

The semantics and pragmatics of Norwegian sentence-internal *jo*

Signe Rix Berthelin
Kaja Borthen

The paper proposes a refined analysis of the semantics and pragmatics of the Norwegian non-truth-conditional adverb *jo* ('after all', 'of course'). According to the existing literature, *jo* indicates that the proposition is 'given' in some sense or other. Based on new empirical investigations, we argue that the relevance-theoretic notion mutual manifestness (Sperber & Wilson 1986/1995; Blass 2000) accurately captures the givenness aspect of *jo*, and we demonstrate through authentic examples what it means for a proposition to be mutually manifest. In addition to mutual manifestness, *jo* signals that the proposition is a premise for deriving a conclusion. The conclusion often – but not always – opposes someone's view. We argue that the frequent opposition interpretations are a consequence of the nature of the procedures encoded by *jo*. In addition to clarifying the semantic and pragmatic properties of *jo*, the paper sheds light on the relevance-theoretic notion procedural semantics as well as illustrating its usefulness in the study of pragmatic particles.

Keywords: Discourse particles, epistemic vigilance, mutual manifestness, pragmatic particles, modal particles, procedural semantics, relevance theory

1. INTRODUCTION

Some linguistic items are used to describe states of affairs in the world. Other linguistic items provide information on how we intend the addressee to entertain the descriptions in our utterances. The non-truth-conditional Norwegian adverb *jo* ('after all', 'of course', 'you know'¹) is of the latter type. The semantics of non-truth-conditional expressions can be hard to identify, and the existing body of literature on the meaning of *jo* (e.g. Fretheim 1991; Andvik 1992) is not entirely consistent or clear. The present paper analyses the semantic and pragmatic properties of sentence-internal *jo* in the light of recent theoretical developments and a data set of utterances with *jo* from spoken and written Norwegian discourse (Text Laboratory 2010–2017).

The Norwegian form rendered orthographically as *jo* can occur in at least four different positions in the sentence and belong to different parts of speech: The form *jo* may be used as i) a response word that negates a preceding negative proposition (Fretheim 2014), ii) a premodifying adverbial in a special construction where the degree of one parameter is presented as parallel to the degree of a second parameter, iii) a sentence-internal (middle field) particle, and iv) a tag particle in sentence-final position.² The sentence-internal particle *jo* is illustrated here:³

- (1) Jeg er **jo** ikke snill i det hele tatt.
I am JO not nice in the whole taken
'I'm not nice at all, and you know it'

(BigBrother Corpus)

Sentence-internal *jo* occurs in sentences with declarative morphosyntactic marking only, including appositive relative clauses. It is used frequently in most Norwegian dialects, most commonly in informal, oral language, but also in writing.

A review of the existing literature (Solberg 1990; Fretheim 1991; Andvik 1992; Lind 1994) shows that at least three questions need to be settled. The first question concerns the notion of 'givenness' and what exactly it means when all authors write that *jo* signals that the propositional content of the segment is considered 'given' or 'uncontroversial'. The second question is whether or not *jo* signals that the proposition ought to be interpreted as a premise

for deriving a conclusion. This property figures in Andvik's (1992) and Lind's (1994) analyses, but not in Fretheim's (1991) work. The third question is whether *jo* is always used to “[...] counter or oppose some idea assumed to be ‘in the air’”, as Andvik (1992:85) concludes. Our paper seeks to settle these three questions, and our goal is a semantic proposal for sentence-internal *jo* plus an account of how this semantics leads to various pragmatic effects in different contexts. The account also addresses how the semantic proposal plus pragmatic principles can predict why and when *jo* can be used to convey surprise, since Solberg (1990:72) and the Norwegian dictionary Bokmålsordboka (2017) both state that *jo* may serve this function.

A semantic proposal for *jo* requires close attention to the semantic-pragmatic division of labour. This means that we need to analyse the data with the goal in mind of disentangling the (‘stable’) aspects of meaning which are semantically encoded by *jo*, from the (‘variant’) aspects of meaning which result from pragmatic inferences based on the semantic input and context specific properties. According to Andvik (1992), *jo* introduces a conventional implicature in the sense of Grice (1975). He explicitly follows scholars who claim that “[...] modal particles have no lexical-semantic meaning proper”, but rather “[...] function as conventional implicatures” (ibid.:85). We follow the relevance-theoretic view on the distinction between semantics and pragmatics, where any meaning aspect that is encoded as part of the conventional meaning of a linguistic item is semantic (see also Section 3.2). Our paper argues that *jo* does indeed encode a conventional SEMANTIC meaning, and that this meaning is best understood as procedurally encoded (Blakemore 1987, 2002; Wilson & Sperber 1993; Wilson 2011, 2016).

The paper is structured as follows: Section 2 discusses the properties associated with *jo* in the existing literature and introduces the semantic constraints we propose for *jo*. Section 3 provides the basics of the relevance-theoretic pragmatic framework and introduces the theoretical notions and distinctions that are necessary for performing the analyses and the account. Section 4 tests the empirical validity of the semantic constraints proposed in Section 2 on corpus data. Section 5 outlines the semantic and pragmatic account, and Section 6 summarises and concludes the paper.

2. PREVIOUS ACCOUNTS

2.1 Givenness

Existing studies agree that sentence-internal *jo* encodes that the proposition is ‘given’ or ‘uncontroversial’ for the addressee in some sense or other. Solberg (1990) concludes that *jo* marks what is said as known or given. Using Grice's terminology, Andvik (1992:85) states that *jo* conventionally implicates that there is consensus about the facts conveyed by the *jo*-clause. Lind (1994:104–125) uses the term ‘interpersonal’ and writes that *jo* creates a shared context where the hearer is assumed to share the speaker's knowledge and assumptions. Fretheim (1991) states that *jo* expresses that the speaker considers the truth of the expressed proposition *p* to be ‘mutually known’ to the interlocutors. Mutually known includes situations where the speaker thinks the addressee ought to know, or should be able to infer, that *p* is true (Fretheim 1991:184).

A typical use of *jo* is illustrated in (2) below. The excerpt is from the BigBrother Corpus, i.e. the conversation takes place in a reality show on TV where the participants share a house (see also Section 4.1). Anette, Lars, and Rodney are all in the bathroom. Anette is about to take a shower, and Lars teasingly suggests that he and Rodney stay in the bathroom. Rodney points out, using an utterance with *jo*, that he has seen Anette naked ten times.⁴

- (2) Lars: Skal vi stå her litt eller ha- henge her litt Rodney?
 ‘How about we stand here for a while or ha – hang around for a while, Rodney?’

- (several): (laughter)
 Rodney: ja
 ‘yes’
 Anette: nei
 ‘no’
 Lars: jeg har en ting jeg må ta opp
 ‘I have something I want to discuss’
 (several): (uforståelig)
 (‘incomprehensible’)
 Rodney: (uforståelig) jeg har **jo** sett deg naken ti gang-
 incomprehensible I have JO seen you naked ten time
 ‘I have, as you know, seen you naked ten time-’
 Anette: ja men dere skal gå bort
 ‘yes but you must leave’ (BigBrother Corpus)

Rodney and Anette both know that Rodney has seen Anette naked on several occasions, which licenses his use of *jo*. If Rodney wanted to inform Anette about a fact that would be surprising to her, sentence-internal *jo* would not have been natural.

The previous descriptions of *jo*'s givenness aspect are consistent with cases like (2), but it is possible and desirable to sharpen the analysis. As mentioned above, Fretheim (1991) states that *jo* communicates mutual knowledge, and additionally covers cases where the addressee ought to know the fact described in the sentence or should be able to infer it. This disjunctive description is not wrong, but a unitary and explanatory analysis would be preferable. Lind's (1994) description of *jo* as an expression which creates a shared context – and her demonstration of the various ways *jo* is used in communication – is also not wrong. It is though slightly vague, and it is not a semantic proposal or an account of the pragmatic processes involved in the comprehension of utterances with *jo*. As for Andvik's account, his use of ‘consensus about the facts’ in his description of the basic meaning of *jo* (1992:86) makes some wrong predictions: people can, as we shall see in Section 4, use *jo* when presenting something the addressee does not agree on.

We propose that the givenness aspect of *jo* is best understood as MUTUAL MANIFESTNESS (Sperber & Wilson 1986/1995:43–44; Section 3.4 in this paper). That is, our semantic proposal includes a constraint such that the utterance's proposition is to be entertained as mutually manifest to the interlocutors. As we shall demonstrate in Section 4.2, mutual manifestness captures the ‘givenness’ aspect of interpretations of utterances with *jo* in authentic communication. Moreover, the notion of mutual manifestness has been shown to be important on independent grounds (Sperber & Wilson 1986/1995) and should hence be favoured over competing analyses, other things being equal.

2.2 *Premise for deriving a conclusion*

The second issue is whether or not sentence-internal *jo* signals that the proposition expressed in the utterance ought to be interpreted as an argument for a further inference. Fretheim (1991) does not mention this meaning aspect in his account of *jo*. Solberg (1990:66–68) demonstrates that *jo* can be used to mark the information as a premise for an inference, but nevertheless concludes (1990:76) that the ‘basic meaning’ of *jo* is merely to mark the information as known or given. Other functions, like marking the information as a premise, are analysed as uses that derive from this basic meaning.

