

Contents

1. Introduction

2. Empirical Data
 - 2.1. Lexicality
 - 2.2. Commitment
 - 2.3. Speaker-Orientation
 - 2.4. Independence of “ what is said”

3. Proposal

4. Formal Analysis
 - 4.1. Lexicality
 - 4.2. Commitment
 - 4.3. Speaker-Orientation
 - 4.4. Independence of ‘what is said’

5. Conclusion

6. References

1. Introduction

In Cantonese, a sentence final particle is used to modify an entire proposition. ‘ge’ is one of the particles used to make emphasis and it has two variants, ‘ge2’ and ‘ge3’. We would like to focus on the declarative ‘ge2’ which is used to express puzzlement or doubt in the following discussion.

The structure of this report will be presented in this way: Section 2 discusses how ‘ge2’ empirically demonstrates the four properties which are unique to CIs. They are: Lexicality, Commitment, Speaker’s Orientation and Independence of At-issue Meanings (Potts, 2003). Our hypothesis is given in Section 3 that the Cantonese sentence final particle ‘ge2’ carries a secondary meaning ‘The speaker does not fully agree.....’ and such secondary meaning is a conventional implicature (CI). A formal analysis of ‘ge2’ based on L_{CI} is then provided to show how to derive the four characteristic properties in Section 4. Section 5 concludes the paper with regard to the CI properties of ‘ge2’.

2. Empirical Data

In spoken Cantonese, ‘ge2’ appears very often as a modifier, and it induces the secondary meaning of ‘the speaker does not fully agree’. In this section, it is shown that how this secondary meaning fulfils the four CI properties in the empirical data. The following discussion uses *Example (1)* as the main example to illustrate our points.

Example (1)

sou1-saan1 hai6 leng3 ge2.

蘇珊 係 靚 嘅

Susan is beautiful SFP.

- a. At-issue meaning: Susan is beautiful.
- b. Secondary meaning: The speaker does not fully agree with the at-issue meaning (i.e. Susan is beautiful, in this case).

2.1 Lexicality

The Cantonese sentence final particle ‘ge2’ implicates that the speaker is slightly confused with the at-issue content or he/she does not agree with the at-issue content completely. ‘ge2’ fulfils the ‘Conventional’ property by being lexical and not calculable from the conversational maxims (Potts, 2003). The secondary meaning in *Example (1)* is induced by this particle. If we delete ‘ge2’ and change the sentence to ‘Susan is beautiful,’ the secondary meaning is cancelled, as shown in *Example (2)*.

Example (2)

sou1-saan1 hai6 leng3.

蘇珊 係 靚

Susan is beautiful.

‘Susan is beautiful.’

2.2 Commitment

Besides lexicality, a conventional implicature is a commitment made by the speaker and entailments are generated. The secondary meaning mentioned above cannot be cancelled.

Otherwise, it would sound incoherent in discourse. If the speaker said ‘sou1-saan1 hai6 leng3 ge2.’ (Susan is beautiful SFP.) followed by ‘ngo5 zan1-hai6 gok3-dak1 keoi5 hai6 leng3.’ (I truly think she is beautiful.). As in *Example (3)*, this would be awkward because a commitment is non-deniable.

Example (3)

*sou1-saan1 hai6 leng3 ge2.

蘇珊 係 靚 嘅

Susan is beautiful SFP.

ngo5 zan1-hai6 gok3-dak1 keoi5 hai6 leng3

我 真係 覺得 佢 係 靚.

I truly think she is beautiful.

*‘Susan is beautiful. I truly think she is beautiful.’

2.3 Speaker-Orientation

With the speaker's commitment, the secondary meaning should be his/ her opinion in which the speaker makes a contribution to the utterance by choosing the word 'ge2'. To show this, we embed the sentence 'sou1-saan1 hai6 leng3 ge2.' (Susan is beautiful SFP.) under an attitudinal verb as shown in *Example (4)*. The sentence becomes very awkward as the secondary meaning still arises after the change. The first part and the second part of the sentence, which are both the speaker's opinions but not Peter's, contradict with each other. Thus, the secondary meaning induced from 'ge2' is speaker-oriented.

Example (4)

#bie2-dak1	gok3-dak1	sou1-saan1	hai6	leng3	ge2.
彼得	覺得	蘇珊	係	靚	嘅
Peter	thinks	Susan	is	beautiful	SFP.

daan6	ngo5	gok3-dak1	sou1-saan1	leng3.
但	我	覺得	蘇珊	靚
But	I	think	Susan	beautiful.

