

Adverbs of Comment and Disagreement^{*}

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Abstract. Adverbs of comment (AOCs) such as *sadly*, *fortunately* raise a question of subjective meaning, much like predicates of personal taste (*fun*, *tasty*), namely, to whom the speaker attributes the emotion or evaluation, when there is no overt *for*-PP. I extend Lasersohn's (2005) judge parameter to the analysis of AOCs and propose that disagreement on one and the same proposition only arises when the hearer correctly resolves the argument of judge despite its absence in overt syntax, i.e. *sad*(*p*, *c*) vs. \neg *sad*(*p*, *c*). Otherwise, only mis- or incomprehension occurs where the speaker and the hearer actually express two different propositions on the same issue, i.e. *sad*(*p*, *c*) vs. \neg *sad*(*p*, *b*).

1 Introduction

Adverbs of comment (henceforth, AOCs) such as *sadly* or *fortunately* raise a question of subjective meaning, much like predicates of personal taste (Lasersohn 2005) and epistemic modality (Stephenson 2007), namely, to whom the speaker attributes the emotion/evaluation when she uses an AOC, like *sadly* in e.g. (3-a). In the examples below, the lower-case *j* indicates a judge parameter in the Lasersohnian sense.

- (1) a. Roller coasters are fun.
b. Roller coasters are fun [for kids]_j.
- (2) a. The computer might be at risk.
b. In some world compatible with what [the technician]_j knows in the actual world, the computer is at risk.
- (3) a. Sadly, the Pink Panther is just one of those jokes that gets lost in translation.
b. Sadly [for Steve Martin]_j, the Pink Panther is just one of those jokes that gets lost in translation.

In (3-b), the speaker makes it linguistically explicit that the state of affairs at issue is sad for Steve Martin, while it is left open in (3-a) for whom it is so. This kind of subjective meaning arises, as shown in (1)/(2)/(3), due to the hidden

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argument of judge at LF, and it disappears once j is made explicit. Predicates of personal taste and AOCs are more similar to each other than to epistemic modal verbs in that syntactic evidence for the judge argument is in both cases provided by a *for*-PP.

I focus on the minimal pair in (3) in this paper. Following Bach (1999) and Potts (2005), I assume that a sentence with AOCs such as (3-b) is double-propositional, one proposition p expressed by the sentence without the parenthetic *sadly for Steve Martin* and the other one $sad(p, c)$, c being Steve Martin in this case. According to Potts (2005), the first proposition is at-issue while the second one is a conventional implicature (CI). In comparison to (3-b), the second proposition in (3-a) is incomplete. Because of this, disagreement on the second proposition (i.e. $sad(p, c)$) demonstrates two different cases, one case I call real disagreement which only obtains when the hearer agrees with the speaker on the hidden argument of judge. That means that the speaker utters $sad(p, c)$ with c being a constant, e.g. Steve Martin (even though it is linguistically implicit), while the hearer by disagreement holds that $\neg sad(p, c)$ with c being the same constant, Steve Martin (as if it were linguistically explicit in the speaker's utterance). In the other case, which I call mis- or incomprehension, the speaker utters $sad(p, c)$ while the hearer by disagreement actually expresses $\neg sad(p, b)$, b being the individual(s) that the hearer has in mind that the state of affairs is sad for. In the first case, the disagreement is on one and the same proposition, namely, whether the state of affairs is sad for e.g. Steve Martin, while in the second case, the seeming disagreement is not on one and the same proposition, but on the propositional fragment (i.e. whether it is sad) and on the judge parameter at the same time: the speaker expresses that $sad(p, c)$ whereas the hearer expresses $\neg sad(p, b)$, which differ both in the polarity of the statements and in the argument of judge.

The paper is organized as follows. In Section 2, I elaborate on the idea of incomplete propositions by AOCs. In Section 3, I compare AOCs with predicates of personal taste in terms of subjective meaning and the consequences. Section 4 provides a formal analysis following Lasnik (2005) and Stephenson (2007). The last section contains a concluding remark.

