

On the relation between predicates of personal taste and perspective-sensitive anaphora

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Language contains a variety of different kinds of perspective-sensitive elements, including predicates of personal taste (PPTs, e.g. *tasty, fun*), epithets (e.g. *the idiot*), logophoric reflexives (e.g. representational NPs, *picture of herself*), and relative spatial terms (*left/right*). These all make reference to the point-of-view of an individual, sometimes referred to as the perspectival center/anchor (e.g. Bylinina, Sudo, McCready, 2014). Many of these perspectival elements also carry information about the perspectival center's subjective evaluation or stance towards something/someone (e.g. PPTs, epithets). Strikingly, most prior theoretical accounts of perspective-sensitive elements have largely focused on sentences with a single perspectival element. The situation where a single utterance contains multiple perspective-sensitive elements has received less attention and is often only mentioned in passing, although it has important implications for adjudicating between theories of subjectivity and perspective sensitivity (see e.g. Kneer et al. 2016).

Interestingly, recent work by Kneer et al. (2016), Bylinina et al. (2017) and Anand & Korotkova (2016) suggests that, at least on the sentential level and at least with PPTs, *multiple perspectival elements can be anchored to different attitude holders* (see Bylinina et al. on the size of the perspectival domain). However, these studies focused on sentences where the 1st-person speaker is one of the competing attitude holders/judges. This means that prior work may underestimate the allowability of perspectival plurality: Because the first-person is known to be privileged as an attitude holder, it may be that whenever it is available, it is strongly preferred. A clearer picture regarding the possibility of perspectival plurality may emerge in contexts with *multiple third-person attitude holders*.

To investigate these issues, we conducted **an experiment** on the relation between subjective content and perspective-sensitive anaphora. We tested the possibility of perspectival plurality with (i) **subjective adjectives** (specifically, predicates of personal taste, PPTs) and (ii) **logophoric anaphors** (reflexives as well as pronouns) in Representational NPs (RNPs, *photograph of her/herself*). Anaphors in RNPs are commonly argued to be logophoric, sensitive to semantic and pragmatic factors, exempt from the syntactic constraints of Binding Theory (e.g. Kuno 1987, Reinhart & Reuland 1993). Crucially, prior work argues that both reflexives and pronouns in RNPs are sensitive to point-of-view (e.g. Kuno 1987 on reflexives, Tenny 2003 on pronouns). Thus, we can ask how and whether identification of PPTs' perspectival center (judge) relates to identification of the antecedent of logophoric anaphors.

Experiment: Participants (n=42) read sentences (ex.1), containing representational NPs modified by PPTs (e.g. *the frightening photograph*), and answered questions (ex.2). We manipulated (i) the verb (*told/heard from*) – thus manipulating the *source-of-information* and *perceiver-of-information* status of the subject and object – and (ii) whether the representational NP (RNP, *photograph of...*) contains a reflexive, a pronoun or no anaphor. We used a Latin-Square design (36 targets, 36 different PPTs, 68 fillers). The questions probe identification of the PPT judge (2b) and, in the anaphor-containing conditions, also probe the antecedent of the reflexive/pronoun in the RNP (2a). On pronoun and reflexive trials, participants first answered (2a) and then (2b). On no-anaphor trials, they only answered (2b). People were asked to imagine they were reading sentences from fiction; the term 'narrator' was explained in the instructions.

- (1a) Reflexive: Nora {told/heard from} Amy about the frightening photograph of herself.
(1b) Pronoun: Nora {told/heard from} Amy about the frightening photograph of her.
(1c) No anaphor: Nora {told/heard from} ~~Amy~~ about the frightening photograph.
(2a) Who is shown in the photograph? Nora
(2b) Whose opinion is it that the photograph is frightening? Nora Amy Narrator

We consider two competing hypotheses regarding how (and whether) the identification of the perspectival center for PPTs (i.e., the evaluator/judge) relates to the identification of the antecedent of logophoric anaphors:

Hyp.1: Anaphor-governed judge hypothesis. If perspective-sensitive anaphors and evaluative PPTs are anchored to a unified perspectival center, we expect converging answers to the *who-shown* and *whose-opinion* questions: If the referent of a **logophoric reflexive is what determines the judge for a PPT in the same constituent**, in sentences like (1a) we expect converging answers to the *who-shown* and *whose-opinion* questions. Given Kaiser et al. (2009)'s psycholinguistic findings that reflexives in RNPs are guided by subjecthood and source-of-information, we expect both *who-shown* and *whose-opinion* questions to show an overarching subject preference, but relatively more object choices with *heard from* than *told* for sentences like (1a), due to reflexives preferring sources-of-information. (The preposition *from* is not problematic, as it would lead us to expect less object choices to the *who-shown* question with *heard from* than *told*, the *opposite* of Kaiser et al.'s findings.)