#'Peter thinks Susan is beautiful. But I think Susan is beautiful.'

2.4 Independence of ‘what is said’

Independence of ‘what is said’ suggests that at-issue propositions and CI propositions are disjoint. Considering *Example (5)*, if Homer says the sentence ‘sou1-saan1 hai6 leng3 ge2.’ (Susan is beautiful ge2.) is false, only the at-issue meaning is negated. It does not matter whether Susan is beautiful or ugly, the secondary meaning that ‘the speaker (Bart) does not fully agree with Susan being beautiful’ is still true. Hence, the secondary meaning and the at-issue entailment are not connected. Therefore, the CI meaning from ‘ge2’ is independent of ‘what is said’.

Example (5)

Bart:	sou1-saan1	hai6	leng3	ge2.
	蘇珊	係	靚	嘅
	Susan	is	beautiful	SFP

Homer:	m4-hai6	geoi3 - je5	hai6	co3	
	唔係,	句	野	係	錯!
	No,	the statement	is	wrong!	

Since ‘ge2’ fulfills all the four properties of CI from the empirical data, reflecting that the secondary meaning induced by it is a CI. To further study the properties of ‘ge2’, we then propose the formal analysis in the following section.

3. Proposal

Due to the fact that ‘ge2’ fulfils the four properties of being a CI, it is examined in terms of formal semantics for a deeper look. As mentioned above, we hypothesize that ‘ge2’ contains a secondary meaning of ‘the speaker does not fully agree.....’, and such secondary meaning is a CI. Hence, we predict that ‘ge2’ should demonstrate all the characteristics which are unique to CI in the formal analysis. It is proposed that ‘ge2’ can be translated to $\lambda p.\text{does-not-fully-agree}(\text{the speaker})(p)$ with p as a propositional variable. This expression takes the at-issue proposition to give a CI meaning, so it is of type $\langle t^a, t^c \rangle$. The formal analysis regarding each CI property is presented in the following sections.

4. Formal Analysis

For a better understanding of the analysis of section 3, a formal analysis of ‘ge2’ based on the logic of CI by Potts (2003) is given in this section. The four properties (i.e. lexicality, commitment, speaker-orientation, independence of what is said) are examined respectively.

In the following analysis, *Example (6)* which is extracted from an interview of a Hong Kong artist, Janice Man, would be the sentence being focused.

Example (6)

Janice Man (JM) : ngo5 dou1 hai6 pou2-tung1 jan4 ge2.

我 都 係 普通 人 嘅

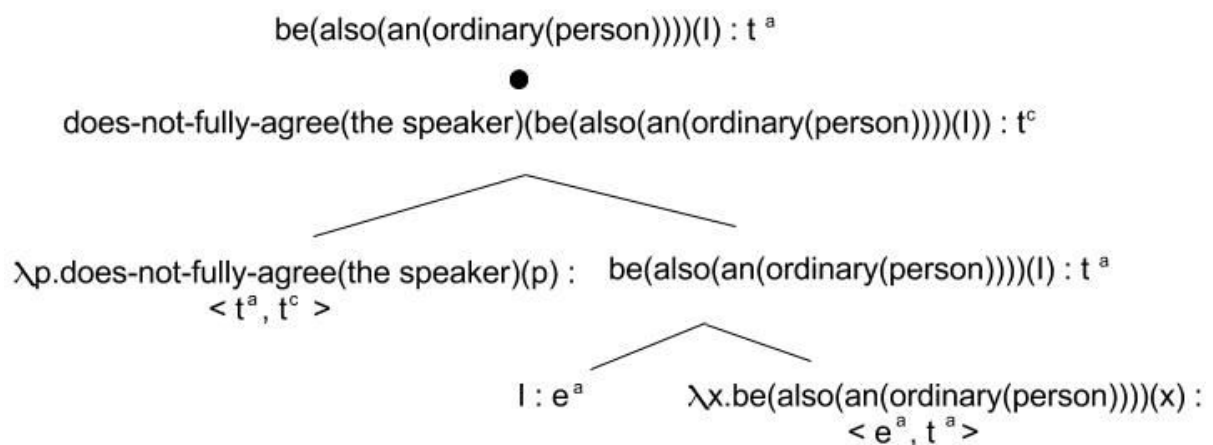
I am an ordinary person SFP

At-issue meaning: I am also an ordinary person.

Secondary meaning: The speaker (i.e. Janice Man) does not fully agree that I am also an ordinary person.

‘ge2’ is translated into the logical expression ‘ $\lambda p.$ does-not-fully-agree(the speaker)(p)’.

