Title	The subject condition in Cantonese
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Citation	The 6th Internatinoal Lexical Functional Grammar (LFG) Conference, Hong Kong, 25-27 June 2001. In Proceedings of LFG'01, 2001, p. 359-379
Issued Date	2001
URL	http://hdl.handle.net/10722/108938
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The Subject Condition in Cantonese

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Abstract

This paper discusses the subject condition with data from Cantonese. We show that it is not possible to identify subjects in this language based on morphosyntactic criteria alone, and in order to maintain the subject condition in Cantonese, a pro-drop language, one has to determine other ways of identifying subjects. We propose some ways in which subjects can be identified using the lexical mapping theory, augmented by pragmatic discourse criteria.

1. Introduction

The grammatical notion of subject occupies a key position in most linguistic theories. In configurational approaches, the concept, subject, is defined either as [Spec IP] (or some other functional projections) (Haegeman, 1994) or generated in adjunction to VP (Stowell 1981, Chomsky 1986 and Manzini 1983). In LFG, subjects and other grammatical functions are regarded as primitives and represented in functional structures. The subject condition stipulates a default subject for every clause predicated by a finite verb. There are several statements of this condition in the literature. In Bresnan (2001:311) it is stated thus: "Every predicator must have a subject." The status of the subject condition as a grammatical universal has been a matter of some controversy (see, for example, Alsina 1996, Bresnan and Zaenen 1990, Bresnan and Kanerva 1989, and Berman 1999). In this paper, we examine the subject condition with data from Cantonese. Cantonese, like all the other Chinese dialects, is a pro-drop language. However, unlike other pro-drop languages such as Italian, implicit subjects cannot be retrieved through verbal morphology, as will be shown in the next section.

The issue then is how to identify subjects in sentences where they do not have overt expressions. In this paper, we put forward a set of criteria with which some kinds of implicit subjects could legitimately be recovered. We propose that subjects should still be represented at f-structure in consonance with LFG approaches but that instead of achieving functional specification solely at the level of morphosyntax, subjects in Chinese should also be identifiable at a pragmatic-discourse level. This proposal is in line with Bresnan's (2001:98) characterization of the subject as having "…the unique property of being both an argument function and a (grammaticalized) discourse function."

The paper will be structured as follows. In section 2, we introduce the subject condition and discuss on issues surrounding the topic in the literature. In section 3, we focus on the structure of Cantonese, especially its status as a pro-drop language and take up issues of functional specification. Section 4 gives a further focus on Cantonese data. We first outline different types of sentences showing differing subject occurrences in Cantonese and go on to illustrate how to retrieve subjects from a text using discourse-pragmatic information. In section 5, we sketch a formal (LFG) analysis in which the subject condition can be maintained in Cantonese by functional mapping principles. Section 6 is a brief outline showing that discourse-pragmatic criteria are necessary to identify the full range of subject

features such as person and number in Cantonese. These mapping principles and discourse pragmatic criteria for subject identification are seen as measures towards satisfying the subject condition in Cantonese and, by extension, other Chinese dialects.

2. The subject condition

The subject condition is a constraint on sentences, and it has been stated in many ways in the literature. In most grammatical frameworks there is an asymmetry between subjects which can have only one member and other grammatical categories like objects which can have more than one members. Simply put the constraint requires that every predicator have a subject (Bresnan 2001). This condition is more elaborately stated in Alsina (1996: 20):

(1) Subject condition:

An f-structure with propositional content must include a subject (as one of its grammatical functions) and no f-structure may include more than one subject.

A major issue with the subject condition is its acceptance as a universal condition in LFG. Obviously some languages do not have an overt c-structure subject even with sentences headed by finite verbs. Such so called pro-drop languages like Italian and Spanish in many instances allow the referential properties of the covert subject to be retrieved by features such as the verbal inflection as shown below for Italian and Spanish:

Italian:
(2) a.   *pro ho   telefonato*
       have.1.SG telephoned
       'I have telephoned'

   b.   *Gianni ha   parlato*
       Gianni has.3.SG spoken
       'Gianni has spoken.'

   c.   *pro ha   parlato*
       has.3.SG spoken
       'He has spoken.'

Spanish:
(3) a.   *(yo) como   comida*
       1.SG eat.1SG   food
       'I eat food.'

b.   *(nosotros) comemos comida*
       1.PL   eat.1.PL   food
       'We eat food.'

However there are languages that allow covert c-structure subjects whose referential properties can hardly be inferred from verbal inflection or other morphological manifestations. Such a language would pose problems for the universality of the subject condition. Cantonese is such an exemplar. We shall look more closely at the properties of Cantonese as a pro-drop language and the consequences such a structure has for functional specification and the applicability of the subject condition in this language.

3. Pro-drop in Cantonese and Functional Specification

In this section we review the concept of pro-drop and illustrate it with Cantonese sentences in section 3.1. In section 3.2., we discuss the notion of functional specification in LFG and use it to show how subjects can be retrieved from sentences with covert subjects.