Andvik (1992) convincingly argues that consensus about the propositional content is not enough to license *jo* in an utterance. For instance, *jo* is not appropriate in answers to quiz-

questions, even though the information in the answer is known to the hearer. This is illustrated by the invented example in (3):

- (3) Teacher: Nå skal jeg høre om dere har lest til timen idag. Geir, hvem var Hannibal?
 ‘Now it’s time to see if you have done your reading for today’s class. Geir, who was Hannibal?’
- Geir: Han var (*jɔ) en karthaginsk general.
*he was (*JO) a Carthaginian general.’*
- Teacher: Hva er han kjent for?
 ‘What was he known for?’
- Geir: Han angrep (*jɔ) Roma.
*he attacked (*JO) Rome*
- Teacher: Riktig!
 ‘Correct!’
- (adapted from Andvik 1992:60)

The pupil Geir cannot use *jo* in (3) – at least not if he merely intends to supply the information represented by the proposition and thereby answer the teacher’s questions. However, if Geir offers the information in the utterance as an argument for some conclusion he is drawing, he can use *jo* (Andvik 1992:61). Interestingly, this meaning aspect is not directly reflected in Andvik’s final analysis: Andvik (1992:85–86) concludes that *jo* has two meaning aspects: i) “there is consensus about the facts” and ii) “there is an idea in the air which will be countered by this consensus”.

Andvik’s observation concerning the invented example in (3) is supported by the authentic example rendered in (2) above. Rodney uses *jo* in the utterance where he claims that he has seen Anette naked several times, and the presence of *jo* makes it clear that Anette should draw further conclusions from this information. Since Rodney and Lars are present in the bathroom even though Anette is about to take a shower, a natural interpretation is that Rodney’s utterance provides an argument for staying in the bathroom. A possible line of inference is explicated in (4):

- (4) Premise: Rodney has seen Anette naked several times (the proposition in the *jo*-segment).
- Premise: If someone has seen a person naked several times, some may assume that it does not matter if he sees the person naked again and therefore assume that it does not matter if he is present when that person showers.
- Conclusion: Rodney can stay in the bathroom while Anette showers since he has already seen her naked several times.

Without *jo*, the argumentative purpose of Rodney’s utterance in (2) – i.e. the intention to argue in favour of the conclusion rendered in (4) – would not have been as clear. Without *jo*, the utterance could have been used to introduce a new topic whereas with *jo*, this possibility is ruled out. The presence of *jo* in (2) signals that the utterance’s content is to be taken as a premise which relates to an issue under discussion. This supports the following proposal which will be tested in Section 4.3: The semantics of *jo* includes a constraint such that the utterance’s proposition is interpreted as a premise for deriving a conclusion.

2.3 Opposition

Fretheim (1991) does not mention any oppositional aspect of sentence-internal *jo* at all, and according to Solberg (1990), rhetoric purposes is just one of the functions that *jo* can serve. Andvik, on the other hand, argues that an utterance with *jo* is used to counter or oppose some actual or fictive idea assumed to be ‘in the air’ (1992:75–86). Lind (1994) agrees with Andvik that *jo* is oppositional in the sense just described, and (2) above seems to support their view, in that the conclusion in (4) opposes Anette’s requirement that Rodney and Lars should leave the bathroom. However, *jo* may also be felicitously used in cases without apparent opposition. Consider the following example:

- (5) Riv fiskhallen i Ravnkloa. Den er **jo** så stygg at det er en skam for
demolish the.fish.hall in Ravnkloa. it is JO so ugly that it is a shame to
 byen.
the.town
 ‘Demolish the fish hall in Ravnkloa. It is, as you know, so ugly, it is a shame for the town’
 (Oslo Corpus)

In (5), the utterance with *jo* backwards supports the content of the previous utterance: since the fish hall in the Ravnkloa area is so ugly that it is a shame to the town, it should be demolished. The question is whether the conclusion derived from the *jo*-utterance – i.e. that the fish hall should be demolished – opposes an idea. There is no explicit contrasting view to oppose in the context in which (5) occurs, but one could of course imagine that someone would hold such view – after all, the fish hall has not yet been demolished, which suggests that at least some people want to keep it. Andvik (1992) argues that such cases of ‘seemingly supportive *jo*’ still involve opposition, and that the opposition is against a hypothetical objection.

We agree with Andvik (1992) and Lind (1994) on the point that *jo* is often used in contexts where the speaker argues against someone’s view. As we shall see in Section 4.4, however, our data set does not support the hypothesis that a *jo*-warranted conclusion always counters an idea in the air. We therefore propose that the semantics of *jo* includes a constraint on the interpretation such that the propositional content is interpreted as a premise for drawing a conclusion (in addition to the constraint on mutual manifestness). We shall in due course demonstrate how the two proposed semantic constraints predict interpretations of utterances with *jo* in authentic discourse. But first, a presentation of the necessary theoretical concepts is in order, as these are crucial to a precise account of what (semantic) meaning *jo* brings to the utterance interpretation, and how and why this meaning sometimes – but not always – gives rise to context specific interpretations such as opposition.

3. THE SEMANTICS-PRAGMATICS DESTINCTION, AND MUTUAL MANIFESTNESS

3.1 *General principles*

By SEMANTICS we mean conventionally encoded meaning in the sense of Blakemore (1987), Carston (2002; 2008) and Ariel (2008; 2010),⁵ that is, linguistic meaning which is part of the language code rather the result of pragmatic inference (see also Bach 2001). Thus, the semantics of *jo* is the lexical knowledge which is activated when the expression is used in an utterance, feeds into the interpretation process, and interacts with contextual properties and pragmatic processes in yielding the various context specific interpretations (see Sperber & Wilson 1986/1995:172–173; Carston 2002:22, 2006, 2008). The interpretation of a pragmatic particle

is highly context dependent. The study of pragmatic particles is therefore likely to benefit from a holistic pragmatic theory which observes the interaction between linguistic semantics and utterance interpretation. Relevance theory (Sperber & Wilson 1986/1995; Wilson & Sperber 2004) is a cognitive pragmatics framework with a more than 30 years old tradition for dealing with non-truth-conditional semantics, which was initiated by Diane Blakemore's work on procedural meaning (Blakemore 1987, 2002; see also Wilson & Sperber 1993).

An important aspect of relevance theory (Sperber & Wilson 1986/1995) is that it recognises that human beings are RELEVANCE oriented. The notion of relevance is a technical one: relevance is a measure of efficiency in cognitive processing of stimuli, including utterances. All else being equal, a stimulus is relevant to the extent that it yields positive cognitive effects (i.e. improves the individual's mental representation of the world by confirming or eliminating the individual's existing assumptions or by yielding new conclusions) and to the extent that the processing effort involved in computing these effects is relatively low. According to the communicative principle of relevance, audiences are geared towards identifying the optimally relevant interpretation of an utterance (Sperber & Wilson 1986/1995). This means that when faced with a semantically underspecified utterance – as utterances are (Carston 2002) – the audience is geared towards the interpretation that yields sufficiently many positive cognitive effects for no unjustifiable processing effort (Sperber & Wilson 1986/1995:270). The search for optimal relevance – i.e. a balance of processing effort with positive cognitive effect – governs the selection of contextual assumptions as well as pragmatic processes such as disambiguation and the derivation of implicatures. In short: utterance interpretations are constrained by the semantics of the linguistic expressions in it, cognitive pragmatic principles of relevance, and contextually available assumptions.

3.2 Explicatures and implicatures

The subtasks involved in the overall comprehension process includes the construction of a “[...] hypothesis about explicit content (explicatures) via decoding, disambiguation, reference resolution, and other pragmatic enrichment processes” (Wilson & Sperber 2004:615). In the case of ordinary assertions of declarative sentences, the result is a truth-evaluable description. Given that this proposition is intended to be communicated as a description of a state of affairs in the world, it constitutes the utterance's BASIC EXPLICATURE. Expressions which affect the truth-conditions of an utterance contribute to the utterance's basic explicature (Wilson & Sperber 1993). Sentence-internal *jo* never affects the truth-conditional content in an utterance. Rodney's utterance in (2), for instance, is true and false in exactly the same situations regardless of whether *jo* is present or not.

Languages not only allow speakers to describe states of affairs in the world; sometimes the most relevant interpretation of an utterance is which attitude the speaker expresses towards it (e.g. epistemic certainty) or how it relates to other contextually available propositions (e.g. opposition or support). A communicated assumption that embeds the propositional content of the utterance under such higher-order description is called a HIGHER-LEVEL EXPLICATURE (see e.g. Carston 2002:377). Languages display different resources – such as pragmatic particles in the case of Norwegian and some other Germanic languages – that are used to guide the derivation of higher-order explicatures rather than contributing to the basic propositional content. The constraint on mutual manifestness we propose for *jo* is a constraint on the derivation of a higher-level explicature such that the propositional content is entertained as mutually manifest (see also Blass 2000).

Another central category of communicated meaning is IMPLICATURE, a category that was originally introduced by the philosopher Paul Grice (see Grice 1975). Within the relevance-theoretic framework, implicatures are defined as ostensively communicated assumptions that

are not explicatures; thus they are derived solely through inferences (Carston 2002:377).⁶ The input to the inferential process of deriving implicatures are the explicature and contextual assumptions, and the inferential process is guided by the principles of relevance.⁷ The relevance-theoretic implicature corresponds roughly to the Gricean CONVERSATIONAL implicature. The Gricean CONVENTIONAL implicature, on the other hand, is not recognised within relevance theory, because it is a conventional link between a form and a meaning. As such, it falls under encoded meaning and hence it is a semantic phenomenon. The term implicature in the relevance-theoretic sense is reserved for communicated meaning that results from pragmatic inference based on the utterance's explicature plus contextual assumptions. This means that a given linguistic expression does not encode a certain implicature, but it can encode constraints that guide the process of deriving one. The proposed constraint on the proposition as a premise for a conclusion is a constraint on the derivation of implicatures, because *jo* warrants this derivation of a conclusion. Note that implicatures are usually accessible without any linguistic expression that constrains their derivation. However, as we shall argue in Section 4.2, *jo* makes the route to the implicature more accessible and thereby arguably decreases the processing effort spent on achieving cognitive effects.

