

The influence of perspective taking on the interpretation of German demonstrative pronouns

In this paper, we show that the general tendency of DPros to avoid topical referents as antecedents can at least to some extent be overwritten when the proposition denoted by the sentence containing the DPro is evaluated from the speaker's or narrator's perspective (cf. Hinterwimmer and Bosch 2016, 2017), thus providing further experimental evidence that the pragmatic process by which the antecedents of German demonstrative pronouns of the *der/die/das*-paradigm (DPros) are determined is sensitive to more than one kind of prominence (cf. Schumacher et al. 2017).

Bosch and Umbach (2006) show that DPros do not necessarily avoid grammatical subjects as antecedents, but rather DPs whose referents are topics. The tendency of DPros to avoid subjects as antecedents can thus be seen as a by-product of the crosslinguistically rather stable tendency for topics to be realized as grammatical subjects. Schumacher et al. (2015, 2017) provide experimental evidence that DPros have a stronger tendency to avoid object experiencers occurring in canonical clause initial position as antecedents than to avoid subjects functioning as themes. If the latter are fronted, however, there is no bias either way, i.e. there is an equal chance for subjects and dative objects to be chosen as antecedents. Based on the assumption that fronting serves to indicate topicality, Schumacher et al. (2017) take the pattern just sketched as evidence that DPros have a bias against antecedents that are prominent in terms of topicality as well as against antecedents that are prominent in terms of agentivity features such as sentience.

In this paper, we provide evidence from an acceptability rating study and an eye-tracking study using the visual-world paradigm that the presence of perspective taker distinct from the topical referent increases the availability of the latter as an antecedent for DPros. In the first study we constructed test items consisting of two sentences (as in (1)). The first sentence always established an individual referred to by a proper name as topic. For the second sentence, we had six different conditions: In conditions a and b, the second sentence always clearly expressed an evaluation of the topical referent by the narrator, as indicated by the content in combination with a switch from past tense to present tense. In condition a (*narr-judg-PPro, (1a)*), the topical referent was referred to by a PPro, and in condition b (*narr-judg-DPro, (1b)*) by a DPro. In conditions c and d, the second sentence clearly expressed a thought of the topical referent in *Free Indirect Discourse* mode, as indicated by the content in combination with an interjection and a deictic expression that could only sensibly be interpreted with respect to the topical referent's context (see Eckardt 2014). Again, in condition c (*top-judg-PPro, (1c)*) the topical referent was referred to by a PPro, and in condition d by a DPro (*top-judg-DPro, (1d)*). The two final conditions were neutral continuations, with the topical referent being referred to by a PPro in condition e (*neut-PPro, (1e)*), and by a DPro in condition f (*neut-DPro (1f)*).

(1) Als Emil einen Nagel in die Wand schlagen wollte, traf er seinen Daumen.

When Emil wanted to drive a nail into the wall, he hit his thumb.

(a-b) Er/Der hat wirklich überhaupt kein handwerkliches Geschick.

He/He_{DPro} really has no craftsmanship at all.

(c-d) Autsch, er/der konnte das heute überhaupt nicht gebrauchen.

Ouch, he/he_{DPro} didn't need that at all today.

(e-f) Er/Der rief erstmal einen Freund an, um nach Hilfe zu fragen.

He/He_{DPro} called a friend first to ask for help.

The experiment involved a yes/no judgment task where participants were shown two sentences as in (1) (n=85). They were instructed that these were beginnings of stories produced by advanced German learners and their task was to judge whether the student had reached German native proficiency (by responding "yes, they have" or "no, they haven't"). Figure (1) shows the proportions of sentences that were judged "native" from each condition. The DPro sentences in 'narr-judg' (1b) were judged significantly better ($p < 0.05$) than the DPro sentences in 'neut' (1f). There was no significant interaction between the 'top-judg' and 'neut' conditions. We take these results as evidence that perspective-taking increases the prominence status of the

speaker or narrator. In (1a-b), Emil is thus prominent in terms of topicality, while the narrator is prominent in terms of perspective taking. Consequently, Emil is not clearly avoided by the DPro as the most prominent referent in (1b), with the narrator being another option. In (1d), in contrast, Emil is prominent both in terms of topicality and perspective taking, and in (1f), where there is no prominent perspective taker, prominence in terms of topicality is the only relevant notion. Consequently, Emil is strongly avoided by the DPro in both cases. Note finally that if we assume sentience to be an indicator of perspective taking, a unified account of our results and the results of Schumacher et al. (2017) might be possible.

