Conventional Implicature Analysis of Cantonese

Mai6...lo1 Construction

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1 Introduction

One of the characteristics of Cantonese is that there are a lot of discourse markers to express the attitude of the speaker in a speech. Among those discourse markers, the discontinuous construction *mai6…lo1* can be regarded as the most common ones in the daily utterances of native Cantonese speakers. According to Tang (2008), *mai6…lo1* discontinuous construction is composed of the adverb *mai6* and the sentence final particle *lo1* which functions to show the focus, to contrast, to emphasize something very obvious and to convey the speaker's mood. Consider the following example taken from Tang (2008):

(1) keoi5   mai1   hai6   ji1-sang1   lo1
        S/he   ADV   BE   doctor   SFP

    a.   At-issue meaning: He/she is a doctor.

    b.   Ancillary meaning 1: It is obvious to the speaker that he/she is a doctor. (obviousness to the speaker)

           Ancillary meaning 2: The addressee should not be unaware of the fact that s/he is a doctor. (the speaker's mood)

           Ancillary meaning 3: What his/her occupation is is a doctor. (focus)

For simplicity, this report will only focus on the first ancillary meaning arisen from *mai6…lo1* that is "It is so obvious to me that…". This report aims to examine the secondary meaning arisen by *mai6…lo1* stated above with regard to the logic of conventional implicatures (CI) proposed by Potts (2005). The report is present in this fashion: in Section 2, the empirical data is shown to prove that *mai6…lo1* possesses all four core properties of CI; in Section 3, the hypothesis of our project which is that *mai6…lo1* translates as $\lambda p.\textbf{obvious}(\textbf{the-speaker})(p)$ and it is of type $\langle t^a, t^c \rangle$; in Section 4, the formal analysis of the secondary meaning induced by *mai6…lo1* verifies our hypothesis; finally, in Section 5, the report is concluded.

2 Empirical data

In this section, the empirical data is presented to show that *mai6…lo1* has all four properties of CI defined by Potts (2005) which are lexicality, commitment, speaker orientation and independence of "what is said". In the report, we use the following Cantonese sentence consisting of *mai6...lo1* as an example to test the properties of *mai6...lo1*.

(2) aa3-dong1   mai6   lo2 mun5   fun1   lo1
     Adam   ADV   get full   mark   SFP

    a.   At-issue meaning: Adam got full marks.
    b.   Secondary meaning: It is obvious to the speaker that Adam got full marks.

2.1 Lexicality

Potts (2005) says the conventional part of CI means that it is "not calculable from the conversational maxims and the cooperative principle". In other words, a CI meaning is fixed on a certain lexical item rather than being contextual. Therefore, an effective way to see if the secondary meaning is a CI induced by *mai6...lo1* is to delete *mai6...lo1* in the sentence.

(3) aa3-dong1 lo2   mun5 fun1
     Adam   get   full   mark
     "Adam got full marks."

With the deletion of the adverb *mai6* and the sentence-final particle (SFP) *lo1*, the sentence has no secondary meaning but only the at-issue meaning that is "Adam got full marks". This shows that the secondary meaning (2b) is fixed on the lexical item *mai6...lo1* and hence conventional.

2.2 Commitment

Another property of CI is the non-deniability. CI is committed to the speaker himself/herself by virtue of the meaning from the words s/he utters. As a result, unlike conversational implicatures and presuppositions, CI do not allow

cancellation. In order to see if the secondary meaning (2b) is a commitment, a sentence with a contradictory meaning to (2b) is added to follow the sentence of example (2).

(4) aa3-dong1   mai6   lo2   mun5   fun1   lo1, bat1-gwo3
Adam   ADV   get   full   mark   SFP but

ngo5   m4   zi1   ni1   gin6 si6   wo5
I   not   know   this   CLP   matter SLP

"It is obvious to me that Adam got full marks, but I don't know that."

In (4) the second clause *bat1-gwo3 ngo5 m4 zi1 ni1 gin6 si6 wo5* ("but I don't know that") implies that the speaker does not know that Adam got full marks and thus this fact is not obvious to the speaker, which contradicts the secondary meaning (2b). The first clause *aa3-dong1 mai6 lo2 mun5 fun1 lo1* ("It is obvious to me that Adam got full marks") is infelicitous, also nonsensical, to be followed by the second clause. This proves that the secondary meaning (2b) is entailing. As a result, (2b) is a commitment.

