

INDICATIVES, INTERROGATIVES, AND IN-BETWEEN*

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1. Introduction

Let us start out with a simple observation. Consider the sentences in (1).

- (1) a. Fire trucks are red.
b. Are fire trucks red?

(1a) is an indicative sentence. Ordinarily, indicative sentences are used in natural languages to add their informational content to the body of data that the speaker and the addressee mutually believe, called the common ground (Stalnaker 1978). When a speaker A asserts (1a), so long as B, the addressee, raises no objections, the common ground between A and B will be enhanced by the information expressed by (1a). From this point hence, all other data exchanged between A and B is done so against the background assumption that fire trucks are red.

(1b) is an interrogative sentence. Ordinarily, interrogative sentences are used to ask questions, which is a solicitation for information. The information provided as a response to a question is called its *answer*. In this sense, answers, but not questions, enhance the common ground. Accordingly, (1b) cannot be used to add the information that fire trucks are red to the common ground. However, given that the use of an interrogative sentence is a solicitation for information, any sentence that counts as an answer to (1b) will have the potential to enhance the common ground.

The purpose of this paper is to draw attention to a third type of sentence available to natural languages that seems to occupy an intermediary position with respect to indicative and interrogative sentences, at least of the kind illustrated in (1). I want to argue that the semantics of this seemingly *hybrid* type of sentence cannot be simply described as a function of the semantics of indicatives and/or interrogatives, but that they require an independent semantic treatment of their own. (2) provides an example of such a sentence.

- (2) Fire trucks are red, aren't they?

(2) is an example of what is standardly known as a 'tag-question' in English. Syntactically, tag-questions are composed of two parts, an indicative *anchor*, and a reduced interrogative *tag*. As such, the semantics of tag-questions should be compositionally derivable from the semantics of the anchor *combined with* the semantics of the tag. So far so good. But I want to contend that the

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semantics of the anchor and the tag do not correspond straight-forwardly to the semantics of their indicative and interrogative counter-parts (cf. Reese and Asher 2007). However, rather than tackling this issue directly, I will instead foray into the discourse behaviour of two polar interrogative morphemes in Persian, and show that there exists a class of interrogatives in Persian that behaves just like tag-questions do in English, *without the tag syntax*. I want to argue that any semantic treatment that can take care of the Persian data, will most likely work for English also. The trouble is that the syntax of English tag-questions can be misleading. I intend to show that a cross-linguistic examination of sentences that exhibit the intermediary effect of interest will reveal a perspective on the semantics and pragmatics of polar interrogatives and indicatives that has not yet been fully appreciated. But before looking at Persian, let us press on just a little farther with what we have already observed for English.

1.1 An inquisitive puzzle

In inquisitive semantics (Groenendijk and Roelofsen 2009), the formula $\varphi \vee \neg\varphi$ may be used to translate any one of the English sentences in (3).

- (3) a. Bill is or isn't at the party.
 b. Is Bill at the party?
 c. Bill is at the party, isn't he?

The meaning of a sentence in inquisitive semantics corresponds to the alternative possibilities the sentence proposes for updating the common ground. A sentence is said to be *inquisitive*, if and only if it proposes two or more possibilities. Otherwise, the sentence is said to be non-inquisitive. Accordingly, the sentences in (3) are all inquisitive, since they propose more than one possibility for updating the common ground, namely, that Bill is at the party or that Bill is not at the party. These possibilities belong to the set of alternatives $\{\{\varphi\}, \{\neg\varphi\}\}$, which consists of the set of possibilities for φ and the set of possibilities for $\neg\varphi$.

Let us quickly review why the sentences in (3) are inquisitive. Let K be the maximal body of data that A and B doxastically share, such that K is consistent. That is, any information that is not in K , is not mutually believed by A and B. And furthermore, no information in K is contradicted by any other piece of information in K . Now suppose that A uses the indicative sentence in (3a) to make an assertion. That is, A attempts to add the content of (3a) to K . On the face of it, (3a) is not a terribly informative sentence, as it does not hold A accountable for very much. If B scored a point every time she discovered that A had not told the truth, B would not very likely score any points from A's assertion of (3a).¹ But if (3a) is not an informative sentence, why use it at all? Suppose A continues his discourse as in (4).

- (4) Bill is or isn't at the party. We must find out!