3.1. Cantonese as a pro-drop language

Cantonese, like all Chinese dialects, has some very unique structural properties from the perspective of languages like English, French, Italian, German, and Norwegian. Like Italian and Spanish, it is a pro-drop language, but unlike these languages, it is a pro-drop language exhibiting little verbal morphology. Unlike English it is a topic prominent rather than subject prominent language (Li and Thompson 1976). Like Norwegian and other Scandinavian languages it permits long-distance binding (Pan and Hu in 2001 workshop). Cantonese also exhibits considerable complexity in verb complementation (Bodomo and Lee in 2001 workshop), and it has a more flexible word order than English. These and other features show that Cantonese and other dialects of Chinese pose some challenges to linguistic description and theory. These properties have attracted the attention of many Chinese linguists working in various grammatical frameworks (Huang 1984, 1989, 1991, Hu and Pan 2000) While all these are interesting in themselves our focus here will be on subjecthood conditions of Cantonese.

The phenomenon of pro-drop is very productive in Cantonese, as shown in the following sentences.

(4)   A: *nei5   jam2-gan2 mat1 je5?*
            2.SG   drink-ASP what thing
            'What are you drinking?'
        B: *jam2-gan2   seoi2*
            drink-ASP   water
            '(I'm) drinking water.'

(5)   (Talking about dogs)
        wui5-m4-wui5 beng6   gaa3
        Will-not-will   ill   PART
        'Would (they = the dogs) get ill?

(6)   *ji1gaa1 lok6-gan2   jyu5*
        now   fall-ASP   rain
        '(It's) raining now.'

(7)   A: *teng1gong2 seoi6si2   hou2 leng3   wo3*
           Hear   Switzerland very pretty PART
           '(I) hear that Switzerland is very pretty'
        B: *tai2 fung1ging2 lo1   hai6*
           See scenery   PART   only
           '(It's) only (good for) sight-seeing'

In (4)-(7), it is not possible to determine from the verb forms the identity of the implicit subjects. In (4), the subject pronoun can be retrieved from the immediate speech context. In (5), the subject is understood to be the current topic of the conversation. (6), like all other meteorological sentences in the language, does not come with an expletive subject. Sentence (7) can be understood as either containing a zero-subject of generic reference (like 'on' in French) or having 'sight-seeing' as subject. There are also topic-comment sentences where the initial NP is not an argument of the main verb but is nevertheless related to it pragmatically or through the discourse context.
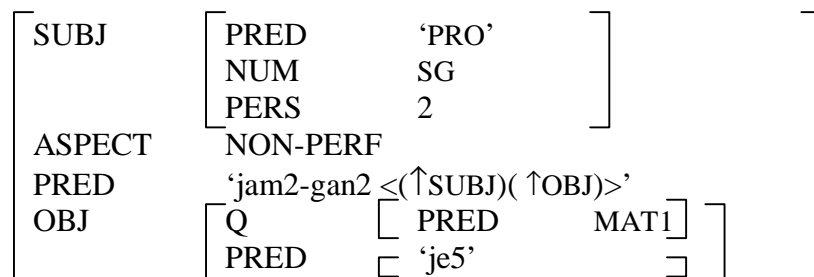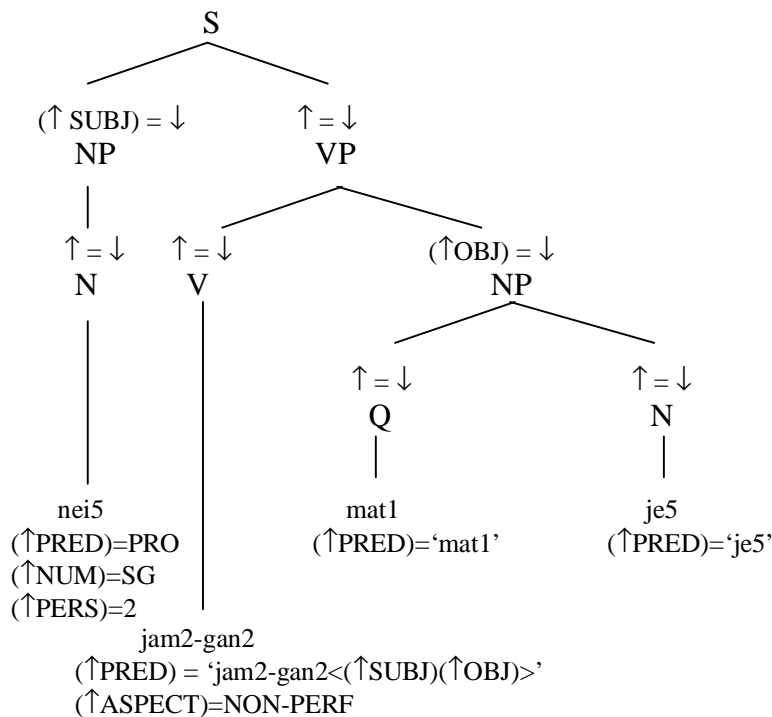
3.2. Functional specification