2.3 Speaker orientation

As mentioned in section 2.2, CI are committed to the speaker himself/herself. Thus, they are asserted in the belief world of the speaker, i.e., speaker-oriented. We embed the sentence (2) inside another sentence where the predicate is an attitude verb and the subject is another person other than the speaker, shown in (5).

(5) a. *haa6-waa1   *soeng1-seon3* aa3-dong1   mai6   lo2   mun5
Eve   believe   Adam   ADV   get   full

fun1   lo1
mark   SFP

"Eve believes that it is obvious to me that Adam got full marks."

(cf. haa6-waa1 mai6 *soeng1-seon3* aa3-dong1 lo2 mun5

 Eve ADV believe Adam get full

 fun1 lo1

 mark SFP

 "It is obvious to me that Eve believes that Adam got full marks.")

According to Tang (2008), (5) is ungrammatical. The discontinuous construction *mai6...lo1* cannot be embedded in the clause introduced by the attitude verb *soeng1-seon3* ("believe"). Conversely, the accompanying sentence shows that when *mai6...lo1* is not embedded in a that-clause of a sentence, ungrammaticality is not resulted. This strongly supports that the secondary meaning (2b) is prohibited to be asserted to hold in the belief world of anyone other than the speaker. Therefore, (2b) is invariably speaker-oriented.

2.4 Independence of "what is said"

Potts (2005) uses the term "what is said" to refer to the at-issue meaning of a sentence. He suggests CI and what is said of a sentence are parallel to each other, based on the notion of multidimensionality. Under this suggestion, since the truth value of CI and what is said of a sentence do not affect one another, we deliberately make the at-issue meaning (2a) false while the secondary meaning (2b) true to see what will happen.

(6)   aa3-dong1   mai6   lo2 mun5   fun1   lo1

 Adam ADV get full mark SFP

 "It is obvious to me that Adam got full marks."

 (Fact: Adam didn't get full marks. The speaker thinks that Adam got full marks.)

Based on the fact provided, the extensional value of (6), i.e. (2), is $\langle 0,1 \rangle$. The issue that "Adam got full marks" is false. On the other hand, since the speaker thinks that Adam got full marks, it is true that the speaker regards "Adam got full marks" as obvious to him. The truth condition of the secondary meaning (2b) does not affect that of the at-issue meaning (2a). Therefore, (2b) is independent of "what is said".

Since it fulfills all 4 core properties of CI, the secondary meaning (2b) is a CI. Thus, the meaning arisen from *mai6...lo1* is a CI.

3 Proposal

After knowing the meaning provoked by *mai6...lo1* is a CI, we want to see how the properties of *mai6...lo1* can be represented in the formal semantics. Before we do this, we hypothesize that the translation of *mai6...lo1* to a λ expression and its semantic type. Let us take a look on the meaning arisen from *mai6...lo1*. "It is obvious to the speaker that…" is a conversion which can be rephrased as "That… is obvious to the speaker." In the rephrased version, the proposition carried by the that-clause is now the subject while the speaker is the object of the predicate obvious (we treat the preposition *to* as semantically null here). By this logic, we propose the translation of *mai6...lo1* is λp.**obvious(the-speaker)**(p) where p is a propositional variable and it is of type $\langle t^a, t^c \rangle$, since it takes an at-issue proposition to output a CI meaning.

4 Formal analysis

In this section, *mai6...lo1* will be analyzed in the manner of formal semantics. The approach we use is the logic of CI by Potts (2005). We will go through the four properties of CI manifested in the meaning induced by *mai6...lo1* one by one first, then discuss the speaker orientation of *mai6...lo1* further.