¹ If it turned out that there was no party, B should be lucky if she scored even a half point.

On account of examples like (4), we might say that non-informative sentences like (3a) raise an issue which requires a resolution. A context in which (3a) is used is a context where the participants *care* whether Bill is at the party or not. However, (3a) neither adds the information that Bill is at the party, nor that Bill isn't. Should A and B later discover that Bill is at the party, then K will include the information that Bill is at the party. Should A and B discover that Bill is not at the party, then K will include the information that Bill is not at the party. Furthermore, both of these updates will be consistent with A's assertion. The moral of the story is that (3a) proposes more than one possibility for updating the common ground. It follows from the definition of inquisitiveness that (3a) is inquisitive.

We have already reviewed why the interrogative in (3b) is inquisitive. Let us now see why (3c) is inquisitive. The short answer is that (3c) cannot be used to update the common ground with the information that Bill is at the party (or that he isn't). We see this in (5) and (6). While the indicative sentence uttered by A in (5) can serve to update the common ground with its content, the sentence uttered by A in (6) cannot, as apparent by the felicity of B's response in (5) in contrast to (6).

- (5) A: Bill is at the party.
 B: Oh I didn't know that. But since he is there, let's go find him.
- (6) A: Bill is at the party, isn't he?
 B: # Oh I didn't know that. But since he is there, let's go find him.

The sentence uttered by A in (6) appears somewhat noncommittal. It makes an issue of whether Bill is at the party, but remains open to the alternative possibility that Bill isn't at the party.

In sum, the sentences in (3) all include the set of alternative possibilities { {that Bill is at the party}, {that Bill is not at the party} } in their meaning. But how are we to make sense of the difference in their discourse distribution?

In what follows, I am going to investigate similar data as that presented in (3), from Persian. As we will see, Persian marks the contrast between sentences like (3b) and (3c) morphologically via two polar interrogative morphemes *āyā* and *magè*. It turns out that the discourse distribution of *āyā* and *magè* questions respectively mirrors the distribution of polar interrogatives and tag-questions in English. I call *āyā* sentences 'impartial interrogatives', and *magè* sentences, 'partial interrogatives.' Likewise, I want to argue that English tag-questions are partial interrogatives. I intend to show that the contrast in the meaning of partial and impartial interrogatives can be accounted for by appealing to Potts (2005)'s theory of Conventional Implicatures. I will not presently demonstrate the details of Potts (2005)'s multidimensional theory, or how it can be implemented to capture the distinction between sentences of different types, e.g. indicatives *vs* interrogatives. Rather, for the time being, I want to draw attention to the semantic difference between partial and impartial interrogatives, which are possibly available to all natural languages. I also want to show that the contrast in the meaning of these sentences is not a contrast in their informative content, but a contrast in the content of their Conventional Implicature.

2. Two polar interrogative morphemes

There are two polar interrogative morphemes in Persian, *āyā* and *magè*, which never occur in the same discourse environments.² I will first briefly discuss their syntactic properties, and proceed to discuss their discourse behaviour.

As shown in (7) and (8), *āyā* and *magè* can both occur as a positive or a negative question.³ While the main purpose of this section is to establish the difference in their meaning, for the time being, I will assign the same translation to both.

- (7) a. **āyā** milād raft?
Q Milād leave
'Did Milād leave?'
- b. **magè** milād raft?
!Q Milād leave
'Did Milād leave?'
- (8) a. **āyā** milād na-raft?
Q Milād NEG-leave
'Did Milād not leave?'
- b. **magè** milād na-raft?
!Q Milād NEG-leave
'Did Milād not leave?'

Syntactically, *āyā* may only occur sentence-initially, whereas *magè* can also occur sentence medially or finally, illustrated in (9).

- (9) a. milād raft **magè**?
Milād left !Q
- b. milād **magè** raft?
Milād !Q left
≈ 'Did Milād leave?'
- c. * milād raft **āyā**?
Milād left Q
- d. * milād **āyā** raft?
Milād Q left

² The data is drawn from my own native speaker intuitions, and verified by several relatives and friends living in Vancouver, Canada and Tehran, Iran.

³ I gloss *āyā* as 'Q' and *magè* as '!Q' simply to keep the two morphemes distinct. I make no theoretical assumptions by following this notation.

