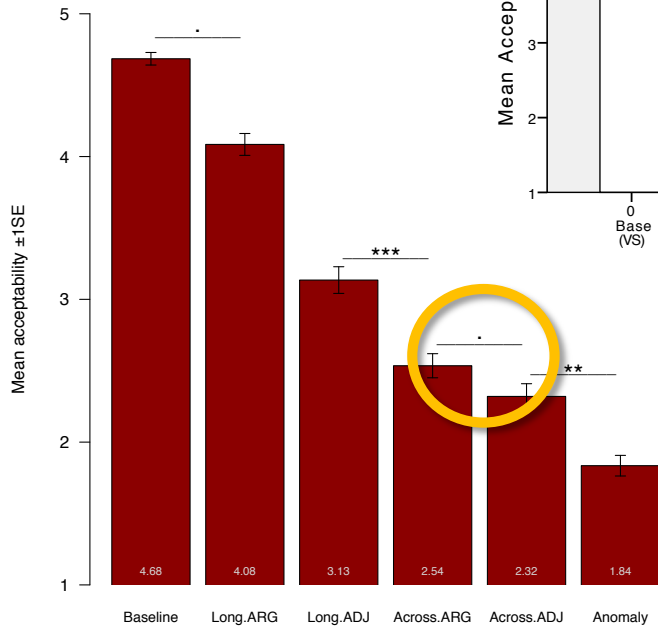
- Participants:
 - n=89 (46F, 43M; mean age=36.8 (22-68))
 - 14 linguists; 33 stud. Eng.
 - Proficiency: mean=0.95 (0.78-1.00; SD=0.05)
- No main effect of
 - Years of education (p=0.17), Proficiency (p=0.68)
 - Studying English (p=0.63), Being a linguist (p=0.09)
 - Trial (p=0.83)
- **Danish L2-English acceptability pattern is a replication of the Danish L1 pattern (Christensen et al. 2013)**
- **And is similar to English L1 (high proficiency) (Christensen & Nyvad 2019)**



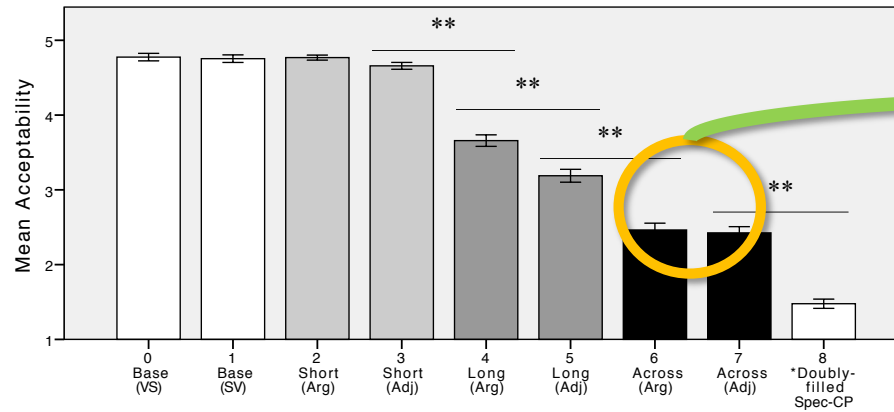
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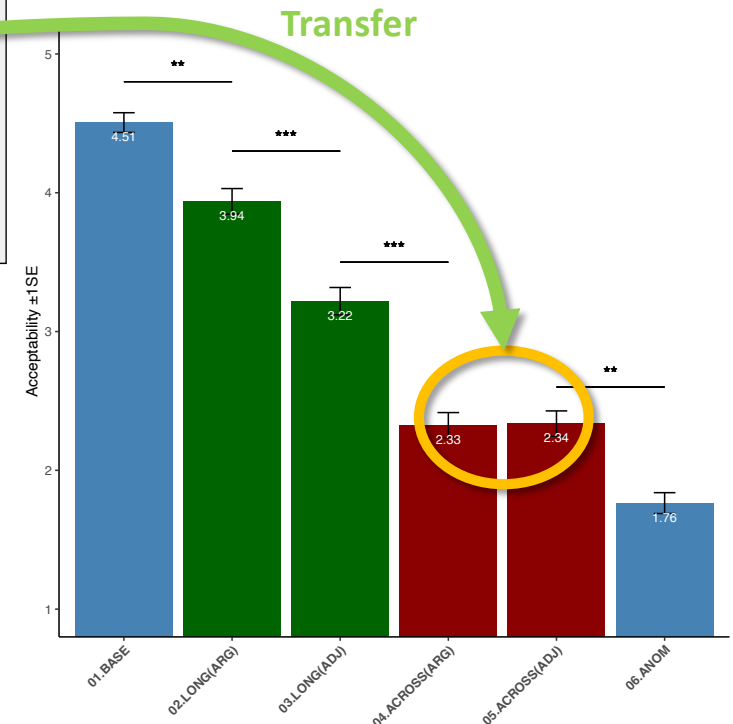
Same overall pattern, except ARG/ADJ asymmetry in the island conditions