What about **short-distance pronouns** (*photograph of her*), also claimed to be perspective-sensitive (e.g. Tenny 2003, 2004)? If the *anaphor-governed judge hypothesis* applies to both logophoric reflexives and short-distance pronouns, then – given Kaiser et al. (2009)'s finding that short-distance pronouns in RNPs are biased towards the perceiver-of-information – both the *who-shown* and the *whose-opinion* questions for sentences like (1b) should show an object preference with *told* and a subject preference with *heard from* (perceiver preference). But if the *anaphor-governed judge*

hypothesis is restricted to logophoric reflexives, there may be no relationship between the *who-shown* and *whose-opinion* questions in the pronoun conditions.

Hyp.2: Anaphor-independent judge hypothesis. If perspective-sensitive anaphors and PPTs can be anchored to different perspectival centers, there is no reason to expect answers to the *who-shown* and *whose-opinion* questions to converge, and no reason to expect the referential biases of reflexives and pronouns in RNPs to determine the judge of evaluative PPTs. Under this view, both PPTs and perspective-sensitive anaphors are associated with perspectival anchors, but these anchors can be distinct and are determined independently of each other. Based on Kaiser et al. (2009)’s work on RNPs, we still expect **pronouns** to prefer perceivers-of-information (subject of *heard*, object of *told*) and **reflexives** to show a subject preference modulated by a source-of-information preference (object of *heard*, subject of *told*). What about the **judges of PPTs**? Recent work by Bylinina (2014) and McNally & Stojanovic (2017) highlights the importance of PPT judges being *experiencers*. In sentences like (1a-c), the most plausible experiencer for the PPT (e.g. the person who experienced the photograph as frightening) is the *source-of-information* (subject of *told*, object of *heard*). Thus, if PPT judge identification is not governed by the anaphor’s antecedent, we may find an *experiencer preference* for *whose-opinion* questions in sentences with and without anaphors (1a-c).

Results: Who-shown questions (anaphor resolution): The reflexive conditions trigger significantly more subject interpretations than pronoun conditions (glmer, $p < .001$) which elicit more object interpretations. The rate of object interpretations with pronouns is significantly modulated by the verb: the *tell+pro* condition elicits significantly more object choices than the *heard+pro* condition (p ’s $< .01$). This replicates the perceiver preference (Kaiser et al. 2009). Reflexive conditions elicit numerically more subject choices with *told* than *heard*. This difference is not statistically significant, but it is in line with Kaiser et al. (2009)’s source preference.

Answers to the whose-opinion questions which probe the interpretation of the PPT (judge identification) reveal a strong preference to interpret the **source of information** (subj of *told*, obj of *heard*) as the judge, in line with the experiencer-based prediction. This holds regardless of whether the sentence has a pronoun, reflexive or no anaphor (glmer, p ’s $< .01$).

Crucially, **once we combine these two response types**, we find a clear divergence between PPT judge identification (*evaluative perspective-sensitivity*) and antecedent choice (*referential perspective-sensitivity*). Fig.1 shows how often the anaphor refers to the subject, and what the *whose-opinion* responses are in each case. If PPT judge identification were aligned with antecedent choice, all bars in Fig.1 should be dark blue (subject opinion). However, as Fig.1 shows, this is clearly not the case in the *heard* conditions with either pronouns or reflexives: despite a high rate of subject interpretations, there is a high rate of object-opinion responses (orange). This disconnect is also visible in Fig.2 which shows how often the anaphor refers to the object. Here, pronouns in particular show high rates of subject opinion responses with *told*, despite an object preference (dark blue).

In sum, our results support the **anaphor-independent judge hypothesis**: We find no clear evidence that (i) the judge identification process of PPTs and (ii) the perspectival anchor targeted by logophoric reflexives or so-called short-distance pronouns have to go hand-in-hand. Instead, our results provide clear evidence for perspectival plurality, even when the PPT and anaphoric element are in the same DP-level domain. **Conclusions:** Our findings are compatible with the view that the interpretation of evaluative content, such as identifying the judge/evaluator of PPTs, needs to be distinguished from the interpretation of non-evaluative content, such as the dependencies between logophors and their antecedents, even when both processes are, broadly speaking, perspective-sensitive phenomena.

References Anand/Korotkova2016. *Predicates of personal taste and ‘de re’ construal*. | Bylinina2014. *Grammar of Standards*. | Bylinina, Sudo, McCready2014. *The landscape of perspective shifting*. | Kaiser et al.2009. *Structural and semantic constraints on pronouns and reflexives*. | Kneer et al.2016. *Relativism about predicates of personal taste and perspectival plurality*. | McNally/Stojanovic2017. *Aesthetic adjectives*. | Tenny2003. *Short Distance Pronouns in Representational Noun Phrases* | Tenny2004. *Pronoun Binding and the Grammar of Sentence*.