3.3 Procedural meaning

Relevance theory distinguishes between linguistic expressions that encode PROCEDURAL MEANING (e.g. *but*, *so*, and *after all*) and linguistic expressions that encode CONCEPTUAL MEANING (e.g. *dog*, *run*, and *happy*) (Blakemore 1987, 2002; Wilson & Sperber 1993; Wilson 2011). Whereas conceptual meaning is relatively concrete and can be brought to consciousness, procedural meaning is vague and hard to paraphrase. Procedural meaning is a semantic phenomenon just like conceptual meaning, because both types of meaning are *encoded* constraints. The difference is that conceptually encoded meaning supplies constraints on which ad hoc conceptual representation to construct, whereas encoded procedures “[...] constrain and guide pragmatic processes which are essential in deriving the intended interpretation” (Carston 2016:159; see also Blakemore 1987, 2002; Wilson 2016). Sentence-internal *jo* clearly belongs to the group of procedural expressions. That is, the proposed constraint on mutual manifestness is a procedural instruction to construct a higher-level explicature and look for cognitive effects based on the propositional content as mutually manifest. And the proposed constraint on implicatures is a procedural instruction to use the propositional content as a premise for deriving an implicature.⁸

Wilson (2011) has suggested that procedural meaning can be viewed as linked to sub-heuristics of general cognitive capacities such as mindreading, emotion reading, social cognition and argumentation (see also Sperber 2005). According to Wilson (2011), one prediction from this view is that we might expect to find clusters of procedural items linked to such domain-specific capacities. In Section 5.1, we shall argue that the procedures encoded by *jo* activate the capacities for EPISTEMIC VIGILANCE and evaluation of arguments. As we shall see, this explains the distribution of opposition interpretations of utterances with *jo*.

3.4 Mutual manifestness

Pragmatic inference not only rests on context in terms of assumptions that are known to the speaker and addressee. The construction of context also exploits assumptions that are MANIFEST to them both (Sperber & Wilson 1986/1995:38–46). Any assumption that an individual is capable of representing mentally and accepting as true or probably true, is manifest to him. An assumption is MUTUALLY MANIFEST to two individuals if i) they are both capable of accessing this assumption through memory, perception or inference, and ii) they are both aware of this

mutual access (Sperber & Wilson 1986/1995:41–42; see also Unger 2018 for a good illustration of the phenomenon). Thus, for a proposition p to be manifest to an individual, it is sufficient that the assumptions necessary for assuming that p is true are available to that individual, and it is not necessary that p is already known, assumed, or privately entertained. For instance, it is manifest to me that Julius Caesar and Noam Chomsky never had breakfast together, even if I have never considered this before, because it is a conclusion which is mentally accessible to me through the assumptions I have about Julius Caesar and Noam Chomsky (Blass 2000:44; Sperber & Wilson 1986/1995). Depending on the context of communication, a certain sub-set of the speaker and addressee’s mutually manifest assumptions will be easily accessible and thereby serve as contextual assumptions in the utterance interpretation process.

Sperber & Wilson (1986/1995) use the notion mutual manifestness in their account of human communication. Later on, Blass (2000) has shown that some linguistic expressions, such as English *after all*, German *ja*, and Hausa *mana*, encode constraints on mutual manifestness. While the meanings of *after all*, *ja*, and *mana* differ in other respects, they all instruct the hearer to entertain and store the proposition in their scope as mutually manifest. Blass analyses mutual manifestness markers as encoding procedural constraints on higher-level explicatures. An utterance of *Er ist ja zu Hause* ([he is at home]-*ja*) can thus be used to communicate a higher-level explicature where the proposition ‘he is at home’ is embedded in a higher-order description as mutually manifest. If Norwegian sentence-internal *jo* is a marker of mutual manifestness, we expect it to appear in contexts similar to those described by Blass (2000), that is, contexts where the propositional content is epistemically available to the hearer through knowledge, inference, memory or perception.

4. A CORPUS STUDY OF *JO*

On the basis of corpus data, this section tests the validity and sufficiency of the two proposed constraints as a semantics of *jo*. The full-fledged pragmatic account is outlined in Section 5.

4.1 *The data set*

The study is based on authentic written and spoken Norwegian discourse from three searchable and digitalised corpora from the Text Laboratory (2010–2017): the Oslo Corpus, the NoTa-Oslo Corpus, and the BigBrother Corpus. The Oslo Corpus consists of newspapers, reports, law texts, and novels. For the present study we have used the sub-corpus of texts in the Norwegian written standard Bokmål. The NoTa Corpus and the BigBrother Corpus consist of spoken discourse which is video recorded and transcribed. The NoTa Corpus contains interviews and conversations prompted by researchers, and the BigBrother Corpus contains conversations from the Norwegian version of the reality show BigBrother from 2001. The three corpora were searched for occurrences of *jo* in sentence-internal position, and 174 utterances – 79 written and 95 spoken – were extracted on a random basis.

4.2 *A semantic constraint on mutual manifestness*

This sub-section is structured around the notion of mutual manifestness, starting with simple examples of givenness and ending with examples that could challenge our claim that *jo* encodes a constraint on mutual manifestness. This enables us not only to test our claim about *jo*’s semantics, but also to shed light on what it means for an assumption to be mutually manifest through concrete examples.

In the example in (6), *jo* is used in a context where evidence for the proposition is available to the interlocutors through perception. Per Morten is talking about an interaction last night between Anne Mona and himself:

(6) Per Morten:⁹

Men i går og da så var det sånn satt vi i sofaen # så sitter og spiser og så sier a # “herregud Per Morten: har du ikke lært å spise eller” sier a # alvorlig tone egentlig da # sitter og spiser og så får jeg sånn masse smuler nedover her så hun sitter og spiser og “ja hva mener du med det” sa jeg # “ja du har **jo** smuler utover hele genseren” sier a. (BigBrother Corpus)

‘But yesterday, and it was like this we were sitting in the sofa # and sitting there eating and then she says # “oh my god Per Morten: haven’t you learned how to eat properly or?” she says # in a serious tone in fact # sitting and eating and then I get like a lot of crumbs downwards here so she is sitting and eating and “What do you mean by that?” I say # “well, AS YOU CAN SEE you have crumbs all over your sweater” she says.’

jo-utterance:

Ja du har **jo** smuler utover hele genseren
yes you have JO crumbs across whole the.sweater
 ‘Well, as you can see you have crumbs all over your sweater’

In the situation described by Per Morten, both the speaker (Anne Mona) and the hearer (himself) have access to visual evidence that Per Morten has crumbs all over his sweater, and the assumption communicated is clearly mutually manifest to them. Per Morten may already be aware of the crumbs, but in case he is not, the presence of *jo* in Anne Mona’s utterance helps him access the evidence and accepting the assumption that he has crumbs all over his sweater. Without *jo*, the fact that Per Morten could observe the crumbs in the given situation would not have been as clearly communicated.

While visual evidence is one kind of situation that allows for the use of *jo*, it appears in our corpus data that *jo* is more often used in contexts where the speaker can reasonably assume that the addressee has cognitive access to the proposition expressed by the segment with *jo*. This tendency is seen especially in examples where the utterance’s proposition represents general knowledge that the addressee is reminded of. This is illustrated in (7) below, which is from a slightly sarcastic written review of a movie where the character Demolition Man occurs. This time, *jo* is part of an appositive relative clause.

(7) Slik skal dagens actionfilm være, opptrappet, latterlig, hysterisk. Enkelte ganger med selvironi. Og uten respekt for noe annet enn spørsmålet om hvor lydsterke eksplosjonene kan bli. Og hvor tilfeldig de kan ramme. “Demolition Man”, som **jo** betyr “han som ødelegger”, er en tidstypisk og på alle måter sprengfylt actionkomedie [...] (Oslo Corpus)

‘This is the way today’s action movies are supposed to be, exaggerated, ridiculous and hysterical. Sometimes self-ironic. And without respect for anything apart from the question of how loud the explosions can be. And how randomly they can target. “Demolition Man” which, AS YOU KNOW, means “he who destroys”, is typical for its time and in any way a bulging action comedy [...]’

jo-utterance:

som **jo** betyr “han som ødelegger”

which JO means “he who destroys”
 ‘which, as you know, means “he who destroys”’

Without *jo*, the utterance would have been likely to offend in a country like Norway, where most adult people are expected to have some command of the English language. By adding *jo*, the speaker explicitly acknowledges that the information in the clause is something the addressee presumably already knows or can infer.

In (8) below, *jo* is used in a case where the utterance’s proposition is neither available to the hearer through perception nor retrievable from memory. In most such cases, however, it appears that the hearer should be capable of accepting the proposition as true or probably true because he has knowledge that enables him to INFER that *p* is a true description of the world, (recall the example with Caesar and Chomsky in Section 3.4). (8) is an excerpt from *Adressavisa*, which is the regional newspaper of Trøndelag County and the city of Trondheim in Norway. The person who is being interviewed has moved from her house in Parkveien, which is a nice neighbourhood, to a house close to the canal. This may appear as a strange move to some people. However, the speaker in (8) was born in an area called Ravnkloa, which is also close to the water. She therefore feels almost like coming home when moving into her new house by the canal:

- (8) Vi har gledet oss så ustyrtelig til å flytte inn. Solgte huset i Parkveien og så frem til å bo ved kanalen. Når man er født i Ravnkloa, ja så er **jo** dette nesten som å komme hjem.
 (Oslo Corpus)

‘We have looked so much forward to moving in. Sold the house in Parkveien and looked forward to living by the canal. When you’re born in Ravnkloa, well, then this is OBVIOUSLY almost like coming home.’

jo-utterance:

Når man er født i Ravnkloa, ja så er **jo** dette nesten som å komme hjem!
when one is born in Ravnkloa, yes then is JO this almost like to come home
 ‘When you’re born in Ravnkloa, well, then this is obviously almost like coming home!’

