

THE PHENOMENON

Example:

[A fallen tree] blocked [every road].

→ sentence is potentially ambiguous!

SR: $\exists > \forall$ → one tree

IR: $\forall > \exists$ → more than one tree

→ IRs are cross-linguistically dispreferred (Reinhart 2006) and invoke higher processing costs (Kurtzman & MacDonald 1993).

⇒ Many factors have been claimed to influence scope readings, e.g. prosody, syntactic & semantic role, determiners, IS, syntactic construction, ...

Quantifier Raising (May 1977):

Basic assumption: QP A has scope over QP B, iff A c-commands B at LF.

SR: [[a drone]₁ [[every building]₂ [t₁surveilled t₂]]]

IR: [[every building]₂ [[a drone]₁ [t₁ surveilled t₂]]]

→ QR is a normal movement operation obeying all constraints overt movement is subject to as well!

LITERATURE

Differences in availability of IR in English vs. German

- English:** IRs, despite being dispreferred, are readily available.
→ Previous experiments: IRs are dispreferred, but easily available in even more construction than predicted by the theoretical literature (e.g. Kurtzman & MacDonald 1993, Anderson 2004).
- German:** IRs are only possible under very special circumstances.
→ Previous experiments: IRs are strongly dispreferred, but still available in different kinds of constructions. The results are not fully supported by any theory on German scope, but best fit is a multi-factorial account (e.g. Bott & Radó 2009, Radó & Bott 2012).

Potential explanations

- Frey 1993:** QR not available in German
→ IRs in German only arise when overt movement has applied and reconstruction is possible
→ no such restriction for English
- Bobaljik & Wurmbrand 2012:** overt scrambling not available in English
Scope Transparency (ScoT): If A>B at LF, then A>B at PF.
→ Overt movement is not possible in English, thus IRs are easy to obtain.
→ Overt movement is possible in German, thus IRs only arise when other constraints prohibit it.

The Impact of Pragmatics

Context/world knowledge have played a minor role in the research on scope. Most approaches are based on syntax/semantics. The unspoken assumption in these approaches seems to be that a reading that is ruled out by grammar will not be saved by context. While there exists some literature for English, suggesting an important role (e.g. Kurtzman & MacDonald 1993, Villalta 2003, Anderson 2004), there is no such research for German.

DESIGN

Research questions:

- Q1:** Is inverse scope between subject/direct object available in German?
Q2: Does context have an impact on the availability of inverse scope?
Q3: Does embedding in an island render the inverse reading impossible?

- ▶ 2x3 design: Plausibility (**NEUTRAL, IR-BIAS**), Embedding (**0-, 1-, 2-EMB.**)
- ▶ Online study with 48 target items and 48 filler/control items
- ▶ Participants: 67 (German) / 43 (English)

STIMULI

Example neutral

The agriculture experts had recommended that the fields be irrigated with wide canals, and then, in fact, ...

0-EMB. a wide canal irrigated every field.

1-EMB. there was a wide canal that irrigated every field.

2-EMB. there was a wide canal which was shaped in such a way that it irrigated every field.

Q: Can this sentence be understood to mean that, overall ...

(SR) only a single canal irrigated the fields?

(IR) more than one canal irrigated the fields?

Predictions:

- ▶ All accounts on German predict only SR for the kind of structure used here
- ▶ IRs should be ruled out under embedding into islands
- ▶ Context should not save impossible readings (no impact in any condition)

Example IR-bias

Before the storm the police made an announcement that the access roads to the city center could be blocked by fallen trees, and then, in fact, ...

0-EMB. a fallen tree blocked every access road.

1-EMB. there was a fallen tree that blocked every access road.

2-EMB. there was a fallen tree which was positioned in such a way that it blocked every access road.

Q: Can this sentence be understood to mean that, overall ...

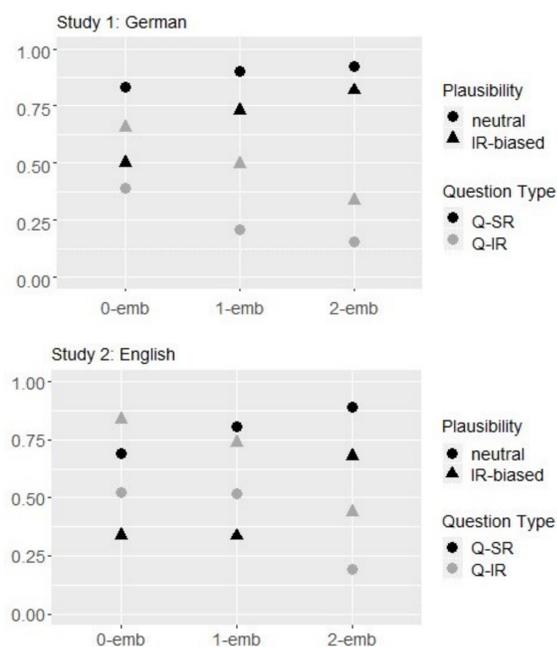
(SR) only a single tree blocked the access roads?

(IR) more than one tree blocked the access roads?

Predictions:

- ▶ IRs in English should be available, but less preferred than SRs
- ▶ IRs should be ruled out under embedding into islands
- ▶ Context should not save impossible readings (impact only in 0-emb)

RESULTS



- ▶ **Readings:** SRs are preferred over IRs in both languages, but IRs are still available. IRs are more available in English than in German.
→ Against predictions of Frey 1993, Bobaljik & Wurmbrand 2012
→ Difference btw. English/German is not categorical but gradual
→ Mere exposure effect: option of overt movement > less need/use of IRs > less acceptance
- ▶ **Main effect of embedding:** decrease of overall acceptability with deeper embedding.
→ But: embedding does not rule out IRs completely. In English, 1-emb has no effect at all.
→ Potential problem for QR and/or the assumption that RCs are islands (e.g. Sauerland 2001).
- ▶ **Main effect of context:** context has an effect across all emb-conditions and in both languages.
- ▶ **By-participant:** Response patterns vary vastly across participants. They do not take into account pragmatics and syntax to the same degree
→ Different interpretation strategies
→ Possible reasons: nanovariation in grammars, processing difficulties, transfer effects, ...?