With the translation and the type of *mai6...lo1*, we can draw a parsetree of example (2) now. For simplicity, we leave the at-issue meaning unanalyzed and treat *mun5 fun1* "full marks" as a whole entity.
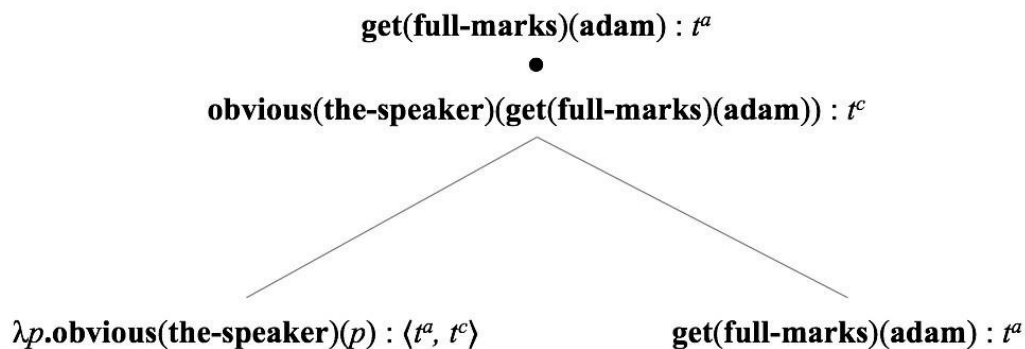
$$\textbf{get(full-marks)(adam)} : t^a$$
$$\bullet$$
$$\textbf{obvious(the-speaker)(get(full-marks)(adam))} : t^c$$

$$\lambda p.\textbf{obvious(the-speaker)}(p) : \langle t^a, t^c \rangle \qquad \textbf{get(full-marks)(adam)} : t^a$$

Figure 1: The parsetree of example (2)

4.1 Lexicality

Mai6...lo1 translates to the form $\lambda p.\textbf{obvious}(\textbf{the-speaker})(p) : \langle t^a, t^c \rangle$, which is a term of the logic of CI. As lexical meanings are terms of the logic of CI, the meaning of *mai6...lo1* is lexical.

4.2 Commitment

The CI application of *mai6...lo1* to the at-issue proposition **get(full-marks)(adam)** outputs a pair of terms consisting of the CI meaning **obvious(the-speaker)(get(full- marks)(adam))** : t^c. Since it is of type t^c, according to Parsetree Interpretation by Potts (2005), the meaning arisen form *mai6...lo1* is interpreted as an entailment of the sentence and thus it is a commitment.

4.3 Speaker-orientation

By Parsetree Interpretation, the interpretation of the parsetree in (3) is:

$$\langle \; [\![(\textbf{get(full-marks)(adam)})]\!]^{\textbf{M}i,g} : t^a,$$
$$[\![(\textbf{obvious(the-speaker)(get(full-marks)(adam))})]\!]^{\textbf{M}i,g} : t^c \rangle.$$

Since **obvious(the-speaker)(get(full-marks)(adam))** is interpreted as if it was in a root-level assertion of the parsetree, the secondary meaning arisen form *mai6...lo1* is speaker-oriented.

## 4.4 Independence of "what is said"

The at-issue proposition **get(full-marks)(adam)** and the CI proposition **obvious(the-speaker)(get(full-marks)(adam))**, which are members of the pair of terms formed by CI application, are interpreted independently by Parsetree Interpretation. Moreover, the at-issue input of the CI application, i.e. **get(full- marks)(adam)**, is also passed on unmodified; if we were to snip off the CI meaning **obvious(the-speaker)(get(full-marks)(adam))** from the parsetree, we would find the at-issue value unchanged.

4.5 Root level assertion of *mai6...lo1*

In section 2.3, we examined the speaker orientation of mai6...lo1 by embedding sentence (2) as a that clause of an attitude verb of which the subject is not the speaker shown in example (5). Tang (2008) says that "the *mai6...lo1* construction