These structural features of Cantonese in which there is little verbal morphology and yet there is the possibility of pronoun drop involving various grammatical functions introduce an issue of function specification. Function specification is quite an important issue in LFG. In the framework, two main types of function specification are recognized (Berman 1999), structural and morphological function specification, where grammatical functions are defined or specified in terms of the structural positions in which they occur in the sentence in the former; and where grammatical functions are specified by the help of verbal and nominal morphology such as case, and other types of feature specifications in the latter.
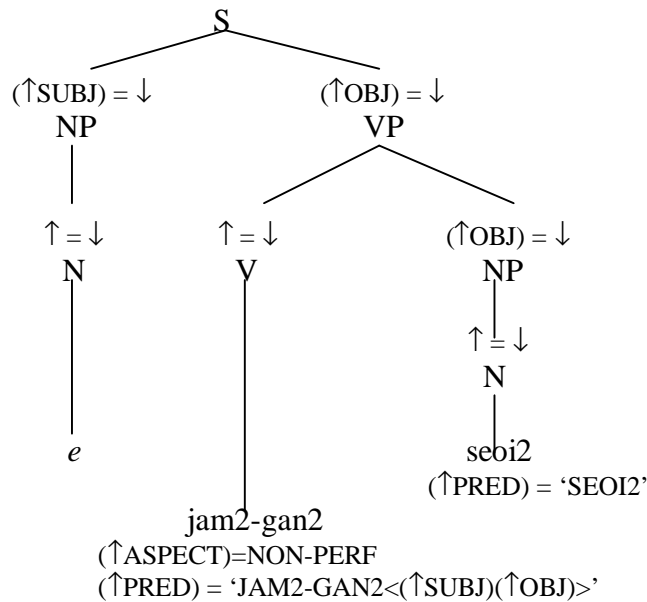
Languages vary with respect to the choice of the two. In this paper we observe that the two are not enough with respect to Cantonese and thus propose a third kind of functional specification: discourse-pragmatic function specification, where grammatical functions can be retrieved from the discourse-pragmatic context.

We illustrate function specification and other aspects of the structure of Cantonese by the following c- and f-structure diagrams of the two sentences in (8):

(8) C- and f-structures of *nei5 jam2-gan2 mat1 je5*

$$
\begin{bmatrix}
\text{SUBJ} & \begin{bmatrix} \text{PRED} & \text{'PRO'} \\ \text{NUM} & \text{SG} \\ \text{PERS} & 2 \end{bmatrix} \\
\text{ASPECT} & \text{NON-PERF} \\
\text{PRED} & \text{'jam2-gan2} \leq(\uparrow\text{SUBJ})(\uparrow\text{OBJ})\text{>'} \\
\text{OBJ} & \begin{bmatrix} \text{Q} & [\text{PRED} \quad \text{MAT1}] \\ \text{PRED} & [\text{'je5'}] \end{bmatrix}
\end{bmatrix}
$$

(9)   C- and f-structures of *jam2-gan2 seoi2*

```
                          S
              _____/ _____
             /                         \
    (↑SUBJ) = ↓                    (↑OBJ) = ↓
        NP                              VP
         |                      _____/ _____
         |                     /                 \
       ↑ = ↓               ↑ = ↓            (↑OBJ) = ↓
        N                   V                   NP
        |                   |                    |
        |                   |                  ↑ = ↓
        |                   |                   N
        |                   |                   |
        e                   |                 seoi2
                            |          (↑PRED) = 'SEOI2'
                       jam2-gan2
                   (↑ASPECT)=NON-PERF
          (↑PRED) = 'JAM2-GAN2<(↑SUBJ)(↑OBJ)>'
```

$$
\begin{bmatrix}
\text{SUBJ} & \begin{bmatrix} \text{PRED} & \text{'PRO'} \\ \text{NUM} & \text{SG} \\ \text{PERS} & 1 \end{bmatrix} \\
\text{ASPECT} & \text{NON-PERF} \\
\text{PRED} & \text{'JAM2-GAN2<(↑SUBJ)(↑OBJ)>'} \\
\text{OBJ} & \begin{bmatrix} \text{PRED} & \text{'SEOI2'} \end{bmatrix}
\end{bmatrix}
$$

From these diagrams, we notice that Cantonese, being a language with scant inflectional morphology, belongs to the type of languages that opts for structural functional specification. In a simple declarative sentence the subject occupies a preverbal position while an object (for those predicates that subcategorise for it) occur postverbally. This is shown in the c-structure in (8). The c-structure in (9) contains a phonologically unexpressed subject whose referential and agreement features cannot be retrieved morphologically and syntactically. That is where discourse-pragmatic functional specification comes in. From the context we know it is the individual who is being asked the question in (4) that points to the subject of the sentence. Hence functional specification, including number and person features as shown in the c-and f-structures in (9) are obtained from the discourse situation.

We will return to the issue of function specification from an LFG perspective, but for now we will look at subjecthood and how to describe it in more detail in the next section.