2 Incomplete Propositions

I assume that sentences sometimes do not express a complete proposition (Bach 1997, 2008, *contra* Cappelen and Lepore 2005). Incomplete propositions arise often due to a syntactically silent but semantically obligatory argument. Take the famous sentence about meteorological conditions for example, (4-b) is propositionally complete but (4-a) is not. This means we hold that (4-a) does not express one proposition but is used to express different propositions, depending on what the hidden argument - the location - is. Usually, the context of utterance makes the location explicit for such sentences. In comparison, (4-b) expresses one unambiguous proposition that it is raining in Amsterdam.

- (4) a. It is raining.

- b. It is raining in Amsterdam.

The role of the person(s) to a certain emotional state is not that different from that of the location to a certain meteorological condition. In the latter case, it is commonly assumed that a time argument - present in the tense morpheme - and a place argument are needed for the sentence to make sense, while in the former case (putting tense aside for simplicity), we have a judge instead of a place argument. In a nutshell, I assume the incompleteness of *It is raining* and of *Sadly, p* is due to a missing place/judge argument, which are needed to fill the necessary referential information to give (by the speaker) or get (by the hearer) a complete proposition. In the case of AOCs, sentences such as (3-a) express two propositions (Bach 1999, Potts 2005), one main, complete proposition that *the Pink Panther is just one of those jokes that gets lost in translation* and the other, secondary, incomplete proposition that *this is sad*. Nothing can be sad if no person is subject to this emotion. The exact group that the speaker has in mind can be made linguistically explicit as in (3-b).

Jackendoff (1972) proposes that such adverbs as *sadly* predicate over a sentence and a second argument SPEAKER. In the literature they are sometimes called speaker-oriented adverbs. With reference to the overt argument by the *for*-PP in (3-b), one can argue against the speaker-orientation of AOCs. Rather, they should be treated as two-place predicates (Liu 2009) taking a judge (in the Lasnikian sense) as the second argument so that the evaluation can be attributed to the speaker, the addressees, the subject of the sentence, etc. Although this argument can be syntactically silent, a felicitous use of AOCs presupposes the existence of the judge. For example, in a war situation where the speaker informs his own party about the serious casualties of the opposite party, the literal use of *unfortunately* or *tragically* will be outrageous. This means that the argument of judge should be in the semantics of a sentence with AOCs, or in other words, with no judge, no complete proposition is expressed. The same holds for their adjective equivalents of e.g. *It is sad (for Steve Martin) that the Pink Panther is just one of those jokes that gets lost in translation*¹. Without the PP, the sentence does not express a complete (CI) proposition, i.e. is not truth-evaluable.

The meaning I propose for AOCs such as *sadly* is $\lambda x.\lambda p.sad(p, x)$. In the examples above, the *for*-PP instantiates the argument of judge. If there is no explicit PP, there are two ways to formalize that the existence of judge is presupposed, either $\exists x(sad(p, x))$ or $sad(p, c)$, c being a constant of type e that is context-dependent. In the next section, I show that the meaning with the existential closure on the judge would lead to undesired results and that the hidden judge argument should be a constant in the LF.

¹ To keep things brief, the adjective counterparts of AOCs differ in that AOCs contribute a CI content to the sentence meaning (Potts 2005), while with evaluative adjectives, the propositional content (as that by AOCs) is an at-issue content (See Bonami and Godard 2008 for more detailed comparisons).

3 Disagreement and Subjective Meaning

3.1 Predicates of personal taste etc.

As Lasersohn (2005) claims, sentences like *The chili is tasty* is not truth-evaluable until the intended judge is resolved. In (5), what Mary does is comment on whether the chili is tasty (an incomplete proposition, Bach 2008) by her own judge (for a complete proposition). Although it seems that John and Mary disagree on the same proposition, they actually express different propositions on the same issue. When the domain of the intended judge is made linguistically explicit such as in (6), Mary can no longer felicitously disagree by simply taking a different judge.