L1 English
(Christensen & Nyvad, 2019)



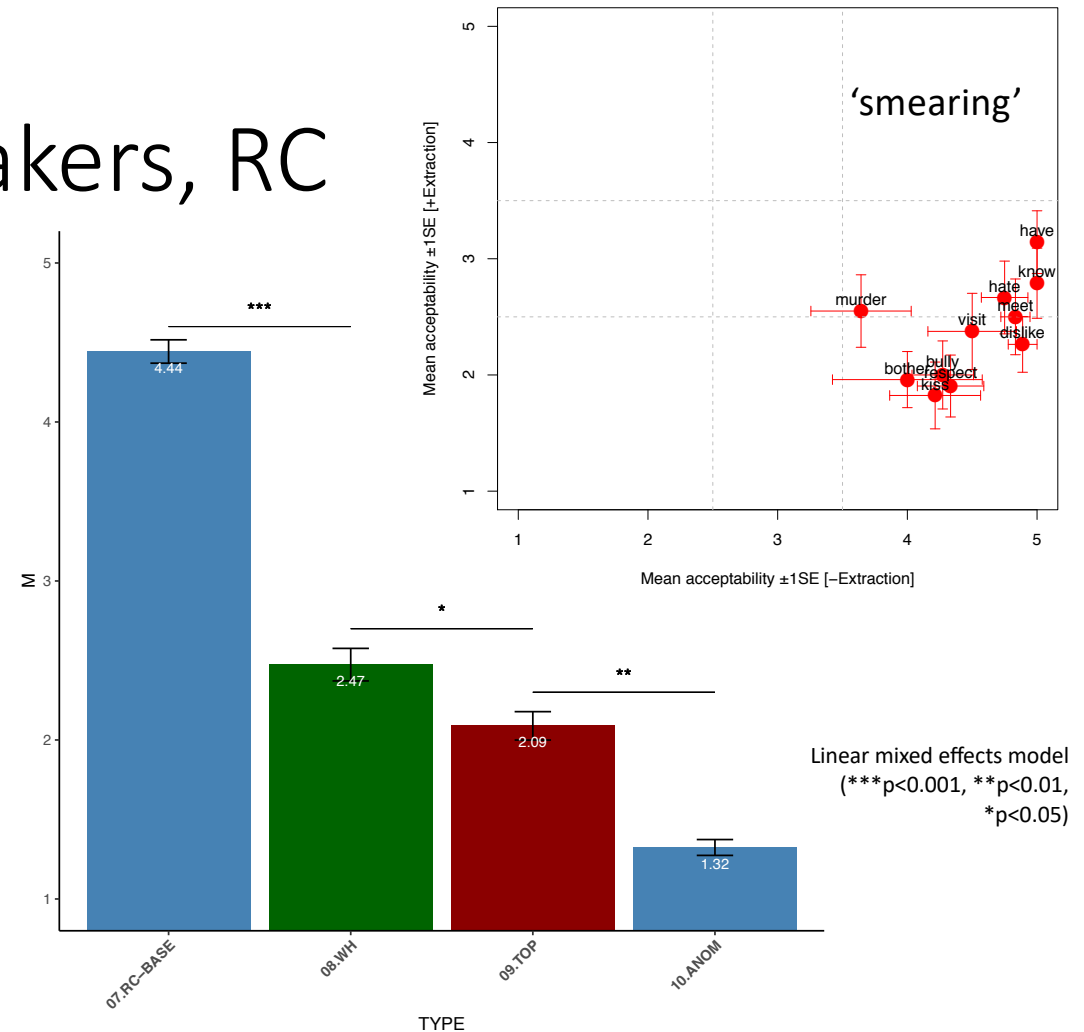
L1 Danish
(Christensen et al. (2013))



Danish L2 English

English L2, Danish speakers, RC

- (Same participants)
- No significant main effect of
 - Education (p=0.25), Proficiency (p=0.56)
 - Studying English (p=0.76), Linguist (p=0.76),
 - Trial (p=0.36)
- Danish L2-English acceptability pattern is very similar to the Danish L1 pattern (Christensen & Nyvad 2014)
 - Extractions are degraded.
 - Same ‘smeared’ pattern: A lexical effect (plus WH>TOPIC),
 - which is unlike the English L1 pattern (Christensen & Nyvad 2022).
- For Danes, in English L2, RCs are not strong islands.
 - Syntactic transfer from Danish L1 grammar.