4. More on subjecthood in Cantonese

In this section, first, a list of four types of sentences showing differing subject expressions in 4.1. is given. An illustration of how to retrieve subjects from a text using discourse-pragmatic information is then provided in 4.2.

4.1. Types of subjects in Cantonese sentences

As in Mandarin Chinese and other Chinese dialects, subjects cannot usually be readily identified in Cantonese. The main kinds of cases are:

(a) Sentences which clearly and explicitly have a subject.

(10)   *ngo5 lou5gung1 ci3ci3   faan1lei4   dou1 haak1   saai3 gam2*
      my   husband   every-time   come-back   also   tanned   like-this
      'My husband is tanned every time he comes back.'

(11)   *nei5   jau6   m4   hai6 sau3ji1*
      you   also   not   be   vet
      'You are not a vet.'

(b) Sentences which clearly do not have subjects

(12)   *zan1   gaa4*
      true   FP
      'Is that true?'

(13)   *mat1 je5 waa2*
      what
      'What?'

(c) Sentences which have an initial constituent which is either an NP which is not an argument of the verb, or a verb or adjective (and therefore cannot possibly be an argument)

(14)   *zik1hai6 keoi5 mat1 dou1   laat6 gaa3*
      that-is   it   what   all   hot   FP
      'Everything was hot there.'

(15)   *siu1   m4   sai2   cin2*
      roast   not   need   money
      'The roasting was free.'

(d) Sentences in which it is not clear what the subject is

(16)   *di1 hang4lei5   baai2zo2 hai2 go3 gaa2   soeng6bin1*
      PL luggage   place   at   M   shelf   above
      'The luggage was on the shelf.'

(17) *di1 min6baau1 sik6dou3 ngo5 hou2 baau2*
PL bread eat-to me very full
'The bread made me full.'

The most difficult cases are those where the initial NP of a sentence is the patient of the verb, but the form of the verb is clearly not passive.

While he uses the term 'subject' in his works, Chao (1968) implies that it may not have any significance other than as a convenient term. In talking about topic-comment being the grammatical meaning of subject-predicate in Chinese, he stresses that the relationship between subject and predicate can be quite variable. A sentence is fine "so long as there is some relationship of topic and comment between subject and predicate." He goes on to say:

"For example, in *zheijian shi zao fabiao le*, 'This matter has long been published', we are translating *fabiao* by passive verb form 'has been published', but in the Chinese there is no marker for received action (*bei* 'by', '-ed' would not be appropriate here), and a closer structural translation would be: '(As for) this matter, (one) has long published (it),' Again in: *Zhe gua chizhe hen tian*. 'This melon eating very sweet, --- taste very sweet' seems to be an active verb used passively, but a nearer rendering of the structure of the sentence is: 'This melon, (when one is) eating (it), is very sweet.' All such renderings in English, however, are limited by the exigencies of English grammar requiring a clear actor-action relation, at least in the grammatical sense, thus entailing a number of parenthetical devices which never were in the Chinese, which simply said: 'This matter has long been ago published'. 'This melon eating very sweet'." (1968:70)

Chao (1968) illustrates the point further with his famous example:

Ni *jiu* *xie* *ta* *touche* *de* *shiqing*
You then write his stole-car GE matter

The sentence is ambiguous between:

(1) You just write about the accident of his/her stealing the car.

(2) You just write about the accident of his/her bicycle being stolen.

In English, not every sentence has a c-structure subject either. An examination of English text suggests that about 1 or 2 in every 10 sentences in ordinary conversations do not have a subject. For some sentence types, it is usually possible to retrieve missing subjects. For other sentence types there are simply no subjects. On balance, subject is a useful notion in English.

4.2. Illustrating discourse-pragmatic phenomena for Cantonese subjecthood

In this section, an illustration of how subjects and topics are retrieved from the discourse-pragmatic context is given by going through a short extract of a conversation in some detail.

The passage is taken from a recording of a naturally occurring conversation. The participants C and M are talking about a trip which M has recently made to her home village in Guangdong, for the special purpose of eating lychees fresh from the trees. M's home village is famous for its lychees.

We go through the passage sentence by sentence. For each sentence we provide four lines of information, as follows:

  Line 1: romanisation of the sentence
  Line 2: word for word gloss
  Line 3: literal translation (staying close to the syntax of Cantonese sentence)
  Line 4: free translation

Each sentence is numbered along the right margin.

C: *do1-m4-do1 lai6zi1 sik6 aa3?*	(1)
lots_of-not-lots_of lychee eat SP	
Lots-or not lychees eat?	
'Were there lots of lychees to eat?'	