It is unlikely that the reader has ever entertained the causal relation between the two specific propositions expressed by the utterance with *jo* in (8). The presence of *jo* nevertheless gives the impression that the addressee is expected to have access to knowledge that would enable him to agree. And indeed, to people who read the newspaper, it should be common knowledge that Ravnkloa is by the water. Given the similarity between a house at Ravnkloa and a house by the canal, the claim that moving to a house by the canal is almost like coming home is mutually manifest.

Also in (9) below, the hearer is hardly expected to have entertained the specific propositional content prior to the utterance:

- (9) Jarle Pettersen argumenterer godt for denne elektroniske varianten av dart, selv om han innrømmer at noe av sjarmen kanskje forsvinner. - Dette er en modernisering. Det er enklere, rett og slett. Og så er det **jo** morsomt å få en melodi når du har vunnet, sier Pettersen.
 (Oslo Corpus)

‘Jarle Pettersen argues convincingly in favour of this electronic version of darts, even though – as he admits – some of the charm is maybe lost: “This is a modernisation. It’s

simpler, basically. And besides, it's fun to get a melody when you win, OF COURSE," says Pettersen.'

jo-utterance:

Og så er det **jo** morsomt å få en melodi når du har vunnet
and then is it JO fun to get a melody when you have won
 'And besides, it's fun to get a melody when you win, of course'

Electronic darts is a new thing, so the addressee presumably has no experience with electronic darts. But a generalised version of the propositional content, i.e. that it is generally fulfilling to achieve a reward when one has accomplished something, is likely to be part of people's world knowledge. The proposition expressed by the *jo*-utterance is hence available to the hearer through inference based on assumptions which he is expected to already possess.

There are a few instances in our data set where the evidence for the propositional content of the *jo*-utterance neither appears to be available through perception, nor through inference. Such instance is shown in (10):

- (10) Redaktøren av kronikken synes ikke helt å ha fanget Vinjes hovedbudskap. I innledningen sies det at danskenes gamle pausekommasystem erstattes av et grammatisk fundert kommasystem, mens Vinjes virkelige budskap **jo** er nokså nær det motsatte.

(Oslo Corpus)

'The editor of the article doesn't quite seem to catch Vinje's main message. In the introduction it is said that the Danes' old pause comma system is being substituted by a grammar based system, while Vinje's real message is IN FACT pretty much the opposite.'

jo-utterance:

mens Vinjes virkelige budskap **jo** er nokså nær det motsatte
while Vinje's real message JO is fairly near the opposite
 'while Vinje's real message is in fact pretty much the opposite'

The addressee is any reader of the local newspaper *Adresseavisen*. It is possible that the writer in (10) assumes that the addressee has read the texts she refers to and agrees with her interpretation of Vinje's message. But even if the writer does not assume that the addressee has read the two texts, *jo* is still appropriate in this context. Without *jo*, the writer would merely have informed the reader about *p* without any reference to the existence of evidence. With *jo*, the sentence signals that there exists sufficient evidence for the claim, and that this evidence is accessible to the reader – as well as to the editor of the article whom the writer is criticising. Since Vinje's texts are available to the public, the proposition 'Vinje's message is pretty much the opposite [from what the editor assumes]' might be seen as manifest to the reader, but only marginally so. Thus, the use of *jo* in (10) is pushing the limits of a mutual manifestness marker, but for a good reason: the presence of *jo* indicates that anyone should be able to reach the conclusion that 'Vinje's message is pretty much the opposite [from what the editor assumes]' if they consult the publically available evidence. *Jo* thereby has the rhetoric effect of emphasising the editor's ignorance and justifying and strengthening the writer's criticism of him.

In the data presented so far, the speaker has no apparent reason to believe that the hearer will be reluctant to accept the propositional content of the *jo*-utterance as true or probably true. We now turn to cases where the utterance clearly expresses an assumption which is in conflict with the assumptions held by the hearer. In (11) below, Ramsey indirectly suggests that Anne

Mona is likely to win the BigBrother prize of one million Norwegian crowns because the typical winner of such competitions is the kind and sweet little girl. Anne Mona objects to Ramsey's world view by claiming that she is not kind at all. She uses *jo* in her utterance:

- (11) Ramsey: hvis du vinner den millionen da blir jo # ditt
 Anne M.: * hvis jeg gjør ?
 Ramsey: ja
 Anne M.: hva da for ?
 Ramsey: for det er bare sånn typisk
 Anne M.: nei
 Ramsey: jo
 Anne M.: hva da for ?
 Ramsey: det er så typisk # snille lille søte jenta (uforståelig)
 Anne M.: * jeg er **jo** ikke snill i det hele tatt # folk må jo¹⁰ hate meg # må jo tenke "fy faen for ei hjerteløs kjerring som sitter der_inne"
 Ramsey: * nei * nei (BigBrother Corpus)

Ramsey: 'if you win the million then # your'
 Anne M.: '* if I do?'
 Ramsey: 'yes'
 Anne M.: 'what?'
 Ramsey: 'cause that is just so typical'
 Anne M.: 'no'
 Ramsey: 'yes'
 Anne M.: 'what?'
 Ramsey: 'it's so typical # the kind and sweet little girl (incomprehensible)'
 Anne M.: '* I am not kind at all AND YOU KNOW IT # people must be hating me # must be thinking "ew shit, what a cold hearted bitch who is in there"'
 Ramsey: '*no, no'

jo-utterance:

Jeg er **jo** ikke snill i det hele tatt.
I am JO not kind in the whole taken
 'I'm not kind at all, and you know it.'

An interesting question here is whether the proposition in Anne Mona's utterance with *jo* can be regarded as manifest to Ramsey, now that he has just implied the opposite view, namely that Anne Mona is sweet and kind. Whatever assumptions Ramsey has entertained up until Anne Mona's utterance with *jo*, these have apparently not led him to the same interpretation of the world as the one conveyed by Anne Mona's utterance. Still, we will argue, this is not a counter example to the hypothesis that *jo* is a marker of mutual manifestness.

Even though the same set of facts are manifest to two individuals, there is no guarantee that this set of manifest assumptions will lead the two individuals to the same conclusions about the world (Blass 2000:45). Using a mutual manifestness marker is therefore only predicted to be infelicitous or marked if the addressee does not have the necessary evidence that would in principle enable him to accept the proposition as true or probably true. In the context of (11), Ramsey does have access to the necessary evidence: He and Anne Mona both live in the BigBrother house, and he thereby has perceptual access to her actions. He has, however, interpreted these as qualifying her for the labels sweet and kind. Anne Mona, on the other hand,

does not perceive her actions as indicating that she is kind. Her use of *jo* is thus intended to help Ramsey realise this by reconsidering which memories about her actions to take into account, and to suggest a different judgment of these. He thus has the necessary evidence which makes him capable of drawing the – according to Anne Mona – correct conclusion with respect to her character. It can be rhetorically strategic to communicate that the addressee has access to information that enables him to accept a proposition *p* as true when the speaker knows that he holds the belief that $\sim p$. When Anne Mona uses *jo* in (11), she PRESENTS the proposition as mutually manifest, presumably because she wants Ramsey to realise that he actually IS capable of accepting *p* as true. In this type of cases, where the addressee holds a different view than the speaker, *jo* may have a strong persuading effect because it encourages the addressee to rethink what evidence he has and to endorse *p* on the basis of that evidence.

The examples presented in this sub-section represent the various types of epistemic relationships between the hearer and the propositional content of the *jo*-utterance that we have found in the data set. These types of epistemic relationships are summarised in (12):

(12) **Situations where *p* is mutually manifest**

- a. *p* is available through visual evidence
 - i. at the time of utterance (example (6))
 - ii. possibly at a later point in time (example (10))
- b. *p* can be assumed to be in memory
 - i. assumed general knowledge (example (7))
 - ii. a specific memory shared by speaker and hearer (example (2))
- c. *p* is available through inference
 - i. because *p* is something that can be inferred based on assumptions in memory (examples (8) and (11))
 - ii. because *p* is a specification of a more general assumption (example (9))

(12a–c) are all compatible with Sperber & Wilson’s (1986/1995) definition of mutual manifestness. We do not mean to suggest that there are no other ways an assumption can be mutually manifest.¹¹ However, the list in (12) may be helpful for the purpose of understanding in what contexts sentence-internal *jo* can be used, for discussions about what is meant by the notion ‘mutually manifest’, and as a starting point for cross-linguistic comparison of phenomena that may be sensitive to mutual manifestness.

Note that (12a–c) are roughly compatible with the alternative descriptions of *jo*’s givenness aspect in Fretheim (1991), Andvik (1992) and Lind (1994). Andvik acknowledges that *jo* is appropriate when the information is available through general cultural knowledge, through the discourse or extralinguistic context, and with information which the addressee might expect but not know to be the case (1992:50). However, Andvik’s (1992:86) label ‘consensus about the facts’ is slightly misleading when faced with cases like (11), where the addressee has explicitly expressed the opposite of the content of the *jo*-utterance. As for Fretheim’s (1991) term ‘mutually known’, this generalization has to be supplemented with a list of exceptions to accommodate cases where the proposition is not known to the addressee, but has to be inferred or activated at the moment or during the processing of the utterance. Lind’s (1994) term ‘interpersonal’, in the sense of creating a shared context, seems compatible with the set of interpretations we have observed for utterances with *jo*. However, the label mutually manifest is preferred in our view, because it is a relatively strictly defined notion which applies to cognitive aspects of communication in general. It therefore brings more accuracy to a semantic proposal intended to reflect precisely how the meaning of *jo* is stored in the mental lexicon.