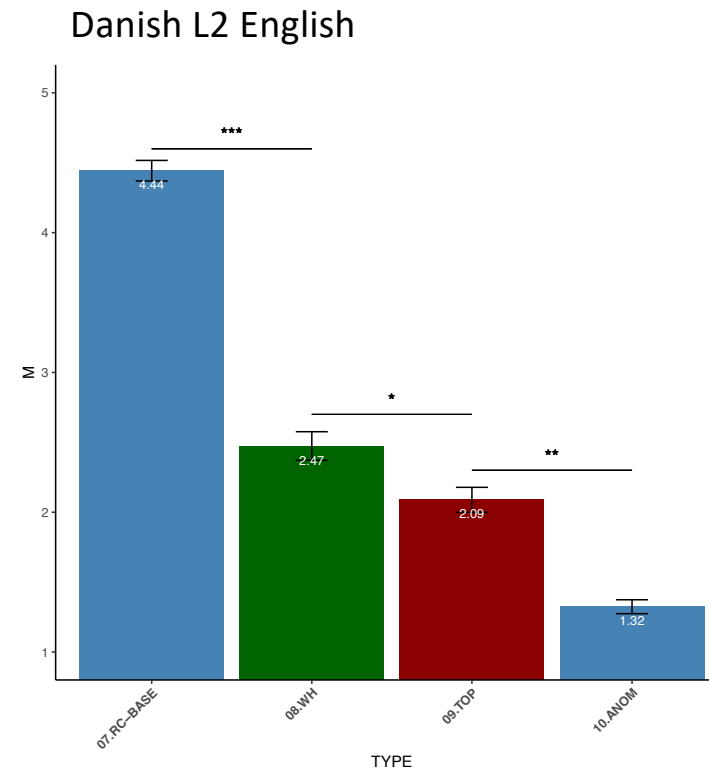
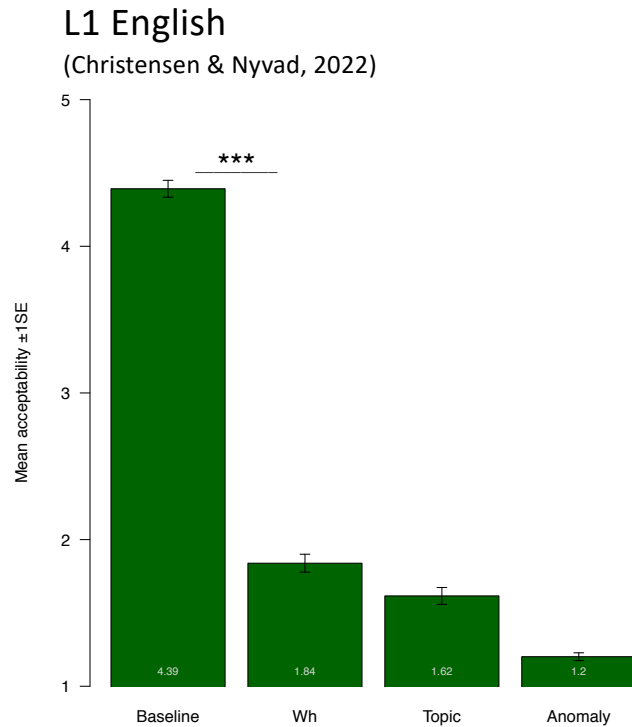
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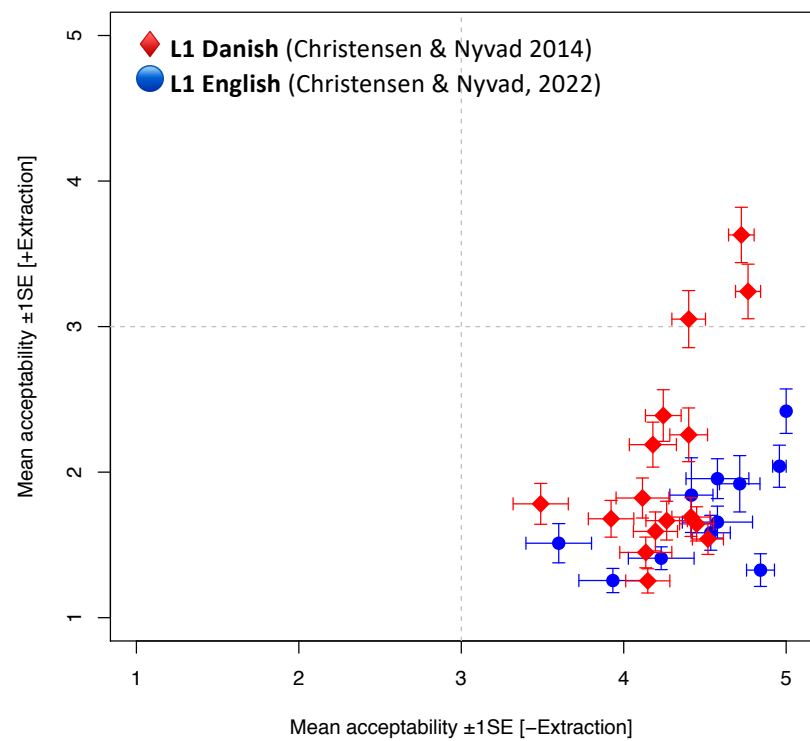
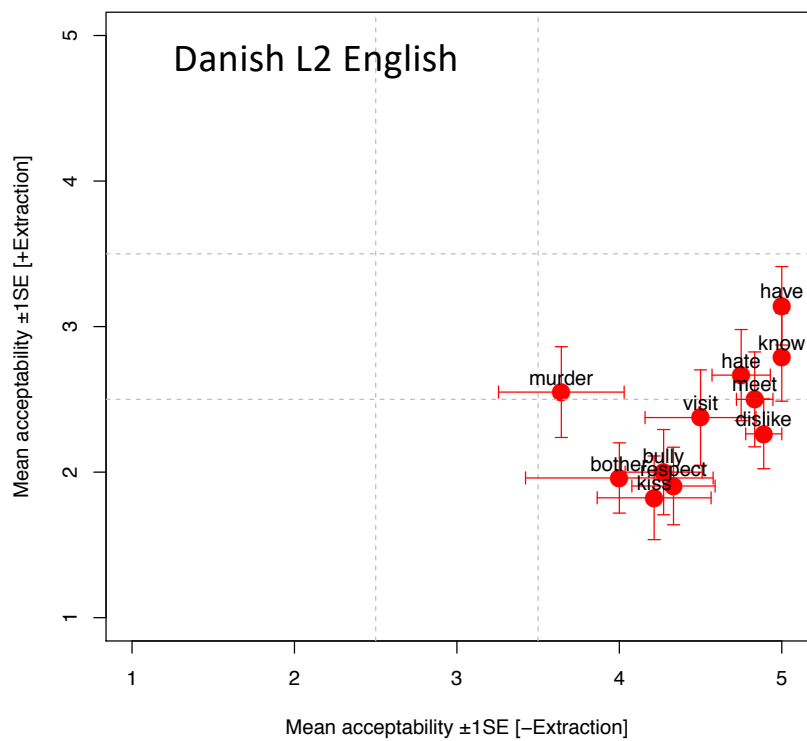
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Extraction from RC