occurs in root clauses only and is located in the highest positon of the clause". Our hypothesis can correctly show this property of *mai6...lo1*. As the translation of *mai6...lo1* we proposed is $\lambda p.$**obvious(the-speaker)**(p), where the speaker is one of the argument, just like the utterance modifiers presented by Potts (2005). For example, the translation of the utterance modifier *frankly* by Potts (2005) is $\lambda S.$ ⌜ **frankly** ⌝(⌜ **utter** ⌝(S))(⌜ **the-speaker** ⌝), where S is a declarative propositional variable. Utterance modifiers must be the daughter nodes to the root nodes. Regarding the similarity between the translation of *mai6...lo1* and frankly, we can boldly suggest that *mai6...lo1* must also be the daughter node to the root node. This well explain why *mai6...lo1* has to occur in root clause and it is in the highest positon of the clause.
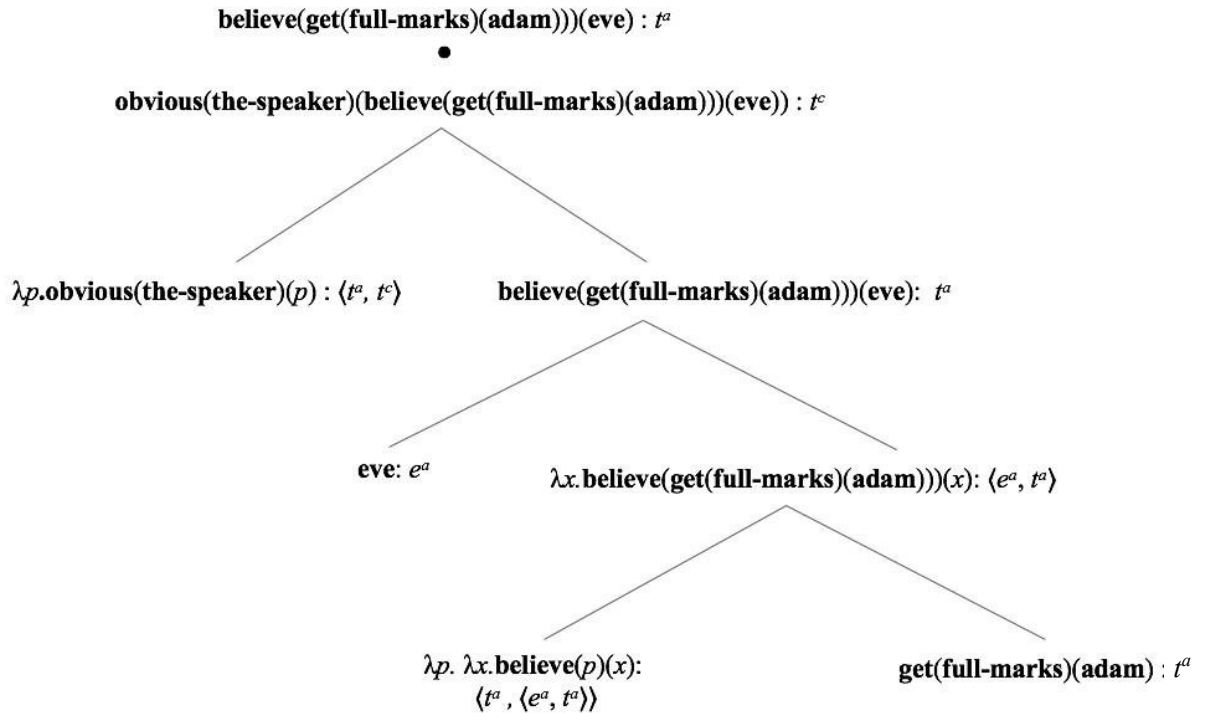
(7)   a. haa6-waa1 soeng1-seon3 aa3-dong1 mai6 lo2 mun5fun1 lo1

"Eve believes that it is obvious to me that Adam got full marks.