4.3A semantic constraint on the proposition as a premise

Throughout the data set, the interpretations of *jo*-segments lead to the derivation of implicatures in addition to presenting the proposition as mutually manifest. One of the clearest examples is (2) presented in Section 2.1: Rodney's use of *jo* in the utterance where he claims that he has seen Anette naked several times, not only presents this assumption as mutually manifest, it also signals that Anette should draw further conclusions from this assumption (see also Section 2.2). His utterance thereby arguably communicates the implicature that Rodney should be allowed to stay in the bathroom while Anette showers since he has already seen her naked several times. The line of derivation was explicated in (4) where the first premise is the propositional content of the *jo*-utterance, the second premise is a contextual assumption, and the conclusion is the implicature of the utterance. If we remove *jo* from Rodney's utterance, the implicature would not be as easily accessible as it is when *jo* is used. *Jo* thereby decreases the processing effort necessary for obtaining cognitive effects, because it makes the route to the intended implicature more accessible.

Also (11) presented in the previous sub-section illustrates that *jo* encourages the addressee to look for implicatures: Anne Mona's utterance receives an optimally relevant interpretation in the given context only if it is taken as a contribution to the discussion of whether or not she is likely to win the competition. Ramsey has just conveyed that she is likely to win, because the sweet and kind little girl typically wins. In this context, Anne Mona's utterance makes the following line of inference highly accessible: It is mutually manifest that *p* 'Anne Mona is not kind at all', and therefore it is mutually manifest that she is not likely to win the competition. Thus, the segment with *jo* yields cognitive effects as a premise which supports the assumption that Anne Mona will not win the competition.

Also in cases like (6), (8), (9) and (10) it should be fairly clear that the *jo*-segment constitutes a premise. In (6), the presence of *jo* in *you have JO crumbs all over your sweater* makes the following line of inference highly accessible: 'Per Morten has crumbs all over his sweater; if one has crumbs all over one's sweater one does not know how to eat properly; thus, Per Morten does not know how to eat properly.' In (8), the presence of *jo* suggests that the utterance is meant as an argument for why the speaker looked forward so much to moving into her new house. A possible line of inference is the following: 'Since the speaker is born in Ravnkloa, moving to a house by the canal is almost like coming home; coming home is good; therefore, moving to a house by the canal is good'. Without *jo*, it would have been less clear that the utterance is supposed to provide a premise for this conclusion. In (9), the *jo*-segment is a premise that supports a contextually available assumption that electronic darts is a great invention, and in (10) the *jo*-segment supports the previously explicitly communicated assumption that the editor does not catch Vinje's actual message.

In (7), the main function of the utterance with *jo* seems to be to remind the hearer about the meaning of *demolition man*. In cases like this, it may be less obvious how the *jo*-segment constitutes a premise. At a closer view, however, this property is in fact part of the interpretation: The content of the *jo*-utterance indirectly supports the assumption that the movie is a hilarious and hysterical action movie, since the title *Demolition Man* suggests that there will be a lot of random demolition. The line of inference is outlined in (13):

- (13) a. Explicature: The title of the movie "Demolition Man" means 'he who destroys'.
 b. Premise: Today's action movies are typically hilarious and hysterical due to random demolition.
 c. Premise: Since (13a), the movie is likely to be hilarious and hysterical due to random demolition.
 d. Conclusion: The movie "Demolition Man" is typical for today's action movies since it

is an action movie that is likely to be hilarious and hysterical due to random demolition.

While the *jo*-utterances in our data set usually backwards support an already mentioned or available assumption (e.g. as in (6), (8), (9), and (10)) or support a new conclusion (e.g. as in (2) and (11)), (7) shows that a syntactic structure where *jo* occurs in an appositive relative clause can yield an interpretation where the content of the *jo*-clause indirectly supports the content of the main clause.

The implicated conclusion derived on the basis of the *jo*-segment is a particularly salient part of the utterance interpretation in contexts like (2) and (11). The utterances are relevant by virtue of communicating and supporting the implicated conclusion that the boys can stay in the bathroom and that Anne Mona is not likely to win the competition, respectively. Also in (6), (8), (9), and (10), the implicatures are salient parts of the ostensibly communicated content. The analyses of cases like (7) show that the implicated conclusion based on a segment with *jo* can also be communicated fairly weakly, but nevertheless be an important part of the overall utterance interpretation: In order to get a maximum number of cognitive effects, the addressee of (7) needs to derive the assumption rendered in (13d). The effect of using *jo* in such cases is to signal that the content is to be used as background information that supports the communicator's statement in the main clause. Throughout the whole data set, the very presence of *jo* appears to ease the derivation of the implicatures by means of signalling that the basic explicature is intended as a premise for deriving and supporting a contextually available conclusion, that is, an implicature. Sometimes the implicature is weakly communicated and figures in the background as in (7), but mostly it is strongly communicated as in the other data discussed in this sub-section.

4.4 A semantic constraint on opposition?

Andvik's (1992:61) claim that a *jo* proposition is interpreted as a premise for deriving a conclusion is perfectly consistent with the data we have examined. However, the hypothesis that *jo* constrains the interpretation such that the conclusion always counters an assumption – or an 'idea in the air' in Andvik's terms – is less clear. It is evident from our sample of utterances with *jo* that the implicature triggered by *jo* often yields cognitive effects by contradicting an assumption which is either entertained by the interlocutors (data like (6) and (11)), attributed to the interlocutors (data like (2)) or may be attributed to other individuals (data like (5), (8–9) and (10)). This is however not always the case.

In datum (7) discussed in the previous sub-section, the interpretation hardly includes an element of opposition. There are no obvious contrasting views to the conclusion rendered in (13d). One may of course argue that a *jo*-utterance opposes potential objections. But intuitively, the purpose of explaining the meaning of the title *Demolition Man* is not to argue against anyone's view – it is rather to provide background information which is necessary to interpret the utterance, and this includes understanding why this movie is a typical contemporary action movie. It therefore seems counterintuitive to claim that the speaker assumes that someone holds the view that *Demolition Man* is not a typical contemporary action movie. (14) is another example of this type:

- (14) Hvor kommer vinden fra? Hvorfor blåser det, og hvordan skapes vinden? Professor Helge Nørstrud ved Institutt for mekanikk, termo- og fluiddynamikk vet svaret: - Det er solas oppvarming på jorda som skaper vind. Sola belyser **jo** jorda på forskjellig måte, og sammen med jordas rotasjon skapes det energi- og trykkforskjeller i lufta. (Oslo Corpus)

‘Where does the wind come from? Why does it blow, and how is wind created? Professor Helge Nørstrud at the Department of mechanics, thermo- and fluid dynamics knows the answer: - It is the sun’s heating of the earth that creates wind. The sun shines on the earth in different ways, YOU KNOW, and together with the earth’s rotation, this creates energy- and pressure differences.’

jo-utterance:

Sola belyser **jo** jorda på forskjellig måte
the.sun shine.on JO the.earth in different way
 ‘The sun shines on the earth in different ways, you know’

The reason for reminding the hearer of the information in the *jo*-segment is that it is among the premises in the explanation of how wind is created. According to our intuitions, the use of *jo* in this example does not suggest any more than a corresponding utterance without *jo* that somebody may have other beliefs about how wind is created. In other words, there is hardly an idea in the air which is countered by the explanation provided by the professor. Consider also (15):

- (15) Etter en stund kommer komiteen opp med et antall kandidater. Dette er utelukkende guttebarn, ca. i fire-års alderen. Kandidatene blir deretter utsatt for en hel del prøver for at munkene skal finne “den rette”. Den rette - som **jo** er en reinkarnasjon av den avdøde Dalai Lama, vil kjenne igjen gjenstander når de vises noe som har tilhørt Dalai Lama [...] (Oslo Corpus)

‘After a while the committee arrives at a set of candidates. They are all boys around the age of four. The candidates are then exposed to a range of tests for the monks to find “the right one”. The right one – who is, REMEMBER, a reincarnation of the deceased Dalai Lama, will recognise artefacts that used to belong to the deceased Dalai Lama when exposed to these [...].’

jo-utterance:

som **jo** er en reinkarnasjon av den avdøde Dalai Lama
who JO is a reincarnation of the deceased Dalai Lama
 ‘who is, remember, a reincarnation of the deceased Dalai Lama’

In (15), the writer reminds the reader that ‘the right one’ is a reincarnation of Dalai Lama. This information is necessary in order to understand why the committee exposes the candidate to artefacts which belonged to the deceased Dalai Lama. More precisely, the *jo*-segment contributes a premise for deriving the implicature ‘the right one will recognise the artefacts that belonged to the deceased Dalai Lama *because* he is a reincarnation of the deceased Dalai Lama’. There is no reason to assume that an optimally relevant interpretation of the *jo*-segment requires the reader to entertain the assumption that someone might oppose to this causal relation. Note that the *jo*-facilitated implicature does not argue for the reality of reincarnation: rather, it serves as background information in the overall description of the committee’s work and strategies. A similar use of *jo* is noted by Solberg (1990:67), who states that *jo* can mark background information that clarifies the connection between the surrounding segments. Oppositional aspects are not part of her analysis of this use of *jo*.