- (5) John: The chili is tasty. λx . the chili is tasty for x
 Mary: No, the chili is not tasty. λy . the chili is not tasty for y
- (6) John: This chili is tasty for Peter.
 Mary: No, this chili is not tasty for Peter. / # No, this chili is not tasty for Mark.

The same observation holds in connection with the domain restriction of quantifiers (von Stechow and Gillies 2008). Take *only* as an example, mis- or incomprehension can arise due to the implicit domain restriction, as (7) shows. The truth-value of the sentence obtains only if the domain restriction gets resolved. Accordingly, if the domain restriction of quantification is made linguistically explicit, no disagreement by taking a different domain restriction is felicitous, as shown in (8).

- (7) A: Only Peter came to the party.
 B: Really? I heard Sue was there too.
 A: Yeah, but she was supposed to be there helping me.
- (8) A: Among the people I invited, namely, Peter, Ben and Jane, only Peter came to the party.
 B: # Really? I heard Sue was there too.

Neutral and nonneutral modals, where “the kind of modality is linguistically specified in the former, but provided by the non-linguistic context in the latter” (Kratzer 1991: p.640), demonstrate similar effects of disagreement. Stephenson (2007) suggests that the judge dependency with epistemic modals is inherent, and I suspect that it is the same with quantifier domain restriction. In the following, I will not say more on them but concentrate mainly on predicates of personal taste and AOCs in parallelism.

3.2 AOCs

Concerning AOCs, it should first be mentioned that direct disagreement by beginning with *No* is not possible since AOCs contribute CI contents, while negation in Potts’s (2005) two-dimensional system only applies to at-issue contents.

This explains the oddness of B's answer in (9). As disagreement on the CI content presupposes the agreement on the at-issue content, a *No* answer targets at-issue content just like sentential negation *not*, but disagreement on the at-issue content invalidates the issue of the CI content. For more about the relation between these two contents, see Liu (2009).

- (9) A: Sadly, the Pink Panther is just one of those jokes that gets lost in translation.
B: Ok, but this is not sad. (# No, this is not sad.)

Second, this also explains why AOCs differ from predicates of personal taste or adjectives of comment when they are embedded. As Lasersohn (2005) and Stephenson (2007) point out, when predicates of personal taste are embedded for example in (10-a), the sentence gets a salient reading that Mary is the judge. The same is true with adjectives of comment shown in (10-b), whereas it is not so with AOCs. The explanation is that AOCs are of CI type $\langle e^a, \langle \langle s^a, t^a \rangle, \langle s^a, t^c \rangle \rangle \rangle$ taking an individual of type $\langle e^a \rangle$ and a proposition of type $\langle s^a, t^a \rangle$ as the two arguments, yielding a proposition of type $\langle s^a, t^c \rangle$. In comparison to the at-issue content, this CI content is not necessarily part of Mary's beliefs.

- (10) a. Mary_j thinks that the chili is tasty (for *j*).
b. Mary_j thinks that it is sad (for *j*) that the Pink Panther is ...
c. Mary thinks that sadly (for *j*), the Pink Panther is ...

Due to the *for*-PP, (3-a) and (3-b) have different effects in terms of disagreement. In (9), B agrees with A on the at-issue content of A's utterance but disagrees with her on the CI content. However, the disagreement of B can be attributed to two reasons:

- **mis- or incomprehension**: possibly because the context is not informative enough or because B fails somehow to comprehend even when it is. In this case, the issue is *for whom it is sad*, and A and B disagree in the sense that they take different judges for one of which *it is sad* and for the other *it is not sad*.
- **real disagreement**: this presupposes that B understands exactly what A means but disagrees with her, as if the argument of judge (e.g. *for Steve Martin*) were overt. In this case, the issue is *whether this is sad for Steve Martin*.

Only in the latter case is the disagreement on one and the same complete proposition, as shown in (11). In this case, B cannot simply take another judge, different from Steve Martin, whether explicitly or implicitly. The disagreement has to be on the same proposition, that *this is sad for Steve Martin*.