The second experiment was an eye-tracking study using the visual-world paradigm (n=48). We used short discourses, as the one in (2), and manipulated the "perspective taker-hood" of the current discourse topic (R1 = *der Polizist*): It was either mentioned again by a PPro (*er* in (2a)) or by an epithet (*der nette Wachtmeister* in (2b)). The discourse also introduced another human masculine referent (R2 = *der Fotografen*) as well as two non-human referents as distractors. The DPro, *der*, occurred in the complement clause of the third sentence. The display showed these four referents together with an unmentioned distractor object. Results show that R1 was less preferred than R2 in terms of focusing frequencies. But, in the epithet condition (see Figure (2)), R1 was significantly more preferred than R1 in the PPro condition ($p < 0.05$ for all three — the linear, the quadratic and the cubic — terms in the growth curve analysis of fixation proportions). We also included another factor, "speaker-hood", such that R1 was either the speaker or the addressee in Sentence 3, but this factor yielded no significant effect. In sum, R2 seems to be generally preferred as binder of a DPro, since it is less prominent than R1 in terms of topicality and agentivity in both conditions and because it is not the perspective taker with respect to the proposition denoted by the entire sentence or the one denoted by the embedded clause. At the same time, the fact that being referred to by an epithet boosts availability of R1 as binder of the DPro despite being maximally prominent with respect to topicality and agentivity further supports the claim that prominence in terms of perspective taking has an influence on the co-referential and binding options of DPros.

(2) Sentences 1 and 2 (same across all four conditions): Eine gute Nachricht. Der Polizist hat gerade das Motorrad abgestellt und redet mit dem Fotografen.

Good news. The policeman has just parked the motorcycle and talks to the photographer.

Sentence 3 prelude:

(a) *Er* erzählt soeben dem Fotografen, der eigentlich wegen der Kängurus hier ist,...

(b) **Der nette Wachtmeister** erzählt soeben dem Fotografen, der eigentlich...

Sentence 3 postlude (same across all four conditions): *dass der im Lotto gewonnen hat.*

He/the_nice_sergeant has just told the photographer who is here because of the kangaroos that DPro has won the lottery.

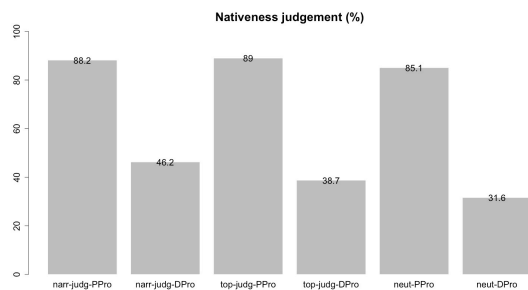


Figure 1

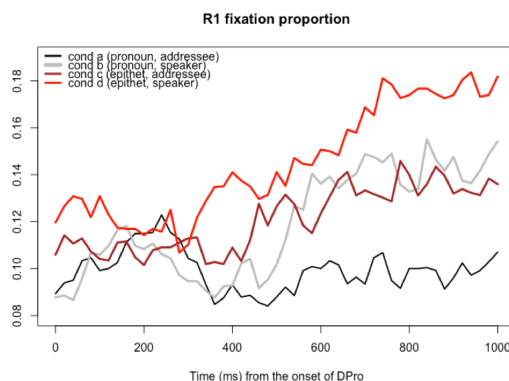


Figure 2

References: Bosch, P. & C. Umbach (2006). Reference determination for demonstrative pronouns. Eckardt, R. (2014). *The semantics of free indirect discourse*. Hinterwimmer, S. & Bosch, P. (2016). Demonstrative pronouns and perspective. Hinterwimmer, S. & Bosch, P. (2017). Demonstrative pronouns and propositional attitudes. Schumacher, P. et al. (2017). Agentivity drives real-time pronoun resolution: Evidence from German *er* and *der*.