It should be clear by now that *jo*-facilitated implicatures do not always counter an idea in the air. There is one more example we would like to show, as the interlocutor’s utterances in this example provide explicit evidence that there is no available assumption to which the *jo*-

implicature is in opposition. In (16), A and B are talking about how A never manages to open bottles of fizzy drinks, and that she is not that fond of drinking fizzy drinks either:

- (16) A: klarer ikke åpne brus # så drikker jeg ...
 [...]
 A: ja # og så er jeg ikke noe flink til å drikke brus heller
 B: nei du pleier jo å # ville røre ut ...
 A: * bruke en time
 B: du pleier **jo** å røre ut kullsyren
 A: ja
- A: ‘I never manage to open fizzy drinks # then I drink ...’
 [...]
 A: ‘yes # and I’m not fond of (litt: ‘good at’) drinking fizzy drinks either’
 B: ‘no you always # wanna stir away ...’
 A: ‘* spend an hour’
 B: ‘AS WE KNOW you always stir the fizz away’
 A: ‘yes’

jo-utterance:

Du pleier **jo** å røre ut kullsyren.

you use.to JO to stir out the.fizz

‘As we know, you always stir the fizz away’

B’s utterance with *jo* communicates the basic explicature ‘you always stir the fizz away’, which contributes to relevance by supplying an argument that supports the conclusion ‘A is not fond of fizzy drinks’. Judging from the preceding discourse, this assumption is available and entertained as true by A and B alike, and the *jo*-implicature thus yields cognitive effects by confirming an existing view. Note that Andvik (1992:79–80) and Lind (1994:108) would probably argue that there is indeed opposition in cases like (16). On their view, the conclusion ‘A is not fond of fizzy drinks’ would counter an assumed or expected opposition. On our relevance-theoretic account, on the other hand, an attempt to identify an assumption that the *jo*-implicature could oppose in cases like (16) would obscure the analysis of the comprehension process and the speaker’s communication intentions: An assumption about a possible opposition is not worth accessing in the comprehension process. In other words, it would cost cognitive effort to entertain the assumption that someone might believe that A IS fond of fizzy drinks. It is far less costly to go directly to the interpretation where the conclusion yields cognitive effects by confirming A and B’s shared assumption that A does not like fizzy drinks.

If the semantic proposal includes an opposition aspect, it would make false predictions about the interpretation of *jo* in (7), (14), (15), (16) and similar cases in our data set (14.37% of our data). On the other hand, in the majority of our data set (85.63%), it is either clear that the *jo*-implicature opposes a contextually available assumption, or it is possible to argue that the *jo*-implicature opposes an assumption which is attributed to the interlocutor or to an imagined third party, e.g. in terms of assumed mainstream beliefs about electronic darts or neighbourhoods in Trondheim (recall (8–9)). The semantic proposal and the pragmatic account of *jo* need to reflect that such opposition interpretations are frequent, without making false predictions for interpretations like those in (7), (14), (15), and (16). A solution with two lexical entries, that is, one for oppositional *jo* and one for non-oppositional *jo*, would be problematic. Such an analysis would predict that hearers have to choose between an oppositional and a non-oppositional variant when they interpret an utterance containing the form *jo*, but there seems to

be no clear borderline. In cases like (8), for instance, there is arguably some opposition between the implicature and mainstream assumptions about neighbourhoods in Trondheim. On the other hand, the utterance may just as well be interpreted mainly as an explanation of why the speaker is thrilled to live close to the canal without the assumption that this explanation is intended as a justification for his preference.¹²

5. A SEMANTIC AND PRAGMATIC ACCOUNT

5.1 *The semantics and pragmatics of jo*

Traditional relevance-theoretic analyses of pragmatic particles and discourse markers have typically involved a single procedure, not several. These tendencies among relevance-theoretic works are, however, not due to fundamental properties of relevance theory. As Wilson (2011) argues, there is no reason to assume that an expression could not encode both conceptual and procedural meaning. Given this, we see no reason why it could not also be possible for an expression to encode a procedure which consists of more than one procedural constraint (see Blass 2000, 2012; Borthen 2014). The question of how many procedural constraints are involved should be an empirical question, and in the case of *jo*, the empirical investigation in Section 4 shows that two constraints apply. We therefore conclude that Norwegian sentence-internal *jo* has the following semantics:

(17) **A procedural semantics for sentence-internal *jo***

In an utterance that contains sentence-internal *jo* and is used to express the proposition *p*,

- a. interpret *p* as mutually manifest to speaker and hearer (constraint on higher-level explicature), and
- b. interpret *p* as a premise for deriving and supporting an available conclusion *q* (constraint on implicature).

In accordance with the discussion in Section 4.4, we do not assume that *jo* encodes a third procedural constraint such that the implicature has to stand in opposition to another contextually available assumption attributed to the hearer or another person. The frequency of opposition interpretations nevertheless must be accounted for, and the explanation seems to be found in the type of meaning encoded by *jo*. More precisely, it lies in the type of procedural meaning activated by *jo*, which is, as we shall argue in due course, linked to the sub-domain of the human cognitive system which Wilson (2011) labels the ARGUMENTATION MODULE.

The argumentation module is one of many modules that make up the human mind. Wilson describes the massive modularity hypothesis as follows:

According to the ‘massive modularity’ hypothesis (Sperber 2005; Carruthers 2006), the human cognitive system comprises a large array of domain-specific procedures with distinct developmental trajectories and breakdown patterns, which may be more or less highly activated in different circumstances, and are likely to alter their level of activation in response to different cues. (Wilson 2011:11)

The cognitive mechanisms in the respective modules are associated with capacities for e.g. parsing and speech production, mind reading, emotion reading, social cognition and argumentation. Wilson (2011) suggests that clusters of procedural linguistic items are linked to certain capacities, and their function is to put the hearer in a state where “[..] some of these domain-specific cognitive procedures are highly activated (and hence more likely to be selected

by a hearer using the relevance-theoretic comprehension heuristic)” (Wilson 2011:6). Expressions like *wow!* and *alas!*, for instance, may be linked to procedures for emotion reading, and honorific expressions may be linked to the capacity for social cognition (ibid.:19–20). As such, they are linguistic cues that trigger the activation of certain modules.¹³

Jo's procedural meaning seems to be linked to the argumentation module, which is a set of cognitive mechanisms for EPISTEMIC VIGILANCE. We employ this set of mechanisms to ensure that we are not accidentally or intentionally misinformed by others when we engage in communication (Sperber et al. 2010). Procedures for epistemic vigilance are divided into procedures for assessing the RELIABILITY OF THE SOURCE of communicated information and procedures for assessing the RELIABILITY OF THE CONTENT in terms of consistency and coherence. Wilson (2011; 2012) proposes that discourse connectives (such as *after all* and *so*), evidentials, and epistemic modals are linked to mechanisms for epistemic vigilance because this group of expressions are used to mark the utterance content as part of an argument. More specifically, discourse connectives are linked to epistemic vigilance towards the content of the communicated information, in that they mark the logical relation between the proposition in their scope and other assumptions (Wilson 2012). And epistemic expressions are linked to epistemic vigilance towards the source, in that they indicate the source and/or strength of the assumption represented by the proposition (ibid.; see also Berthelin 2017:361–381). Arguments affect whether we believe something or not. When arguments are entertained publicly or privately, they affect our epistemic vigilance towards whatever assumption is up to evaluation. From this it follows that if a linguistic item marks the utterance as part of an argument, it plays a role in the epistemic evaluation of the assumptions at play and thus its use and comprehension is linked to the argumentation module.

With this in mind, let us consider the motivations a speaker may have for using *jo* (or a similar expression in another language) to indicate linguistically that the proposition is mutually manifest and should be used as a premise for deriving and supporting an available conclusion. In our corpus data, four types of contexts can be observed. In the list below, *p* represents the propositional content of the basic-explicature in the *jo*-utterance, and *q* represents implicated conclusions:

- (18) a. The addressee may assume $\sim q$. He knows that *p*, and because $p \rightarrow q$, reminding the addressee that he knows that *p* may be a way of arguing that *q* (as in data like (2)).
- b. The addressee may assume $\sim q$. He might not yet have stored *p* in his mind, but he has knowledge that makes him able to infer *p*, which is an argument in favour of *q* (as in data like (5), (6), (8), and (9)).
- c. The addressee most likely already knows *p* (which means that *q* is also manifest to him if $p \rightarrow q$). The speaker sees a need to make sure that the addressee activates and takes *p* into account, because *p* is necessary for accessing *q* which is again necessary for accessing the optimally relevant interpretation of the utterance. The use of *jo* acknowledges the addressee's knowledge and signals that he should access this knowledge when he interprets the utterance as a whole (as in data like (7), (14), (15), and (16)).
- d. The addressee seems to assume $\sim p$ and also $\sim q$. The speaker uses *jo* rhetorically to pretend that *p* is knowledge the addressee agrees on, and thereby knowledge that can serve as an uncontested premise for further conclusions *q*, since $p \rightarrow q$ (as in data like (11)).

All these motivations for using *jo* are connected to i) the intention to strengthen the epistemic status of the proposition *p* and ii) the intention to signal that *p* is a premise for deriving a conclusion. Thus, the use of *jo* is motivated by the intention to affect the hearer's epistemic

vigilance towards i) the source of – and thereby the epistemic support for – the communicated information, and ii) the content. Since p is mutually manifest, the hearer is encouraged to lower her epistemic vigilance towards the evidential source of the proposition – after all, she herself has access to the evidence supporting p . And since the implicature is a conclusion that follows from a mutually manifest premise, the hearer is encouraged to lower her epistemic vigilance towards the content of the utterance’s implicature. The use of jo thus appears to trigger the activation of the mechanisms for epistemic vigilance towards the source of the basic explicature and the content of the implicature. For this reason, jo is a useful tool when speakers suspect that the hearer will not accept the information they are communicating. This suspicion may spring from the assumption that the hearer holds the erroneous belief that $\sim q$, or that she will need some persuasion to derive and accept q , because she has either forgotten the premise p , or she holds the (false) belief that $\sim p$. The need for a linguistic device like jo is hence closely associated with the need to convince the hearer of the epistemic status of p and the epistemic status of implicatures q that follow from p (see also Blass 2000, 2012).