- (11) A: Sadly for Steve Martin, the Pink Panther is just one of those jokes that gets lost in translation.
B: Ok, but this is not sad for Steve Martin.

Similarly, with two different overt arguments of judge, the same speaker can express propositional fragments differing in polarity, but this is not possible if the argument of judge is silent. In other words, with an explicit argument of judge, a new judge can be introduced to make up a new proposition of the same or opposite polarity². With implicit judge, shifting between two different judges is ruled out. This is shown in (12), which provides evidence that with implicit judges, judge-shifting is only possible with context-shifting, for instance by speaker change or by change of the same speaker's mental state such as in (13). Compare this also with (14).

- (12) a. Sadly for Steve Martin, the Pink Panther is just one of those jokes that gets lost in translation. But this is not sad for anybody else.
 b. Sadly, the Pink Panther is just one of those jokes that gets lost in translation. #But this is not sad.
- (13) Sadly, (or maybe not sadly) the Pink Panther is just one of those jokes that gets lost in translation.
- (14) a. It is raining in Amsterdam. It is not raining in Berlin.
 b. #It is raining. It is not raining. (Contradiction)

(15-a) provides an example where two propositions are expressed by two AOCs taking the same propositional argument, and (15-b) gives the same, but with their adjective counterparts as commentaries.

- (15) a. Fortunately for them, unfortunately for us, it was a good choice.
 b. It's fortunate for us, but unfortunate for the auto industry as a whole.

3.3 Judge as a Constant

The following is an argument why the judge is a contextually dependent constant.

- (16) a. Eva read.
 b. It is raining.
 c. Sadly, the Pink Panther is just one of those jokes that gets lost in translation.
- (17) a. $\exists z(Thing(z) \wedge Read(eva, z))$
 b. $?\exists z(Place(z) \wedge Rain(z))$
 c. $?\exists z(Judge(z) \wedge sad(p, z))$
- (18) a. $?Read(eva, c)$
 b. $Place(c) \wedge Rain(c)$
 c. $(Judge(c) \wedge sad(p, c))$

² This is to say, in (9), even B agrees by saying *This is indeed sad*, it is still not clear that A and B express the same proposition. Rather, they could fairly well take two different judges for whom *this is sad* and thus express two propositions.

As (17) and (18) show, the interpretation with existential closure on places/judges is too weak while it is not for predicates like *read/eat*. Presumably, the reason is that what people read/eat is more difficult to individuate and it is also less necessary to do so. But places/people are by convention usually individuated by proper names. If we take (17-c) as the interpretation, the disagreement can go two ways: (19-a) is too strong and (19-b) is too weak. This favors the constant analysis for AOCs in LF.

- (19) a. $\neg\exists z(Judge(z) \wedge sad(p, z))$
 b. $\exists z\neg(Judge(z) \wedge sad(p, z))$

3.4 Single/Multiple Truths

Imagine two scenarios: in one, A just saw B taste the chili. In this case, A means to ask whether the chili is tasty for B and B is supposed to answer whether the chili is tasty for her. Another scenario is where A has assigned B to find out whether the new chili product of their company is tasty for the customers. In this case, A means to ask whether the chili is tasty for the customers and B is supposed to give an answer - probably based on sampling statistics or sales simply. The dialogue in (20) can go with either scenario.

- (20) A: Is the chili tasty?
 B: Yes, it is. / No, it isn't.

The first scenario is similar to (21) (Stephenson 2007). However, suppose Sam answers without having tried but based on the nice looks of the cake, the dialog in (21) sounds totally fine to me.

- (21) Mary: How's the cake?
 Sam: It's tasty.
 Sue: No, it isn't, it tastes terrible.
 Sam: # Oh, then I guess I was wrong.