M: *waa1, do1dou3 fei1hei2.*	(2)
wow, lots_until fly_up	
wow, such a lot that fly (i.e. such a lot that one can fly)	
'Wow, there was an awful lot of lychee to eat that one can't possibly	
imagine how much'	

sik6dou3 ngo5 baau2 aa3 zan1hai6	(3)
eat_until I full SP really	
eat until I full, really	
'I ate until I was full, actually'	

waa1, faan1dou3heoi3   aa3, (4a)
wow   return_arrive   PP
wow   return
'Wow, when I got to the village,'

nei5 aa3-saam1-suk1gung1   go2dou6 sik6 go2di1 lai6zi1   aa3, (4b)
you NamePfx-three-grand_uncle there   eat those lychee   PP
the lychee eat at your third grand uncle's place,
'the lychees that we ate at your third grand uncle's place,'

go2-po1   Gwai3mei2 gam3 daai6po1 (4c)
that-CL   Gwaimei   so   big-CL
that Gwaimei (the name of a kind of lychee) tree so big
'the Gwaimei tree was so tall.'

Sei3-go3 yan4   sik6saai3 jat1-po1 Gwai3mei2. (5)
four-CL   people eat-all   one-CL   Gwaimei
Four people eat all of one Gwaimei
'The four of us ate a whole Gwaimei tree.'

C: *hai6 aa4?* (6)
   yes   SP
   yes?
   'Really?'

M: *sai1-m4-sai1lei6   aa3?* (7)
   great-not-great   SP
   Great or not?
   'Isn't that something?'

C: *dim2gaai2 m4 daai3 di1   faan1lai4 aa3?* (8)
   why   not bring some   back   SP
   why not bring some back?
   'Why haven't you brought some lychees back?'

M: *daai3-zo2   faan1lai4 laa1* (9)
   bring-PERF return   SP
   brought back
   'I have brought some back'

sik6-dak1-saai3 me1? (10)
eat-can-all   SP
Can eat all?
'You think one can eat it all up?'

nei5 sik5-dak1 hou2 do1 me1? (11)
you eat-can   very lots SP
You can eat a lot, you think?
'You think you can eat a lot?'

nei5 jau6 heoi3-zo2   Jat6bun2. (12)
you also go-PERF   Japan
you also gone to Japan
'And you had gone to Japan'.

C: *o5* (13)
  oh
  I see
  'I see.'

M: *zing6faan1 hou2 do1* (14)
  remain   very much
  left lots
   'Lots of lychees were left.'

  hau6mei1   bei2-saai3 jan4   sik6 zi1maa3 (15)
  afterwards give-all   people eat SP
  Afterwards just given all to others eat
  'We gave them all to others to eat afterwards/ They were all given to others
  to eat afterwards'.

C: *jau6 m4 lau4-faan1 gei2   lap1 bei2 ngo5 si3haa2, gam3 daai6-lap1* (16)
  and not save   a-few CL give I/me try   so   big-CL
  And didn't save a few for me try, so big
  'And you didn't save a few pieces for me to try – such big lychees'.

M: *sik6-saai3 laa3!* (17)
  eat-all   SP
  All eat!
  'All have been eaten/ We have eaten them all'

  go2-di1 hai6 aa3-Jing1   go3 lou5gung1 maai5 faan1lai4 bei2 ngo5dei6
  zi1maa3 (18)
  that-PL be NamePfx-Jing CL husband   buy   return give we/us
  SP
  Those are Jing's husband buy back give to us only
  'Those were bought by Jing's husband for us.'

Our analysis of each of these sentences is presented in the following table:

1	*do1-m4-do1 lai6zi1 sik6 aa3?* lots_of-not-lots_of lychee eat SP Lots-or not lychees eat? 'Were there lots of lychees to eat?'	The eating of the lychees is understood to have been done by M by reference to the discourse context
2	*waa1, do1dou3 fei1hei2.* wow, lots_until fly_up wow, such a lot that fly 'Wow, there wasasuch a lot of lychees to eat that one can't possibly imagine how much.'	(a) 'Such a lot' is understood to be referring to lychees by virtue of the topic of the conversation up to this point. (b) The subject of 'fly' is understood to be anyone, i.e. generic reference
3	*sik6dou3 ngo5 baau2 aa3 zan1hai6* eat_until I full SP really eat until I full, really 'I ate (the lychees) until I was full/ The lychees were such that I fed on them and was full'	The topic is lychee. It is clearly what was eaten. It may be subject or object of the sentence.