- **Transfer:** For the Danes, extractions are significantly better than ANOM.
- This is not so for the English L1 speakers (extraction is 'junk').
- **Proficiency** (probably): Wh>Topic



Extraction from RC



Summary

- **Prediction 1:** Movement per se increases processing load, which decreases acceptability.
 - **Confirmed:** WH: Base > Long > Across, RC: Base > Wh/Topic
- **Prediction 2:** Extraction from English *wh*-clauses leads to the level of acceptability found for the corresponding structures in Danish: ACROSS < LONG < SHORT, and no ARG>ADJ asymmetry
 - **Confirmed**
- **Prediction 3:** Acceptability of extraction from an RC is positively correlated with the frequency of the matrix verb.
 - **Confirmed**
- **Prediction 4:** Extractions of topics and of *wh*-elements are both degraded (due to processing load) but acceptable.
 - **Confirmed**

Conclusions: Transfer of parameter setting

- Unlike in L1 English, extraction from *wh*-clauses and from RCs are grammatical but degraded in Danish.
- Possibly, Danish and English differ in a parameter setting for clausal embedding (Nyvad et al. 2017, Vikner et al. 2017).
- This parameter appears to be transferred from L1 Danish to L2 English.
- Pattern is not due to participant bias or training (Education, Proficiency, Studying English, Linguist, Trial – not significant)

Thanks!