A parsetree is drawn for in depth studies. For simplicity, the at-issue proposition is not further analyzed. The parsetree is shown below:



Graph (1): Parsetree of Example (6)

4.1 Lexicality

‘ge2’ is translated to $\lambda p.$ does-not-fully-agree(the speaker)(p) of type $\langle t^a, t^c \rangle$. From the type given, t^c is a type in the CI logic. The sentence can finish without this word and the CI meaning will disappear as well, because it comes from the CI type only. Therefore, the meaning of ‘ge2’ is lexical.

4.2 Commitment

From the parsetree, the input is the at-issue proposition (**be(also(an(ordinary(person))))(I)**) and when it is applied to $\lambda p.$ **does-not-fully-agree(the speaker)(p)**. CI application is performed as **does-not-fully-agree(the speaker)(be(also(an(ordinary(person))))(I))** will be the output involving CI meaning in t^c type. By analyzing the parsetree, the meaning arises from ‘ge2’ is interpreted as the entailment of the sentence, thus it fulfills the commitment property.

4.3 Speaker-Orientation

With the parsetree interpretation, the sentence can be represented as follows:

$$\langle \llbracket (\mathbf{be(also(an(ordinary(person))))(I))} \rrbracket^{M_j, g} : t^a, \\ \llbracket (\mathbf{does-not-fully-agree(the\ speaker)(be(also(an(ordinary(person))))(I))} \rrbracket^{M_j, g} : t^c \rangle$$

The symbol of ‘ M_j ’ means that the sentence is interpreted in the speaker’s model. In this case, it is in Janice Man’s model. Therefore, the secondary meaning arises is speaker-oriented.

In addition, CIs are always interpreted in the way like root-level assertions and it is impossible for them to combine with intensional operators. Thus, the unavailability of embedding under attitudinal verbs also suggests that the secondary meaning of this sentence can only be interpreted relative to the speaker. An example of embedding under ‘believe’ is demonstrated:

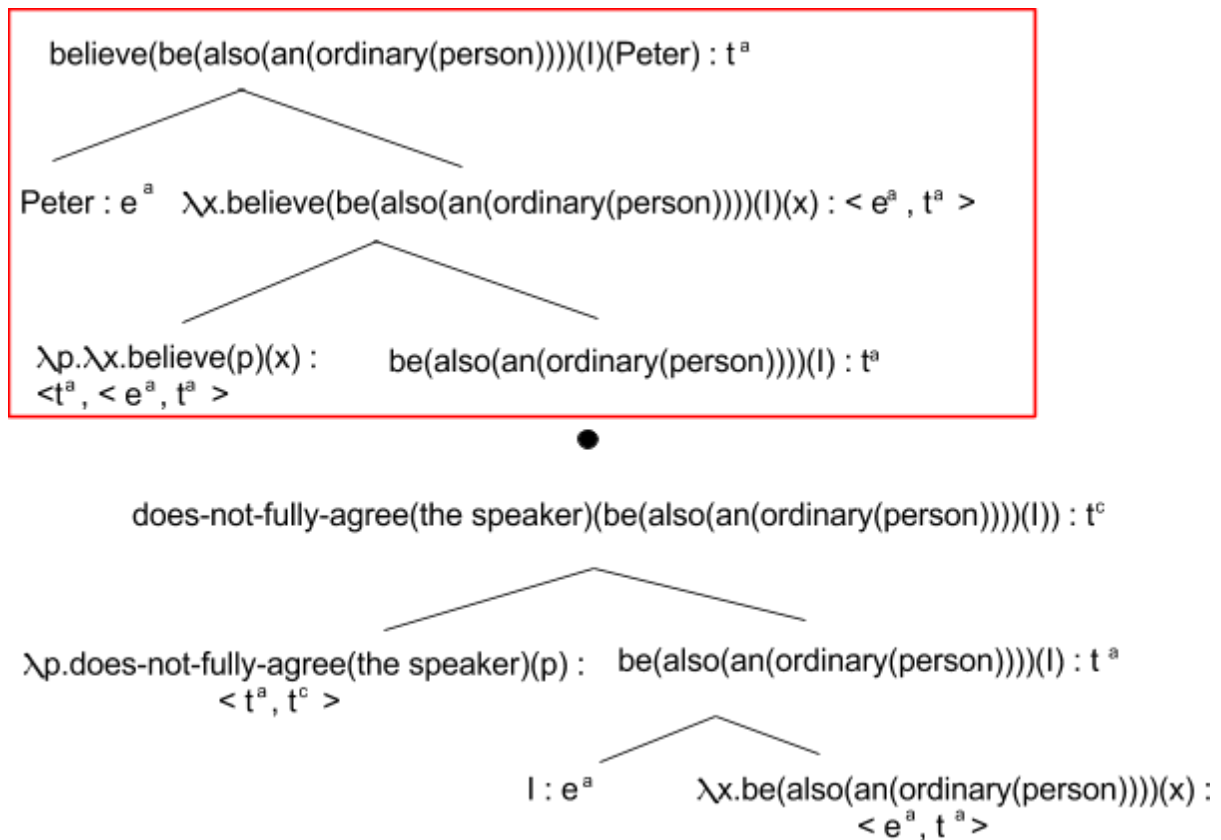
Example (7)