4	*waa1, faan1dou3heoi3 aa3,* wow return_arrive PP wow return Wow, when I got to the village,'	The 'returning' is understood to be done by the speaker (and possibly her relatives) and the destination is understood to be her home village from the discourse context.
5	*sei3-go3 yan4 sik6saai3 jat1-po1* four-CL people eat-all one-CL *Gwai3mei2.* Gwaimei Four people eat all of one Gwaimei 'The four of us ate a whole Gwaimei tree.'	The subject is explicitly 'the four of us'.
6	*hai6 aa4?* yes SP yes? 'Really?'	No subject. A 'non-propositional sentence'?
7	*sai1-m4-sai1lei6 aa3?* great-not-great SP Great or not? 'Isn't that something?' [Subject: nil; Topic: the fact that 4 people finished eating a whole tree of lychees]	In "isn't x something?", x is understood from the speaker's previous turn to mean 'the fact that the four of us finished eating a whole tree of lychees'.
8	*dim2gaai2 m4 daai3 di1 faan1lai4* Why not bring some back *aa3?* SP Why not bring some back? 'Why haven't you brought some lychees back?'	The subject is understood to be 'you' from the discourse context; the object is understood to be 'lychees', which is the current topic.
9	*daai3-zo2 faan1lai4 laa1* bring-PERF return SP brought back 'I have brought some back'	The subject is understood to be 'I'; the object 'lychee'
10	*si6k-dak1-saai3 me1?* eat-can-all SP Can eat all? 'You think one can eat it all up?'	The one who eats lychees is understood to be 'you', as this is a rhetorical question. The object is lychees, the topic.
11	*nei5 sik6-dak1 hou2 do1 me1?* you eat-can very lots SP You can eat a lot, you think? 'You think you can eat a lot?' [Subject: you; Topic: lychees]	(same as 10)
12	*nei5 jau6 heoi3-zo2 Jat6bun2.* you also go-PERF Japan you also gone to Japan 'And you had gone to Japan'.	The subject is explicitly 'you', the object 'Japan'.

13	*O5* Oh Oh 'I see.'	No subject. 'non-propositional sentence'?
14	*zing6faan1 hou2 do1* remain very much left lots 'Lots of lychees were left.'	what is left is understood to be lychees, the topic.
15	*hau6mei1 bei2-saai3 jan4 sik6* Afterwards give-all people eat *zi1maa3* SP Afterwards just given all to others eat 'We gave them all to others to eat afterwards/ They were all given to others to eat afterwards'	The 'giver' is understood to be the speaker, the object of give 'lychees', and the recipient is explicitly 'others'.
16	*jau6 m4 lau4-faan1 gei2 lap1 bei2* and not save-FAAN a-few CL give *ngo5 si3haa2, gam3 daai6-lap1* I/me try so big-CL And didn't save a few for me try, so big 'And you didn't save a few pieces for me to try – such big lychees'.	The initiator of 'save' is understood to be M, by reference to the discourse context. The object is lychee. The recipient is explicitly 'me'.
17	*sik6-saai3 laa3!* eat-all SP All eat! 'All have been eaten/ We have eaten them all'	A classical sentence which actually turns up in this conversation. There is no explicit subject or object. The one(s) who did the eating is probably the speaker (M), or a group including her (or some other people). What was eaten is clearly the lychees. The sentence could be an abbreviated form of either 'Lychee eat all (i.e. all eaten)' or 'I/We ate all the lychees'.
18	*go2-di1 hai6 aa3-Jing1 go3* that-PL be NamePfx-Jing CL *lou5gung1 maai5 faan1lai4 bei2* husband buy return give *ngo5dei6 zi1maa3* we/us SP Those are Jing's husband buy back give to us only 'Those were bought by Jing's husband for us.'	With the verb 'be', the subject is explicitly 'those'.

There is nothing unusual or peculiar in terms of syntactic structure about the sentences found in this passage. Most Cantonese conversations are like this. It can be seen from

the above that subjects and objects are more often than not left implicit in the Cantonese sentence, only to be recovered from the discourse-pragmatic context.

5. Analysis and formalization: From A-Stucture to Syntactic Functions

It this section we return to an LFG analysis and attempt to show how the subject condition can be maintained in Chinese, given the complex cases of possibly subjectless sentences in Cantonese that have been outlined in the previous section. It is clear from the above data on Cantonese subjecthood that there are sentences in which there is no overt c-structure subject. However, though the subject condition as stated by Alsina (1996) is a condition on f-structure, we want to claim that it is possible to pursue a structural analysis of function specification. This is an important issue in discussions about the falsifiability of syntactic principles, as of all other scientific principles. The analysis requires us i. to posit an empty category *pro* and then ii. use functional mapping principles.

Consider the sentence in (4) repeated below as (18) for convenience:

(18)   *e*   *jam2-gan2*   *seoi2*
              drink-ASP   water
      '(I'm) drinking water.'

For those theories that define functions configurationally we would say the empty category, *e*, is a subject position since it is [Spec IP], following the External Projection Principle (the requirement that all sentences have subjects), an extension of the Projection Principle (the requirement that argument structure or lexical properties of words be projected in syntax).

The second approach, which is compatible with functional specification within LFG is to rely on the idea of using mapping principles from argument structure to functional structure as a way of satisfying the subcategorization requirements of a predicate. As Alsina (1996:45) indicates: "Any theory has to guarantee that the subcategorization requirements of a predicate are satisfied, namely, that the syntactic structure include all grammatical functions required by the predicate and no spurious ones." To accomplish this various types of mapping principles have been developed.

We adopt those proposed in Bresnan (2001:311) to specify the functions of the Cantonese pro-drop construction in (4/18).