The hypothesis put forward here that jo is linked to the argumentation module and triggers mechanisms for epistemic vigilance predicts the high frequency of contexts where jo is used to generate an implicature which opposes a contextually available assumption. At the same time, it does not follow that jo is only suitable when the intention is to persuade a particularly sceptical audience. Sometimes it can be useful to signal that the premise for an implicature is mutually manifest such that the hearer does not spend her cognitive energy on deciding whether or not to believe the premise and, in turn, fail to derive the implicature. This is the case in (15), for instance: The indication that the proposition p (‘the right one is a reincarnation of the deceased Dalai Lama’) is already manifest encourages the hearer to lower her epistemic vigilance towards p and the implicature q (the explanation of why they use these tests), and thereby use p and q as mere background information when she processes the overall utterance. And sometimes the lower epistemic vigilance is an epiphenomenon of the interpretations, as in (16) where the proposition p and the implicature q confirm the interlocutors’ shared assumptions.

5.2 *Jo and mirative uses*

The Norwegian major dictionary Bokmålsordboka (2017) states that sentence-internal jo can be used to highlight surprise (see also Solberg 1990:67). This meaning aspect is labelled MIRATIVITY in the linguistics literature and may be defined as the marking of “[..] the utterance as conveying information which is new or unexpected to the speaker” (DeLancey 2001:369–370) as opposed to “[..] knowledge which is already integrated into the speaker’s picture of the world” (DeLancey 2001:379). In our corpus survey, we found no examples with jo that conveyed a mirative meaning. However, consider the constructed minimal pair in (19):

(19) A and B are about to go skiing. A opens the door to go outside:

a. ?Det er ikke snø!

there is not snow

b. Det er **jo** ikke snø!

there is JO not snow

‘Oh look! There is no snow!’

A and B are about to go skiing, and hence they arguably hold the belief that there is snow. In this context, the b-sentence in (19) with jo is more natural than the a-sentence, since the b-sentence most clearly conveys the speaker’s surprise. As predicted by the semantics in (17), the presence of jo in (19) gives rise to an interpretation where p is mutually manifest and should be

used as a premise for deriving an implicature. In (19), the implicature q ('we cannot go skiing') yields cognitive effects by contradicting the existing assumption ('we can go skiing'). Interestingly, it appears that the speaker is also addressing himself in (19b), whereas (19a) merely informs the hearer about the propositional content. At a closer look, (19b) is similar to the type of data described in (18b) above. The only difference is that in (19), the speaker also used to believe $\sim q$ ('~[we cannot go skiing]'), as he had not previously stored p ('there is no snow') in his mind. At the moment of the utterance, he accesses (visual) evidence that enables him to assume p , from which it follows that q .

We may now ask why a speaker would use linguistic means to refer to evidence which is obvious to the hearer in addition to herself in the context of the utterance. It follows from the communicative principle of relevance that in order for jo to be worth processing in such contexts, the speaker must intend to convey more than the mutually obvious fact that the evidence is mutually manifest by perception. When the reality of the evidence is obvious in the context of utterance, the speaker's choice to mediate his statement by reference to evidence may well be due to his awareness of a discrepancy between his (and possibly also the hearer's in the case of mutual access evidentials like jo) current knowledge state, and the realisation of a new state or event (see Lazard 2001; Borthen & Knudsen 2014). We do not claim that any utterance with sentence-internal jo will convey mirativity if the evidence alluded to is physically present at the moment of the utterance. But if the speaker wants to communicate that she is surprised, the use of jo may yield the intended cognitive effects.

6. CONCLUSIONS

In this paper we have proposed a semantics for the Norwegian sentence-internal particle jo and tested its empirical accuracy on spoken and written corpus data from the Text Laboratory (2010–2017). We started the paper by raising three questions that arose from a review of the existing literature: i) What does it mean when it is claimed that the proposition in an utterance with jo should be considered 'given'? ii) Does jo signal that the proposition ought to be interpreted as a premise for deriving a conclusion? iii) Is jo always used to oppose to a contextually available idea?

Our semantic proposal for jo involves two procedural constraints, which – together with pragmatic principles – were found to be necessary and sufficient for predicting interpretations of utterances with jo . The first constraint predicts that the proposition in the utterance with jo is interpreted as mutually manifest to the speaker and hearer. We have argued that the empirically most accurate way of capturing the 'givenness' aspect of jo is through the relevance-theoretic notion mutually manifest (see also Blass 2000). In doing so, we have shown what it means for a proposition to be mutually manifest and marked as such in linguistic communication. The second semantic constraint of jo predicts that the proposition in the utterance is to be interpreted as a premise for deriving and supporting an available conclusion, that is, an implicature. Our data set did not support the hypothesis that this implicature always opposes to a contextually available idea, because there were several cases in our data set where the interpretation of the utterance with jo did not include an aspect of opposition. The inclusion of a constraint on opposition in the semantic proposal would make false predictions for the interpretation of jo in those cases.

The high frequency of contexts where the utterance with jo does give rise to an implicature which opposes to a contextually available assumption is predictable from the two constraints proposed in (17). Building on Wilson (2011; 2012), we have argued that the type of semantic constraints encoded by jo are linked to the argumentation module, which comprises mechanisms for epistemic vigilance (see also Sperber et. al. 2010). Because jo encodes the procedural meaning in (17), jo can be used to lower the hearer's epistemic vigilance towards

the propositional content and the implications derived from it. For this reason, *jo* is a useful tool when the intention is to argue against potential sceptical views. The semantic proposal thus predicts the high frequency of *jo* in oppositional contexts, while it does not restrict every interpretation of an utterance with *jo* such that the implicature opposes an attributed view. As we have seen, a speaker may for instance use *jo* to signal to the hearer that *p* is mutually manifest in order to acknowledge that he knows that *p*, and to remind him of *p* which supports their shared conclusion about the world.

ACKNOWLEDGMENTS

We want to give a warm thanks to Christoph Unger and to three anonymous reviewers for sharing their insights and generous comments on the paper. The paper has been produced as part of the project *The meaning and function of Norwegian tags*, financed by The Norwegian Research Council, project number 230782.

CORPORA

BigBrother Corpus. *The Text Laboratory*. Department of Linguistics and Scandinavian Studies, University of Oslo. <<http://www.tekstlab.uio.no/nota/bigbrother/>> [March 2013]

NoTa-Oslo. *The Text Laboratory*. Department of Linguistics and Scandinavian Studies, University of Oslo. <<http://www.tekstlab.uio.no/nota/oslo/index.html>> [March 2013]

Oslo Corpus of Tagged Norwegian Texts, bokmål and nynorsk – the *bokmål* corpus. *The Text Laboratory*. Department of Linguistics and Scandinavian Studies, University of Oslo. <<http://www.hf.uio.no/iln/tjenester/kunnskap/sprak/korpus/skriftsprakskorpus/oslo/index.html>> [March 2013]

Oslo Multilingual Corpus. *The Text Laboratory*. Department of Linguistics and Scandinavian Studies, University of Oslo. <<http://www.hf.uio.no/iln/tjenester/kunnskap/sprak/korpus/flersprakligekorpus/omc/index.html>>

REFERENCES

- Andvik, Erik E. 1992. *A Pragmatic Analysis of Norwegian Modal Particles* (SIL International Publications in Linguistics 113). Dallas, TX: Summer Institute of Linguistics & University of Texas at Arlington.
- Ariel, Mira. 2008. *Pragmatics and Grammar*. Cambridge: University Press.
- Ariel, Mira. 2010. *Defining Pragmatics*. Cambridge: University Press.
- Bach, Kent. 2001. You don't say? *Synthese* 128, 15–44.
- Berthelin, Signe Rix. 2017. *The Semantics and Pragmatics of Ummarmiutun Modals*. Ph.D. dissertation, Norwegian University of Science and Technology.
- Berthelin, Signe Rix. 2018. Midtstilt *da* – en semantisk-pragmatisk redegjørelse og en sammenlikning med etterstilt *da* [Sentence-internal *da* – a semantic-pragmatic account and a comparison with *da* in tag position]. *Norsk Lingvistisk Tidsskrift* 36(2), 353–401.
- Blakemore, Diane. 1987. *Semantic Constraints on Relevance*. Oxford: Blackwell Publishing.
- Blakemore, Diane. 2002. *Relevance and Linguistic Meaning. The Semantics and Pragmatics of Discourse markers* (Cambridge Studies in Linguistics 99). Cambridge: Cambridge University Press.