Furthermore, only *āyā* can be embedded under question embedding verbs, such as *know*.

- (10) a. sārā mi-dun-e **āyā** bārun mi-ā-d.
 Sara DUR-know-3SG Q rain DUR-come-3SG
 ‘Sara knows whether it is raining.’
- b. * sārā mi-dun-e **magè** bārun mi-ā-d.
 Sara DUR-know-3SG !Q rain DUR-come-3SG

Lastly, the two morphemes cannot co-occur.

- (11) a. * **āyā** milād raft **magè**?
 Q Milād left !Q
- a. * **āyā** milād **magè** raft?
 Q Milād !Q left
- a. * **āyā magè** milād raft?
 Q !Q Milād left

Let us now understand why a language would want to have two polar interrogative morphemes.

2.1 Discourse constraints

Before examining the discourse distribution of *āyā* and *magè*, let us first ensure that both morphemes do indeed form questions. That is, we must determine whether the interrogativity of either morpheme is inherent to its lexical meaning, and not merely a side-effect of its use.

To test whether both morphemes are in fact interrogative, we need a discourse environment that selects questions only, and precludes sentences of other types, e.g. assertions and commands. Such a discourse environment can be obtained by the use of the expression ‘let me ask you a question,’ illustrated in (12) for English (see Gunlogson (2003) for a battery of similar tests).

- (12) [Let me ask you a question ...]
- a. ... Did John leave?
 b. # ... John left.
 c. # ... Leave!

Example (12) provides us with exactly the right environment for identifying questions. In (13) we see that Persian allows both *āyā* and *magè* sentences in this environment, while prohibiting assertions and commands.

- (13) [az-at ye so?āl be-pors-am, ...]

from-2SG a question SUBJ-ask-1SG
 ‘Let me ask you a question’

- a. ... **āyā** milād raft?
 Q Milād left
- b. ... **magè** milād raft?
 !Q Milād left
 ≈ ‘Did Milād leave?’
- c. # ... milād raft.
 Milād left
 ‘Milād left.’
- d. # ... bo-ro!
 IMP-leave
 ‘Leave!’

We can safely conclude that *āyā* and *magè* are indeed both genuine interrogative morphemes.

2.1.1 Ignorance and contrary commitment

āyā and *magè* exhibit a complementary discourse distribution. The main generalization that captures this distribution is that *āyā* questions can only occur in neutral discourse environments where the *interrogator* has no prior commitments to the question’s answer (i.e. the interrogator is ignorant), whereas *magè* questions may only occur in discourse environments where the interrogator is publicly committed to one of the question’s answers.⁴ I will briefly illustrate these properties with examples.

Let us first note that only *āyā* questions can occur in so-called neutral environments, where the body of information in that context is insufficient to assign a higher probability to either competing possibility. I show this in (14).

(14) [On a medical questionnaire]

- a. **āyā** shomā sigār mi-kesh-id?
 Q you cigarette DUR-draw-2.PL
 ‘Do you smoke?’
- b. # **magè** shomā sigār mi-kesh-id?
 !Q you cigarette DUR-draw-2.PL

⁴ By public commitment, I mean that the interrogator is not withholding his doxastic orientation toward one answer over the other. As I will show, this commitment may or may not occur explicitly. Either way, the use of a *magè* question binds the interrogator’s beliefs to one possibility and not the other.

- c. # *shomā sigār mi-kesh-id.*
 you cigarette DUR-draw-2.PL
 ‘You smoke.’

In (14), we note that an *āyā* question is fine, where a *magè* question is not. In (15), we see that the discourse particle *āxè* can occur on both an indicative as well as a *magè*-interrogative, whereas with an *āyā*-interrogative, the sentence is ungrammatical. (14) and (15) illustrate two environments where a *magè*-interrogative exhibits the same discourse pattern as an indicative, and in contrast to an *āyā*-interrogative.

- (15) a. *āxè sārā mi-ā-d.*
 PART Sara DUR-come-3SG
 ‘(≈ After all), Sara is coming.’
- b. *āxè magè sārā mi-ā-d?*
 PART !Q Sara DUR-come-3SG
 ‘(≈ After all), is Sara coming.’ [?? English]
- c. * *āxè āyā sārā mi-ā-d?*
 PART Q Sara DUR-come-3SG

Lacking a better term, I have loosely translated *āxè* with the English ‘after all’ after (Sadock 1974), who similarly argues that ‘after all’ can only occur with assertions. Although notice that ‘after all’ can occur in English with tag questions also (Reese and Asher 2007).⁵ We now need to investigate what meaning is particular to *magè* that distinguishes its discourse behaviour from *āyā*, given that both questions share the same answer-sets.