This point is crucial to the issue of subjective meaning with predicates of personal taste and AOCs (and possibly also epistemic modals but probably not quantifier domain restriction), namely, there might be no single truth about whether roller coasters are fun or whether the death of the boss is sad, as opposed to something like whether *Petra is a doctor* (Stephenson 2007). Or in other words, whether Petra is a doctor can be objectively true or false, but whether roller coasters are fun or whether the death of the boss is sad can only be subjectively true or false. In the absolute sense, the truth about whether roller coasters are fun or whether the death of the boss is sad consists of a set of (true) propositions, each of which takes a member of the relevant domain as the judge.

- (22) A: Are roller coasters fun?
 B: Roller coasters fun for a, not for b, for c, not for d, ...
 A: Is the death of the boss sad?
 B: It is sad for a, not for b, for c, not for d, ...

A statement with such predicates is true as long as the speaker speaks truthfully. But this is only part of *the* truths about whether the death of the boss is sad, for example. Issues are more complicated when collective taste/emotion (like in the second scenario) rather than personal taste/emotion counts. I leave this for future work.

4 Analysis

In this section I will briefly introduce Lasersohn's (2005) and Stephenson's (2007) formal analyses for predicates of personal taste and then choose the latter analysis over the former for analyzing AOCs.

Kaplan (1989) proposes a two-step derivation for demonstratives, i.e. *character* as a function from context to *content* (proposition) and *content* as a function from world-time pairs $\langle w, t \rangle$ to truth values $\{0, 1\}$. Following this, Lasersohn (2005) argues that a sentence with predicates of personal taste such as *fun* and *tasty* has a stable *content* but he claims that the truth value of this *content* is relativized to individuals. He therefore introduces a new judge index, the value of which is provided "in the derivation of truth values from content, not in the derivation of content from character" (Lasersohn 2005: p.643), that is, by the pragmatic context. To sum up, Lasersohn assumes that the *content* of e.g. (1-a) is semantically complete, i.e. it expresses a complete proposition, but its truth value is relativized to a world-time-judge triple $\langle w, t, j \rangle$. Take *fun* for example, the interpretation is below:

- (24) Predicates of personal taste (Lasersohn 2005):
 $\|fun\|^{c;w,t,j} = [\lambda x_e. x \text{ is fun for } j \text{ in } w \text{ at } t]$
 $\|fun \text{ for } DP\|^{c;w,t,j} = \|fun\|^{c;w,t,\|DP\|^{c;w,t,j}}$

In Stephenson (2007)³, a revised version of Lasersohn (2005), predicates of personal taste are two-place predicates, taking a PRO or a *for*-PP as the second argument, i.e. of judge. She treats the preposition *for* (semantically vacuous) as an identity function, that is, a function from individuals to individuals.

- (25) Predicates of personal taste (Stephenson 2007):
 $\|fun\|^{c;w,t,j} = [\lambda y_e. [\lambda x_e. x \text{ is fun for } y \text{ in } w \text{ at } t]]$
 $\|PRO_J\|^{c;w,t,j} = j$
 $\|for\|^{c;w,t,j} = [\lambda y_e. y]$

Stephenson (2007: p.500) claims that "The difference between epistemic modals and predicates of personal taste, then, is that epistemic modals are inherently judge-dependent, whereas predicates of personal taste become judge-dependent

³ In her system, as (25) shows, the judge dependency only comes into play by the introduction of *PRO_J*, in other words, the judge parameter in the predicate of *fun* does nothing there. This is different from epistemic modals where the judge dependence comes with the modal verbs.

only if they take PRO_J as an argument". Although I don't go into epistemic modals in the current paper, this point is crucial, as the same difference exists between epistemic modals and AOCs. In other words, Stephenson's analysis for predicates of personal taste can be extended to AOCs, since the subjective meaning results from the absence of an overt *for*-PP in both cases. The interpretation for the AOC *sadly* is provided below:

- (26) AOCs:
 $\|sadly_{\langle e^a, \langle \langle s^a, t^a \rangle, \langle s^a, t^c \rangle \rangle} \rangle\|^{c;w,t,j} = [\lambda x_{e^a}. [\lambda p_{\langle s^a, t^a \rangle}. p \text{ is sad for } x \text{ in } w \text{ at } t]]$
 $\|sadly \text{ for } DP\|^{c;w,t,j} = \|sadly\|^{c;w,t,j} (\|DP\|^{c;w,t,j})$

The same analysis can apply to their adjective counterparts.