- Blass, Regina. 2000. Particles on higher level explicature and mutual manifestness. In G. Andersen & T. Fretheim (eds.), *Pragmatic Markers and Propositional Attitude* (Pragmatics and Beyond), 39–52. Amsterdam: John Benjamins.
- Blass, Regina. 2012. Particles and strengthening in argumentation: Examples from German. Paper delivered at Interpreting for Relevance: Discourse and Translation. University of Warsaw, Poland.
- Bokmålsordboka [Bokmål Dictionary]. 2017. The Language Council of Norway & University of Bergen. <https://ordbok.uib.no/> (accessed February 2017).
- Borthen, Kaja. 2014. Hva betyr 'da' da? [What does *da* mean?] *Norsk Lingvistisk Tidsskrift* (32)2, 257–306.
- Borthen, Kaja & Cecilie Slinning Knudsen. 2014. Semantiske og pragmatiske aspekter ved trykklett *visst* [Semantic and pragmatic aspects of unaccented *visst*]. *Norsk Lingvistisk Tidsskrift* (32)2, 360–411.
- Boye, Kasper. 2005. Modality and the concept of force-dynamic potential. In A. Klinge & H. H. Müller (eds.), *Modality: Studies in Form and Function*, 49–80. London & Oakville: Equinox Publishing Ltd.
- Carston, Robyn. 2002. *Thoughts and Utterances. The Pragmatics of Explicit Communication*. Oxford: Blackwell Publishing.
- Carston, Robyn. 2008. Linguistic communication and the semantics/pragmatics distinction. *Synthese* 165, 321–345. Published online June 2007.
- Carston, Robyn. 2016. The heterogeneity of procedural meaning. *Lingua* vols. 175–176, 154–166.
- DeLancey, Scott. 2001. The mirative and evidentiality. *Journal of Pragmatics* 33(3), 371–384.
- Fretheim, Thorstein. 1991. Formal and functional differences between S-internal and S-external modal particles in Norwegian. *Multilingua* vols. 10–12, 175–200.
- Fretheim, Thorstein. 2014. Response words are anaphors. In K. Burridge & R. Benczes (eds.), *Wrestling with Words and Meanings: Essays in Honour of Keith Allan*, 198–218. Victoria, AU: Monash University Publishing.
- Gazdar, Gerald. 1979. *Pragmatics: Implicature, Presupposition and Logical Form*. New York, NY: Academic Press.
- Grice, H. Paul. 1975. Logic and conversation. In P. Cole & J. L. Morgan (eds.), *Syntax and semantics 3: Speech Acts*, 41–58. New York, NY: Academic Press.
- Hagen, Kristin. (2008). Transkripsjonsveiledning for NOTA-Oslo [Transcription guide for NOTA-Oslo]. Accessible via Brukerveiledning BigBrother [Usermanual for BigBrother], *Tekstlaboratoriet*.
<http://www.tekstlab.uio.no/nota/bigbrother/brukerveiledning/index.html#transkripsjone>
ne (accessed November 2018)
- Lazard, Gilbert. 2001. On the grammaticalization of evidentiality. *Journal of Pragmatics* 33, 359–367.
- Lind, Marianne. 1994. *Pragmatiske partikler i diskursanalytisk perspektiv: Jo, altså, vel, nå og da* [Pragmatic particles in a discourse analytic perspective: *jo, altså, vel, nå, and da*]. MA dissertation, University of Oslo.
- Narrog, Heiko. 2005. On defining modality again. *Language Sciences* 27(2), 165–192.
- Nynorskordboka [Nynorsk Dictionary]. 2017. The Language Council of Norway & University of Bergen. <https://ordbok.uib.no/> (accessed March 2018).
- Solberg, Torgerd Kristin. 1990. *Modalpartikler i norsk* [Modal particles in Norwegian]. MA dissertation, University of Oslo.
- Sperber, Dan. 2005. Modularity and relevance: How can a massively modular mind be flexible and context-sensitive? In P. Carruthers, S. Laurence & S. Stich (eds.), *The Innate Mind: Structure and Contents*, 53–68. New York, NY: Oxford University Press.

- Sperber, Dan, Fabrice Clément, Christophe Heintz, Olivier Mascaro, Hugo Mercier, Gloria Origi & Deirdre Wilson. 2010. Epistemic vigilance. *Mind & Language* (25)4, 359–393.
- Sperber, Dan & Deirdre Wilson. 1986/1995. *Relevance. Communication and cognition*. Oxford: Blackwell Publishing.
- Tekstlaboratoriet [The Text Laboratory]. 2010-2017. *The Text Laboratory*. Department of Linguistics and Scandinavian Studies, University of Oslo. <http://www.hf.uio.no/iln/english/about/organization/text-laboratory/> (accessed January 2013).
- Thurmair, Maria. 1989. *Modalpartikeln und ihre Kombinationen* (Linguistische Arbeiten 223). Tübingen: Max Niemeyer Verlag.
- Unger, Christoph. 2018. A cross-linguistic puzzle and its theoretical implications: Norwegian 'jo', German 'doch' and 'ja', and an advertisement. *Nordic Journal of Linguistics* 41(3), 309–332.
- Waltereit, Richard. 2001. Modal particles and their functional equivalents: A speech-act-theoretic approach. *Journal of Pragmatics* 33(9), 1391–1417.
- Wilson, Deirdre & Dan Sperber. 1993. Linguistic form and relevance. *Lingua* 90(1-2), 1–25.
- Wilson, Deirdre & Dan Sperber. 2004. Relevance theory. In L. R. Horn & G. Ward (eds.), *Handbook of Pragmatics*, 607–632. Oxford: Blackwell Publishing.
- Wilson, Deirdre. 2011. The conceptual-procedural distinction: Past, present and future. In V. Escandell-Vidal, M. Leonetti & A. Ahern (eds.), *Procedural Meaning: Problems and Perspectives* (Current Research in the Semantics/Pragmatics Interface 25), 3–31. Bingley, UK: Emerald Group Publishing Limited.
- Wilson, Deirdre. 2012. Modality and the conceptual-procedural distinction. In E. Walaszewska & A. Piskorska (eds.), *Relevance Theory. More than Understanding*, 23–43. New Castle upon Tyne: Cambridge Scholars Publishing.
- Wilson, Deirdre. 2016. Reassessing the conceptual-procedural distinction. *Lingua* vols. 175-176, 5–19.

NOTES

-
1. A search for English equivalents in the Oslo Multilingual Corpus gave the following results: For 70 out of 100 Norwegian sentences with sentence-internal *jo*, there was no equivalent in the English translation. The most frequent equivalents except from zero were *after all*, *of course*, and *you know*.
 2. The response word *jo* and the premodifying degree adverbial *jo* are both developed from *jau*, which is a Norwegian heritage word, whereas the pragmatic particle *jo* is borrowed from Low German *jo* (thanks to Ivar Berg, p.c. March 2018, for pointing this out to us). These respective etymologies are reflected in the dictionary of the Norwegian written standard Nynorsk (Nynorskordboka 2017) (but for unclear reasons not in the dictionary of the Bokmål written standard (Bokmålsordboka 2017)). As for the pragmatic particle *jo*, the tag particle and the sentence-internal particle give rise to slightly different interpretations. Future research is needed to determine whether we are dealing with two lexical entries – one for the tag particle and one for the sentence-internal particle – or with a single lexical item where the syntactic environment restricts the available interpretations. See Berthelin (2018) who argues for the latter option in a study of the Norwegian pragmatic particle *da*.
 3. Some authors (Solberg 1990; Fretheim 1991; Andvik 1992) use the term 'modal particle'. For the following reasons, we find that the term modal is misleading in a study of sentence-internal *jo*: *Jo* does not decrease the epistemic status of the proposition, and thereby *jo* does not express epistemic MODAL meaning (see Boye 2005; see also Berthelin 2017:35–86). *Jo* does not mark the state of affairs as undetermined with respect to factual status (see Narrog 2005:184), and the proposition in the scope of *jo* is not presented as true in a possible world – it is presented as true in the world of the utterance. As Waltereit (2001:1394) points out, 'modal particles' do not seem to have much more in common with standard modal forms, such as modal verbs, besides the label modality. And Thurmair (1989:3) acknowledges that modality does not contribute much to the characterisation of 'modal particles'.

-
4. The expression *ti gang[er]* ‘ten times’ is used loosely (see Carston 2002) in (2), to mean ‘several times’.
 5. On this view, a linguistic item may encode non-truth-conditional meaning semantically just as well as it may encode truth-conditional meaning. This is different from the view held by e.g. Gazdar (1979), where truth-conditional meaning is equated with semantics, and non-truth-conditional meaning belongs to the domain of pragmatics.
 6. An addressee may of course derive several conclusions based on the verbal stimulus which are not ostensibly communicated and thereby not implicatures. She may for instance conclude that the speaker is incompetent on the subject matter. Such conclusion is not ostensibly communicated, other things being equal, and thereby it falls outside the scope of an account of utterance comprehension.
 7. See Wilson & Sperber (2004) for a detailed outline and exemplification of how explicatures and implicatures are derived.
 8. For the sake of clarity: The relevance-theoretic notion of procedural constraints on implicatures is not the same as the Gricean notion of ‘conventional implicature’, where “[...] inferences are attached by convention to particular lexical items or expressions” (Andvik 1992:85, citing Bublitz). The notion of procedural constraints on implicatures acknowledges that it is not the implicature which is conventionally encoded, it is the process of DERIVING it which is constrained by the (semantically) encoded meaning of a given expression. An implicature is a representation which results from the context specific comprehension process, and thus a linguistic expression can hardly encode a specific type of implicature. Rather, the PROCESS OF DERIVING an implicature can be constrained by the procedures encoded by a linguistic item. Since these procedures are conventionally linked to the linguistic item, the procedural constraints are part of its semantics, and following the encoded procedures lead to a certain context specific implicature.
 9. The symbol # indicates a short pause (see Hagen 2008:23).
 10. In the interest of space, we only render the analysis of the first *jo* in Anne Mona’s utterance.
 11. It is theoretically possible that an expression in another language is restricted to, e.g., ‘mutual manifestness by audible perception’ or ‘mutual manifestness through spiritual experience’.
 12. Also Andvik (1992:75) observes that several cases of *jo* “[...] appear to be transitional or borderline between a supportive and an oppositional kind of structure”.
 13. Capacities for e.g. mindreading, emotion reading and social cognition are not only activated through communication and comprehension (Wilson 2011:19–20). That is, we may also attribute mental states such as beliefs and desires based on the observation of other people’s non-verbal behaviour. An utterance with a linguistic expression which is linked to a given capacity is thus just one type of stimulus that can trigger the corresponding module.