The contrast between *āyā* and *magè* comes into sharp relief when we consider their behaviour in questions that follow expressions of ignorance, or contrary commitment (by the same speaker). The generalization is stated in (16).

- (16) a. Only *āyā*-questions may follow expressions of ignorance.
 b. Only *magè*-questions may follow expressions of contrary commitment.

Regarding (16a), this generalization explains why only *āyā*-questions can occur in neutral environments, since neutral environments require that the interrogator remain impartial to the likelihood of a positive or a negative answer. By contrast, *magè*-questions do not have this property, as illustrated in (17).

- (17) [*ne-mi-dun-am agè sārā bi-ā-d ...*]
 NEG-DUR-know-1SG if Sara IRR-come-3SG
 ‘I don’t know if Sara is coming.’

⁵ This point is important, as we collect evidence for parallels between *magè* questions and tag-questions.

- a. ... **āyā** mi-ā-d?
Q DUR-come-3SG
'Is she coming?'
- b. ... **āyā** ne-mi-ā-d?
Q NEG-DUR-come-3SG
'Is she not coming?'
- c. # ... **magè** mi-ā-d?
Q DUR-come-3SG
- d. # ... **magè** ne-mi-ā-d?
Q NEG-DUR-come-3SG

(17) illustrates that unlike *āyā*-questions, *magè*-questions cannot follow expressions of ignorance by the same speaker. Conversely, we see in (18) and (19) that *āyā*-questions cannot felicitously follow expressions that commit the speaker to a proposition that answers the question.

- (18) [sārā mi-ā-d ...]
Sara DUR-come-3SG
'Sara is coming.'
- a. # ... **āyā** mi-ā-d?
Q DUR-come-3SG
'Is she coming?'
- b. # ... **āyā** ne-mi-ā-d?
Q NEG-DUR-come-3SG
'Is she not coming?'
- (19) [sārā ne-mi-ā-d ...]
Sara NEG-DUR-come-3SG
'Sara is not coming.'
- a. # ... **āyā** mi-ā-d?
Q DUR-come-3SG
'Is she coming?'
- b. # ... **āyā** ne-mi-ā-d?
Q NEG-DUR-come-3SG
'Is she not coming?'

This is exactly where *magè*-questions differ, as stated in the generalization in (16b). This behaviour is illustrated in (20) and (21).

- (20) [sārā mi-ā-d ...]
 Sara DUR-come-3SG
 ‘Sara is coming.’
- a. # ... **magè** mi-ā-d?
 !Q DUR-come-3SG
 ‘Is she coming?’
- b. ... **magè** ne-mi-ā-d?
 !Q NEG-DUR-come-3SG
 ‘Is she not coming?’
- (21) [sārā ne-mi-ā-d ...]
 Sara NEG-DUR-come-3SG
 ‘Sara is not coming.’
- a. ... **magè** mi-ā-d?
 !Q DUR-come-3SG
 ‘Is she coming?’
- b. # ... **magè** ne-mi-ā-d?
 !Q NEG-DUR-come-3SG
 ‘Is she not coming?’

What (20) and (21) show is that a *magè*-question !Q whose only answers are members of $\{\{p\}, \{\neg p\}\}$, may only occur in the positive if following an assertion $\neg p$, and in the negative, if following an assertion p . This is what I mean by ‘contrary commitment’. In summary, the polarity of the prejacent of *magè*-questions is sensitive to the polarity of the prior assertion, such that the propositional content of the assertion must always be the opposite of the polarity of the question. I must note that either question type may very well occur without an explicit expression of ignorance or contrary commitment. In such cases, the epistemic attitude of the interrogator is, to use a neutral term, *implied*.⁶

Note that contrary commitment is not an altogether exotic feature of Persian, but rather the same phenomenon is observable in English reverse-polarity tag-questions. While I do not presently have the space to give a complete argument for why I think *magè* questions are semantically and pragmatically equivalent to tag-questions in English,⁷ for ease of exposition, in the remainder of this paper I am going to translate *magè* sentences with their appropriate rendition into English as tag-questions.⁸

⁶ We will examine the source for this implication below.