*bie2-dak1 soeng1-seon3 ngo5 dou1 hai6 pou2-tung1 jan4 ge2.

*彼得 相信 我 都 係 普通 人 嘅。

Peter believe I also am ordinary person SFP

*Peter believes I am also (an) ordinary person.

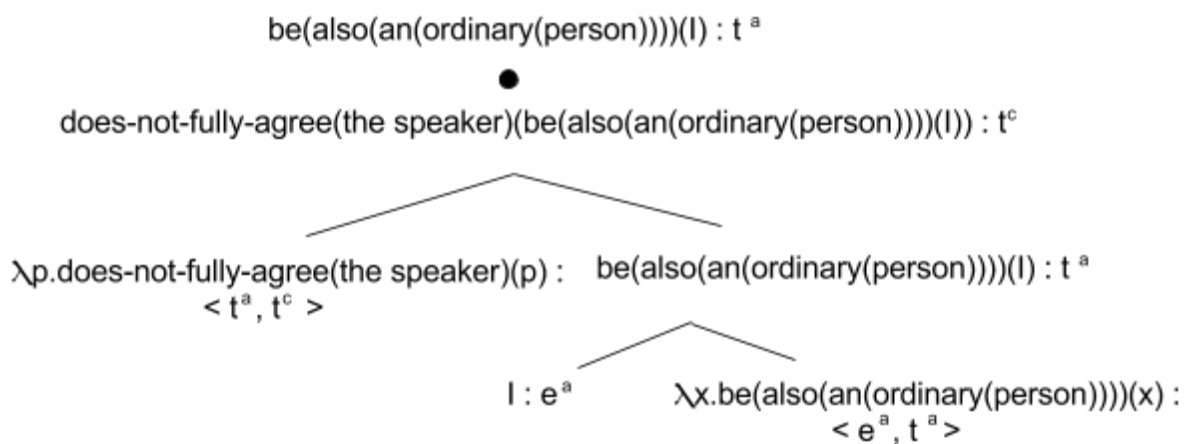


Graph (2): Parsetree of Example (7)

The attitudinal verb ‘believe’ is trying to take both the at-issue meaning and CI meaning as the arguments. Yet, the red part shown in *Graph (2)* is not permitted due to the fact that the CI meaning is still interpreted under the speaker’s model. Since the secondary meaning cannot be the argument, it is invariably speaker-oriented.

4.4 Independence of ‘what is said’

As shown in *Graph (3)*, a pair of expressions is yielded under CI application, which are the at-issue proposition (**be(also(an(ordinary(person))))(I)**), and the CI proposition (**does-not-fully-agree(the speaker)(be(also(an(ordinary(person))))(I))**). On top of that, each computation is interpreted separately by the parsetree interpretation, showing that the secondary meaning is independent of ‘what is said’.



Graph (3): Parsetree of Example (6)

Furthermore, the at-issue input in the CI application is passed on without any changes. If we cut off the CI meaning, which is (**does-not-fully-agree(the speaker)(be(also(an(ordinary (person))))(I))**), the at-issue meaning of the sentence still remains. Again, the analysis shows that the secondary meaning fulfils the property of independence of ‘what is said’.

5. Conclusion

The four definitive properties of CIs are compared against ‘ge2’, and the formal analysis suggests that ‘ge2’ carries a conventional implicature. Hence, our hypothesis made the correct prediction.

The L_{CI} fragment provided can be used to explain the CI properties of ‘ge2’ in Cantonese.

Yet, the limitation of this study is that it only focuses on CI side semantics of ‘ge2.’

According to Potts (2003), there is a rich ontology of meanings such as presupposition and conversational implicatures. A new logic and type theory are needed to explain other semantic phenomena in further research.

6. References

Potts, C. (2003) . The Logic of Conventional Implicatures: UC Santa Cruz
dissertation.