- (27) Adjectives of comment:
 $\|sad_{\langle e^a, \langle \langle s^a, t^a \rangle, \langle s^a, t^c \rangle \rangle} \rangle\|^{c;w,t,j} = [\lambda x_{e^a}. [\lambda p_{\langle s^a, t^a \rangle}. p \text{ is sad for } x \text{ in } w \text{ at } t]]$
 $\|sad \text{ for } DP\|^{c;w,t,j} = \|sad\|^{c;w,t,j} (\|DP\|^{c;w,t,j})$

4.1 When Judges Meet

Predicates of personal taste, epistemic modals and AOCs co-occur with one another. If we believe Stephenson (and I do) that epistemic modals are inherently judge-dependent, we can leave them aside first and concentrate on (28-a) to see how the two judges interact. The context is this: I talk with my boy friend about an author friend - Ali - who just published a book which got very bad reviews in the past month. What I say in (28-a) means in that context (28-b). My analysis of (28-a) is given in (29).

- (28) a. The storyline was unfortunately boring.
 b. Unfortunately for the author, the storyline was boring for the audience.
- (29) The storyline was unfortunately PRO_{j_2} boring PRO_{j_1} .
 $\|boring_{\langle e^a, \langle e^a, \langle s^a, t^a \rangle \rangle} \rangle\|^{c;w,t,j} = [[\lambda y_{e^a}. [\lambda x_{e^a}. x \text{ is boring for } y \text{ in } w \text{ at } t]]]$
 $\|[boring \text{ } PRO_{j_1}]_{\langle e^a, \langle s^a, t^a \rangle \rangle} \rangle\|^{c;w,t,j} = [\lambda x_{e^a}. x \text{ is boring for } j_1 \text{ in } w \text{ at } t]$
 $\|[the \text{ storyline was boring}]_{\langle s^a, t^a \rangle} \rangle\|^{c;w,t,j} = [\text{the storyline is boring for } j_1 \text{ in } w \text{ at } t]$
 $\|unfortunately_{\langle e^a, \langle \langle s^a, t^a \rangle, \langle s^a, t^c \rangle \rangle} \rangle\|^{c;w,t,j} = [\lambda x_{e^a}. [\lambda p_{\langle s^a, t^a \rangle}. p \text{ is unfortunate for } x \text{ in } w \text{ at } t]]]$
 $\|[unfortunately \text{ } PRO_{j_2}]_{\langle \langle s^a, t^a \rangle, \langle s^a, t^c \rangle \rangle} \rangle\|^{c;w,t,j} = [\lambda p_{\langle s^a, t^a \rangle}. p \text{ is unfortunate for } j_2 \text{ in } w \text{ at } t]$
 $\|(29)_{\langle s^a, t^a \rangle \bullet \langle s^a, t^c \rangle} \rangle\|^{c;w,t,j} = \langle \exists t' [\text{the storyline is boring for } j_1 \text{ in } w \text{ at } t' < t], \text{ it is unfortunate for } j_2 \text{ that } \exists t' [\text{the storyline is boring for } j_1 \text{ in } w \text{ at } t' < t] \text{ in } w \text{ at } t \rangle$

5 Conclusion

To sum up, AOCs such as *sadly*, *tragically*, *unfortunately* are another example to be taken into consideration in the general phenomenon of subjective meaning, along with predicates of personal taste (and also quantifier domain restrictions / epistemic modality). A sentence with an AOC but with no overt argument of judge is propositionally incomplete and thus semantically vague. In this case, disagreement either involves the hearer's mis- or incomprehension of the intended judge by the speaker and her adoption of a different judge or her real disagreement on the same proposition with the intended judge correctly resolved.

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