⁷ Although a careful examination of their differences, especially in their syntax but also their pragmatics should be duly investigated.

⁸ Essentially, both *magè* question and tag-questions require an interrogator that is ‘partial’ in her judgment of the question’s answer.

3. Ignorance and contrary commitment as a Conventional Implicature

In this section, I intend to suggest that the contrast in the meaning of *āyā* and *magè* can be suitably explained by Potts (2005)'s theory of Conventional Implicatures (CI). I want to show that we can explain the discourse behaviour of these two interrogative morphemes, if we assume that *āyā* carries a *conventionalized* ignorance implicature, and that *magè* carries a conventionalized implicature of contrary commitment.

Let us first establish that the meaning of ignorance and contrary commitment are compositional and non-cancelable, which means that ignorance and contrary commitment cannot be conversational implicatures. We will then see that ignorance and contrary commitments are 'not-at-issue entailments', such that their meaning is *projective* (Roberts et al 2009).

3.1 Conversational implicatures

Conversational implicatures are post-compositional inferences that language users draw based on cooperative norms of conversation (Grice 1975).⁹ Crucially, these inferences are taken to be independent of the *conventionalized*, compositional meaning of utterances, but are rather meanings that highly depend on the context of the utterance, or the manner in which the utterance is constructed. As a result, conversational implicatures are said to be defeasible, since negating the implicature of an utterance U does not necessarily contradict the propositional content of U. That is, if a sentence S gives rise to an implicature *m*, then $S + \neg m$ does not lead to contradiction. I will briefly argue that ignorance and contrary commitment cannot be conversational implicatures, since they are not defeasible inferences. Also, given the sensitivity of *magè* to the polarity of the prejacent proposition, contrary commitment cannot be a post-compositional inference.

Here is one argument why ignorance or contrary commitment may be conversational implicatures. If a language offers two options for polar question formation, one option may take on an 'unmarked' default status, leaving the other option for special or 'marked' uses. Under this view, for example, *āyā* could be said to be the default question particle that is ordinarily used, whereas *magè* is used only if the interrogator faces a contextual conflict between what she believes to be the case, and some contextual evidence to the contrary. Accordingly, the use of *āyā* conversationally implicates that the speaker is ignorant, since the speaker did not use the 'stronger' form, *magè*. While this view is for the most part very sensible, it is not supported by the data. As we have already seen *āyā* and *magè* are simply incompatible with those contexts that admit one and not the other. Had *āyā* been the default form, we would then expect *magè* only to occur in a subset of contexts that *āyā* did. But this is not the case. The two particles really just are complementary. Note also that given that conversational implicatures are defeasible inferences, had the contrast between *āyā* and *magè* been due to the choice of

⁹ For the present, I am going to side-step the debate on the compositional behaviour of Scalar Implicatures, e.g. (Chierchia, Fox, and Spector 2009).

their use, we would expect the ignorance and contrary commitment implicatures to go away in contexts that contradicted that meaning. However, our earlier examples have already shown that *āyā*-questions are incompatible with expressions of contrary commitment, and that *magè*-questions are incompatible with expressions of ignorance. This fact alone indicates that the contrast between *āyā* and *magè* cannot be explained as a conversational implicature.

Let us also note that the meaning of contrary commitment cannot be post-compositional. This is so, since in order to recover the polarity of contrary commitment, we require access to the polarity of the prejacent, that is, the proposition *magè* operates over. Had contrary commitment been a conversational implicature, the meaning would have to be generated from the meaning of the question as a whole. In this regard, taking the inquisitive denotation of a question to be the possibilities it proposes, we would want to recover contrary commitment from the set $\{\{\varphi\}, \{\neg\varphi\}\}$, which is impossible.

In sum, we should be confident that the contrast between *āyā* and *magè* cannot adequately be explained in terms of post-compositional inferences about norms of language use, since the usual ingredients for conversational implicatures in this case seem to be hopelessly absent.