b.
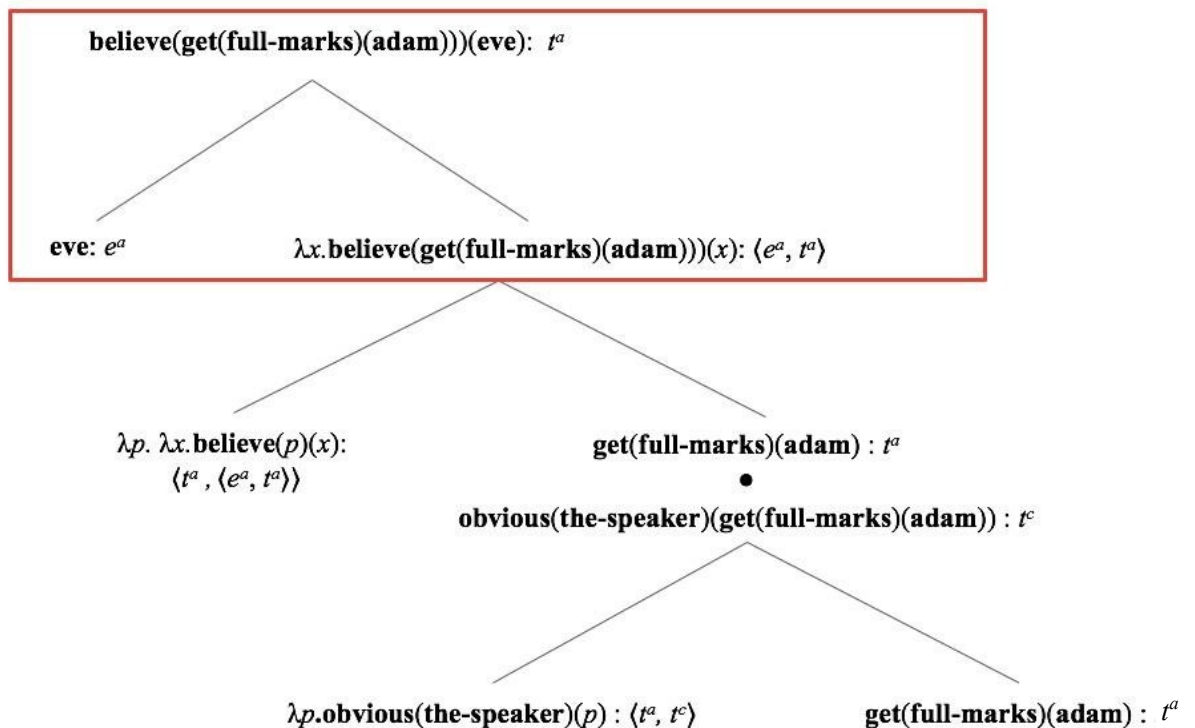
In (7b), the part of the parsetree inside the rectangle is not permitted since $\lambda p.\lambda x.$**believe**(p)(x) cannot bind with **get(full-marks)(adam)** due to the fact that $\lambda p.$**obvious(the-speaker)**(p) is not the daughter node to the root node.

(8) a. haa6-waa1 mai6 soeng1-seon3 aa3-dong1 lo2 mun5 fun1 lo1

"It is obvious to me that Eve believes that Adam got full marks."

b.

$$\textbf{believe(get(full-marks)(adam)))(eve)} : t^a$$
•
$$\textbf{obvious(the-speaker)(believe(get(full-marks)(adam)))(eve))} : t^c$$

$$\lambda p.\textbf{obvious(the-speaker)}(p) : \langle t^a, t^c \rangle \qquad \textbf{believe(get(full-marks)(adam)))(eve)}: t^a$$

$$\textbf{eve}: e^a \qquad \lambda x.\textbf{believe(get(full-marks)(adam)))}(x): \langle e^a, t^a \rangle$$

$$\lambda p.\ \lambda x.\textbf{believe}(p)(x): \qquad\qquad \textbf{get(full-marks)(adam)} : t^a$$
$$\langle t^a, \langle e^a, t^a \rangle \rangle$$

In (8b), since $\lambda p.\textbf{obvious(the-speaker)}(p)$ is the daughter node to the root node, the parsetree is fine and thus (8a) is grammatical.

5 Conclusion

To conclude, the *mai6...lo1* construction is a CI which has all four CI properties covering lexicality, commitment, speaker orientation and independence of "what is said". Our hypothesis properly predicts the properties of *mai6...lo1* in the logic of CI proposed by Potts (2005).

Reference

Potts, C. (2005). *The Logic of Conventional Implicatures*. Oxford: Oxford University Press.

Tang, S. W. (2008). Syntactic Properties of the Discontinuous Construction "mai… lo" in Cantonese. Bulletin of Chinese Linguistics, 3(1), 145-160.