Bresnan (2001) proposes the following mapping principles for the purposes of specifying grammatical functions of the arguments of a predicate:

(19) Mapping Principles

a. Subject roles:

　(i)　　$\hat{\theta}$ is mapped onto SUBJ when initial in the a-structure;

　　　[-*o*]

　otherwise

　(ii)　　$\hat{\theta}$ is mapped onto SUBJ

　　　[-*r*]

b. Other roles are mapped onto the lowest compatible function in the partial ordering :
　SUBJ>OBJ, OBL$_\theta$>OBJ$_\theta$

So in the Cantonese lexicon then, the following lexical entry for the verbal predicate *jam2-gan2* would obtain:

(20) *jam2-gan2*　V　　　($\uparrow$ASP)=NON-PERF

　　　　　　　　　　($\uparrow$PRED)='JAM<($\uparrow$SUBJ)($\uparrow$OBJ)>'

From this lexical entry it is clear that the verbal predicate *jam2* is a transitive verb that subcategories for a subject and an object.

To specify these structures, especially in situations where there is the absence of morphological marking, one must look for correspondences between levels of representation such as a- and f-structure.

An a-structure consists of a predicator with its argument roles, along with an order that represents the relative prominence of the roles and a syntactic classification of each role indicated by a feature (Bresnan 2001). The a-structure of our verbal predicate, *jam2* would thus be as in (21):

(21)　　*jam2*　< x　　y　>

　　　　　　[-*o*]　[-*r*]

The features ±*o* and ±*r* refer to (non)objective and (un)restricted syntactic functions respectively

Relative prominence is encoded by the following Thematic Hierarchy (Bresnan 2001):

(22)   Thematic Hierarchy:
        Agent>beneficiary>experiencer/goal>instrument>patient/theme>locative

To specify the grammatical functions, including the subject which is our concern here, we need to apply the above mapping rules to the argument structure of *jam2-gan2* the verbal predicate that heads our target sentence:

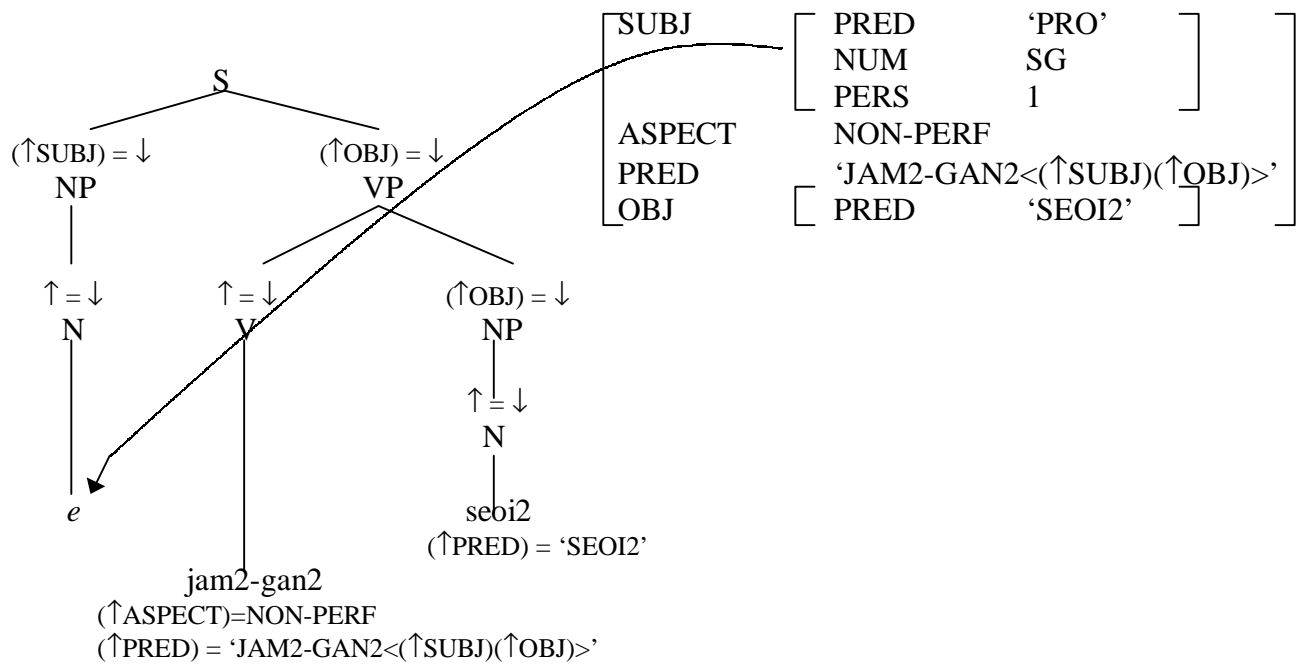(23)   pro *jam2-gan2 seoi2*

(24)   a-structure   *jam2* < x   y >

                                 [-o]   [-r]

                                  | |

        f-structure   SUBJ   OBJ

The most prominent argument $\hat{\theta}$, the agent, is mapped to the SUBJ function since it is initial in the a-structure. By principle (b), the other role is mapped onto OBJ according to the partial ordering SUBJ>OBJ, OBL_{θ}>OBJ_{θ} in (19). This gives us a complete functional specification for the f-structure of our target sentence.