3.2 Projective behaviour

Following Roberts et al (2009), we may inquire whether ignorance and contrary commitment as meanings of *āyā* and *magè* respectively, project. That is, we must determine whether we can embed these meanings within the scope of a logical operator, e.g. negation, or a speech act adverbial. As I will try to argue, ignorance and contrary commitment are projective, and we can use this behaviour in support of the hypothesis that ignorance and contrary commitment are conventionalized implicatures, which are part of the lexical meaning of *āyā* and *magè*.

3.3 Testing for projection

The first test that we can employ is ‘the family of sentences’ test (Chierchia and McConnell-Ginet 2000). This would require that we embed *āyā* and *magè* syntactically under negation, a modal, or in the antecedent of a conditional. We already know, however, that *āyā* cannot be syntactically embedded under any one of these operators. But we have seen that *magè* can take syntactic scope under negation. Let us see if we can trap the meaning of contrary commitment under negation. If we cannot, then we would say that contrary commitment projects.¹⁰

- (22) *sārā na-yum-ad magè?*
 Sara NEG-come-3SG !Q
 ‘Sara came, didn’t she?’

¹⁰ I suppress testing the other operators for reasons of space.

In (22), *magè* is syntactically subordinated to negation. We would want to know if (22) can have a reading where negation operates over contrary commitment. What would such a meaning look like? The contrary commitment in (22) is the proposition *p*: *that Sara came*. Negating that, the commitment would be $\neg p$: *that Sara didn't come*. But that interpretation is not available for (22). That is, there is no reading under which (22) is interpreted as committing the speaker to $\neg p$. In fact, as seen below, (22) is infelicitous following an assertion $\neg p$ by the same speaker.

- (23) a. sārā na-yum-ad ...
 Sara NEGcome-3SG
 ‘Sara didn’t come.’
 b. # na-um-ad **magè**?
 NEG-come-3SG !Q

What (23) shows is that even when negation takes syntactic scope over *magè*, it cannot negate the meaning of contrary commitment contributed by it. We can say that contrary commitment *projects* through negation.

We can also try to see if we can trap ignorance or contrary commitment under the scope of a speech act adverbial (Krifka 2009). Since ignorance and contrary commitment are not in themselves ‘interrogative’ (i.e. they do not express questions), we might ask, for example, whether a sentence-initial adverb like ‘obviously’, which cannot modify questions, may modify the implication of ignorance or contrary commitment. In (24) we see that while the speech act adverbial *vāzehan*, ‘obviously,’ can modify assertions, it cannot co-occur on either *āyā* or *magè* questions. As a result, (24) shows that neither ignorance nor contrary commitment can be modified under the scope of a speech act adverbial, which would be expected, if these meanings were projective.

- (24) a. vāzehan, sārā mi-ā-d.
 obviously Sara DUR-come-3SG
 ‘Obviously, Sara is coming.’
 b. # vāzehan, **āyā** sārā mi-ā-d?
 obviously Q Sara DUR-come-3SG
 # ‘Obviously, is Sara is coming?’
 c. # vāzehan, **magè** sārā mi-ā-d?
 obviously !Q Sara DUR-come-3SG
 # ‘Obviously, Sara is coming, isn’t she?’

Recall that *āyā* can be embedded under question embedding verbs, such as *know*. I repeat the example from (10) in (25).

- (25) sārā mi-dun-e **āyā** bārūn mi-ā-d.
 Sara DUR-know-3SG Q rain DUR-come-3SG
 ‘Sara knows whether it is raining.’

Interestingly, when embedded under *dānestan*, ‘to know’, *āyā* cannot felicitously embed if the matrix subject is in first person. *āyā* can however be embedded if the matrix predicate is negated.

- (26) a. # mi-dun-am **āyā** bārun mi-ā-d.
 DUR-know-1SG Q rain DUR-come-3SG
 ‘I know whether it is raining.’
- b. ne-mi-dun-am **āyā** bārun mi-ā-d.
 NEG-DUR-know-1SG Q rain DUR-come-3SG
 ‘I don’t know whether it is raining.’

We may take (26) as evidence that *āyā* has ignorance as a *speaker-oriented entailment* in the sense of Potts (2005), as ignorance is a commitment made by the speaker about her own information state. This conclusion is supported by the evidence that with a first person subject, when ‘know’ is negated, *āyā* embeds felicitously.

3.4 Speaker-oriented entailments

Potts (2005) identifies a class of meanings which he calls Conventional Implicatures (CIs), a term originally used by Grice (1975) with the following definitional properties

- (27) a. CIs are part of the conventional meaning of words.
 b. CIs are commitments, and this give rise to entailments.
 c. These commitments are made by the speaker of the utterance ‘by the virtue of the meaning of’ the words he chooses.
 d. CIs are logically and compositionally independent of what is ‘said’, i.e. independent of at-issue entailments.

‘At-issue’ meaning is for Potts (2005) that aspect of the meaning of a sentence that is used as its ‘main point’ in a particular context. Potts shows that sentences also express not-at-issue meanings. CIs are always not-at-issue meanings, and Potts (2005) argues that they are part of the lexical meaning of words (e.g. expressives), or particular syntactic constructions (e.g. appositives).

Let us temporarily assume that the at-issue meaning of a question is its set of answers. Since *āyā* and *magè* share the same answer-sets (namely, the affirmation or denial of the prejacent), their at-issue meaning should be the same. We might say then that these two morphemes differ in their not-at-issue meaning, which, going by the conditions in (27), we may identify as Conventional Implicatures.

In (28) and (29), I provide a possible semantics for the CI content of *āyā* and *magè*.¹¹

¹¹ *Epist_{sp}* stands for the epistemic state of the speaker.

$$(28) \quad \llbracket \bar{a}y\bar{a} \rrbracket^w = \lambda\phi_{\langle s,t \rangle} \lambda w. \exists v, v' [v, v' \in Epist_{sp}(w) \ \& \ \phi(v)=1 \ \& \ \phi(v')=0]$$

$$(29) \quad \llbracket mag\grave{e} \rrbracket^w = \lambda\phi_{\langle s,t \rangle} \lambda w. \forall v \in Epist_{sp}(w) [\phi(v)=0]$$

According to the (28), $\bar{a}y\bar{a}$ is a function that takes a proposition ϕ (the prejacent), and maps it onto a proposition (the CI content of the question) which will be true just in case there exists a pair of worlds epistemically accessible to the speaker, such that ϕ is true in one and false in the other. In other words, both ϕ -worlds and $\neg\phi$ -worlds are epistemically accessible to the speaker, i.e. the speaker does not know whether ϕ is true. This semantics ensures that the speaker will felicitously use $\bar{a}y\bar{a}$ - ϕ only when she is ignorant ϕ -wise.

(29) says that $mag\grave{e}$ is a function that maps a proposition ϕ to the CI content that for every world epistemically accessible to the speaker ϕ is false. In other words, a speaker can only use $mag\grave{e}$ - ϕ felicitously if she believes that ϕ is false.

I want to further argue that the CI content of English tag-questions corresponds to the propositional content of the *anchor*. That is, the anchor expresses a speaker commitment, without *asserting* it. We can then specify the CI semantics of a reversed polarity tag-question to be a function from the prejacent of the tag to the content of the anchor, corresponding to the semantics specified for $mag\grave{e}$ in (29). Accordingly, the interrogative tag in (30) raises an issue for the negative proposition $\neg p$: *That fire trucks are not red* (the prejacent of the tag), and the tag function maps that proposition to the CI proposition that the speaker's epistemic state only includes p -worlds. This latter proposition is expressed overtly in the anchor.

(30) Fire trucks are red, aren't they?

4. In lieu of a conclusion

As I hope to have made clear, we can capture the contrast in the meaning of $\bar{a}y\bar{a}$ and $mag\grave{e}$, and by extension, the contrast between impartial and partial interrogatives, as a function of their Conventional Implicature. Roberts et al (2009) include Potts style CIs within a broader class of meanings which they call projective, and argue that all and only not-at-issue-meanings project. What determines the at-issue meaning of an utterance? According to Roberts et al (2009), a meaning m is at-issue, if and only if it answers the Question Under Discussion (Roberts 1996). What remains to be determined at this stage is the specification of the 'at-issue' content of questions. Under one view, the at-issue meaning of a question is the set of propositions that answer the question. This is the view implicit in Roberts et al (2009). In light of the current proposal, I would like to suggest that the CI content of (polar) interrogative sentences are sufficient to ensure inquisitiveness. According to this idea, the 'at-issue' content of a question simply is the prejacent, while its CI content provides an alternative possibility, either through an expression of ignorance or contrary commitment. I leave the implementation of this idea for another occasion.

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