We have argued above that the subject condition be maintained even in overtly subjectless Cantonese sentences like *jam2 seoi2* if we posit a covert pronoun or a pro-drop scenario and then apply mapping principles, aligning a-structure with f-structure.

This pro will then have the following specification as (25):

$$
\begin{bmatrix}
\text{SUBJ} & \begin{bmatrix} \text{PRED} & \text{`PRO'} \\ \text{NUM} & \text{SG} \\ \text{PERS} & 1 \end{bmatrix} \\
\text{ASPECT} & \text{NON-PERF} \\
\text{PRED} & \text{`JAM2-GAN2}<(\uparrow\text{SUBJ})(\uparrow\text{OBJ})>\text{'} \\
\text{OBJ} & \begin{bmatrix} \text{PRED} & \text{`SEOI2'} \end{bmatrix}
\end{bmatrix}
$$

With this analysis we are able to defend the subject condition in (1) which we repeat in (26) for convenience:

(26) Subject condition:

An f-structure with propositional content must include a subject (as one of its grammatical functions) and no f-structure may include more than one subject.

Notice from the above that the subject function can be specified and assigned to pro, but that we cannot fully determine the full range of person and number features of the pronoun. For these reasons it is impossible to eliminate the empty category by the economy principle (Bresnan 2001).

To address this and other issues of a fuller function specification we propose to augment the above defence of the subject condition by functional mapping principles with a discourse-pragmatic analysis.

6. Discourse-pragmatics and the subject condition in Cantonese

Our analysis so far is that the subject condition can be maintained in Cantonese by treating subjectless c-structure constructions as having a pro-drop node and applying functional mapping principles to license subjecthood.

Not all the full range of subject features can be captured in such a way. As there are no subject-verb agreement or other morphological evidence in Cantonese, mapping principles alone are not enough in specifying the full range of subject features. We believe that we can appeal to discourse-pragmatic criteria in the case of Cantonese to address the issue.

Indeed Bresnan (2001) indicates that the subject has the unique property of being both an argument function and a grammaticalized discourse function. Let us take a look at the following sentences repeated from (4)-(7) below in (27)-(30) for convenience:

(27) A: *nei5   jam2-gan2   mat1 je5?*
      2.SG   drink-ASP   what thing
      'What are you drinking?'
   B: *jam2-gan2   seoi2*
      drink-ASP   water
      '(I'm) drinking water.'

(28)   (Talking about dogs)
      wui5-m4-wui5 beng6   gaa3
      Will-not-will   ill   PART
      'Would (they = the dogs) get ill?

(29)   *ji1gaa1 lok6-gan2   jyu5*
      now   fall-ASP   rain
      '(It's) raining now.'

(30) A: *teng1gong2   seoi6si2   hou2 leng3 wo3*
      Hear   Switzerland very   pretty PART
      '(I) hear that Switzerland is very pretty'
   B: *tai2 fung1ging2 lo1   hai6*
      See scenery   PART only
      '(It's) only (good for) sight-seeing'

In (27)-(30), it is not possible to determine from the verb forms the identity of the implicit subjects. In (27), the subject pronoun can be retrieved from the immediate speech context.

377

In this case it is 1st person singular pronoun since only such a pronoun can serve as a response to the previous sentence *nei5*…. In (28), the subject is understood to be the current topic of the conversation, dogs, in which case we are dealing with 3rd person plural pronouns or a full NP in plural form. (29), like all other meteorological sentences in the language, does not come with an expletive subject. Sentence (30) can be understood as either containing a zero-subject of generic reference (like 'on' in French) or having 'sight-seeing' as subject. There are also topic-comment sentences where the initial NP is not an argument of the main verb but is nevertheless related to it pragmatically or through the discourse context.

So from the above we see that we have used discourse-pragmatic criteria such as:

(i)   immediate speech context

(ii)   current topic of conversation, and

(iii)   metereological and other expletive subject situations which need no person and number specification anyway

to identify and fully specify semantic and grammatical features of subjects in subjectless sentences.

7. Conclusion

We have shown in this paper that the subject condition can be maintained in Cantonese, not by morphological function specification, but by functional mapping principles and discourse-pragmatic considerations. Unlike other subject pro-drop languages such as Italian and Spanish or a language like German with a relatively rich inflectional morphology where subject-verb agreement features can specify the subject (Berman 1999), Cantonese is relatively unique in being a pro-drop language with only scant inflectional morphology (Bodomo 2000, Luke 2001, Bodomo and Lee 2001). We propose that to satisfy the subject condition in Cantonese and thus maintain the universality of this constraint, one has to appeal to functional mapping principles and discourse-pragmatic function specification. We have also provided quite a large variety of Cantonese sentences illustrating various types of subjects, and illustrating a differentiation between subjects and topics, and how to handle more complex conversational data in the form of text. We believe that with simple cases of pro-drop sentences in Cantonese, the subject condition can be maintained and accounted for and thus defended as a universal condition on sentence structure.

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